
Financial Statement Analysis



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Financial Statement Analysis (MFA)

Detailed Curriculum

Introduction to Financial Reporting: Conceptual Framework – Elements of Financial Statements – Principal Financial Statements – US GAAP, IFRS and Indian AS – Worldwide Accounting Diversity – Harmonization of Accounting Standards – Sarbanes-Oxley Act, 2002.

Ratio and Financial Analysis: Common-size Statements and Time Series Analysis – Ratio Analysis – Activity Analysis – Liquidity Ratios, Long-term Debt Analysis, and Profitability Analysis – Operating and Financial Leverage, EPS Analysis – Integrated Ratio Analysis, Financial Distress Risk – Valuation Implications of Financial Statement Analysis – Break Even Analysis, Pro-forma Financial Statements.

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Analysis of Financial Liabilities: Current Liabilities – Long-term Debt – Effect on Financial Statements of Different Debt Instruments – Effect of Changing Market Interest Rates on Debt – Retirement of Debt before Maturity – Disclosures of Financial Liabilities – International Accounting and Reporting Practices for Debt.

Analysis of Leases and Off-Balance-Sheet Assets and Liabilities: Incentives for Leasing – Meaning and Definition of Important Terms and Classification of Lease – Financial Reporting by Lessees and Lessor, Financial Reporting for Sale with Leasebacks – Off-Balance-Sheet Items, Off-Balance-Sheet Arrangements and Disclosure Requirements – Off-Balance-Sheet Financing and Special Situations.

Analysis of Pensions and Other Employee Benefits: Types of Pension Plans – Pension Accounting – Reporting under US GAAP – Other Post Retirement Benefits Accounting under US GAAP – International Accounting Practices – Accounting for Retirement Benefits under Indian Accounting Standards – Analysis of Pension and Other Post Retirement Benefits.

Analysis of Inter-corporate Investments: Meanings and Definitions of Important Terms – Classification of Securities – Accounting for Marketable Securities – Analysis of Marketable Securities – Reporting Requirements as per USGAAP, IAS and Indian AS – Analysis of Minority Interest – Analysis of Segment Data.

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Analysis of Multinational Operations: Accounting Issues Relating to Foreign Transactions – Translation of Transactions of a Foreign Entity – Comparison of Remeasurement and Translation – Hyperinflationary Economies and Accounting Methods – International treatment of effect of changes in Foreign Exchange Rates – Indian Accounting Standard on Effect of Changes in Foreign Exchange Rates.

Chapter I

Introduction to Financial Reporting

After reading this chapter, you will be conversant with:

- Conceptual Framework
- Elements of Financial Statements
- Principal Financial Statements
- US GAAP, IFRS and Indian AS
- Worldwide Accounting Diversity
- Harmonization of Accounting Standards
- Sarbanes-Oxley Act, 2002

Introduction

With the rapid growth in cross-border investment over the last two decades there has been an increasing demand for high-quality, uniform financial reporting. As the Investment decisions are made primarily based on the publicly available information, there has been growing emphasis for credible and transparent financial reporting to ensure the effectiveness of the capital markets. With the breaking down of the barriers of physical distance driven by cheaper yet more powerful computing, together with dramatic telecommunications improvements, the existence of unreliable information draws a very negative response from the investment community.

With rapid changes in the global scenarios and technology, the distances between the markets have been reduced so as to enable the free flow of currency and resources across the globe, thus shifting from the traditional national economies to become part of the global economy. The importance of relevant information is such that the investors are on constant lookout for reliable and accurate information not only of their company but also of their competitors.

Thus, Financial reporting reaches a wider audience than ever before, an audience that demands relevance, transparency and credibility in financial reporting. Some of the significant factors influencing the financial reporting environment include aspects such as investor demand technology, globalization and global benchmarking.

What is Financial Reporting?

Financial Reporting is the vehicle used for communicating the activities of the company. Financial Reporting is defined broadly as the mechanism for providing information to all potential users about the financial indicators, performance and most importantly risk profile of firm. It is one of the basic elements of financial infrastructure. Financial reporting comprising the financial statements forms the basis to understand the financial health of companies, to assess their past and estimate future performance. The primary source of financial statements is the annual report, which represents a company's performance during the current year and also management's strategy for its future. Preparation of the financial statements for the users involves principles and procedures that can vary widely from country to country and sometimes within a country.

CONCEPTUAL FRAMEWORK

Conceptual Framework describes the basic concepts by which financial statements are prepared. It is designed to prescribe the nature, function, and limits of financial accounting and to be used as guideline leading to consistent standards. The objective of the framework is to narrow down the diverse accounting principles and procedures being followed, resulting in harmonized regulations, transparency and comparability.

The Financial Accounting Standards Board (FASB) has issued a series of Statement of Financial Accounting Concepts (SFAC) which constitute foundation of financial accounting standards. The objective of the conceptual framework is:

- Intended to serve as the foundation upon which the Board (FASB) can construct standards that are both sound and internally consistent.
- Intended for use by the business community to help understand and apply standards to assist in their development.
- Provide guidance in analyzing new or emerging problems of financial accounting and reporting.
- Solves complex financial accounting and reporting process by providing a set of common premises as a basis for discussion.

- Solves complex financial accounting and reporting process by limiting areas of judgment and discretion and excluding from consideration potential solutions that are in conflict with it; and
- Imposes intellectual discipline on what traditionally has been a subjective and ad hoc reasoning process.

The components of the conceptual framework includes objectives, qualitative characteristics, elements, recognition, measurement, financial statements, earnings, funds flow, and liquidity. The SFACs that form the foundation of financial accounting standards are:

SFAC 1: Objectives of Financial Reporting by Business Enterprises.

SFAC 2: Qualitative Characteristics of Accounting Information.

SFAC 3: Elements of Financial Statements of Business Enterprises.

SFAC 4: Objectives of Financial Reporting by Non-Business Organizations.

SFAC 5: Recognition and Measurement in Financial Statements of Enterprises.

SFAC 6: Elements of Financial Statements.

SFAC 7: Using Cash Flow Information and Present value in Accounting Measurements.

Of the above, we shall limit our discussion to only SFAC 1, SFAS 2 and SFAS 6. The scope of the Conceptual Framework is applicable to General Purpose financial statements. Financial statements may be general purpose financial statements and special purpose financial statements. General purpose financial statements are prepared for the common needs of the users of the financial statements. Some users need additional information for their decision making, so while preparing these statements their need should be kept in mind. Additional information is provided in the form of notes, schedules and explanatory notes etc. Special purpose financial statements are prepared for special purposes like tax computations, for submitting it to financial institutions etc. These special purpose financial statements are not covered by the framework.

Objectives of Financial Reporting

As per SFAC 1 the objectives of financial reporting which are:

1. Financial reporting provides information that is useful in making business and economic decisions: For this purpose the users of financial statements may be internal to the organization such as management and directors of the business, or may be external to the enterprise. The external users include owners, lenders, suppliers, potential investors etc. (The users of financial statements shall be dealt with in detail in the next section).
2. Financial Reporting provides understandable information that will aid investors and creditors in predicting future cash flows of a firm. Investors and creditors require information to evaluate the timing, amount and uncertainties of future cash flows. Since the expectation of cash flows affects the firm's ability to pay interest and dividends, which in turn affects the market price of the firm's stocks and bonds.
3. It provides information relative to an enterprise's economic resources, the claims to those resources obligations, and the effect of those transactions, events and circumstances that change resources and claims to resources. Users of financial reporting require information as to:

The Economic Position of the Enterprise: Financial Reporting information provides the users information on the economic resources, obligations and owner's equity that indicates the firm's strengths, weaknesses, liquidity and solvency.

The Economic Performance of the Enterprise: Financial Reporting information provides the users information of the economic performance and earnings of the enterprise that help to predict the future performance of the firm. Since the past performance of the enterprise provides an indication of

the firms' future performance, financial reporting information is used to analyze and help to predict future performance of the enterprise. This information helps in assessing the changes in the economic resources and predicating the company's ability to generate cash flows in the future based on the current resources.

The Liquidity and Solvency of the Firm: Financial Reporting information about cash and other funds flows such as cash flows from borrowings, repayment of borrowings, changes in economic resources, obligations, owner's equity and earnings help in assessing the firm's liquidity and solvency.

Management Stewardship and performance: An enterprises efficient and profitable utilization of resources which is reflected in the enterprises economic performance and position speak of the management stewardship and performance. The earnings of an enterprise are undoubtedly affected by management's current performance even though it is not the only factor. Management's explanations and interpretation concerning the financial impact of the transactions, events and circumstances, uncertainties etc. enhance the usefulness of financial information.

Qualitative Characteristics of Financial Statements

Information to be useful to the users should possess certain characteristics. The quantitative characteristics are the criteria to be used in choosing and evaluating the accounting and reporting policies. These characteristics help to evaluate the strengths and weaknesses of accounting and its relevance to effective analysis and decision making. SFAC 2 identifies the following characteristics that make information useful

Relevance

Information should be relevant to the decision-making needs of the user. Information is said to be relevant when it influences the economic decision of the users. The information disseminated should be relevant to the decision-making needs of the users. Relevance of information is said to be affected by its nature and materiality. Information is said to be relevant when it provides feedback value and predictive value. Feedback value is derived from information concerning past events. Predictive value is derived from information concerning future events. Information to the relevant must be timely.

Reliability

Information must be reliable. Reliability means the extent to which information is representationally faithful, verifiable and neutral. Representational *faithfulness* means that the information must represent faithfully the transactions and events it purports to represent. The quality of *verifiability* means that several independent measures obtain the same accounting measure. This quality helps to reduce and mitigate measurement bias. The quality of *neutrality* implies free from bias and material errors. The information disseminated must not favor certain interest group. It should not attempt to influence behavior in a particular direction and should in fact influence everyone in the same way.

Comparability

It is the ability to help users see similarities and differences among events and conditions. It enhances the ability of investors and creditors to compare information across companies to make their resource allocation decisions. The financial statement users must be able to compare the statements of an entity through time in order to identify trends in financial position and compare the financial statements of different entities in order to evaluate their relative financial position and performance. This requires that the users be informed of accounting policies employed in the preparation of financial statements. Closely related to comparability is the notion that consistency of accounting practices over time permits valid comparisons between different periods. Lack of consistency threatens the comparability of the financial statements.

Consistency

The quality of consistency requires the use of same accounting principles from one period to another. Consistency contributes to information usefulness. This does not in any way imply that a change in accounting principle cannot and should not be made. A change in accounting principle leads to inconsistency but is acceptable if disclosure is made and necessary.

Not all the above qualitative characteristics are compatible. Most of the occasions one characteristic can be obtained by sacrificing another. Such trade off must be decided on the basis of relative importance of the characteristics. Also, qualitative characteristics are subject to two constraints: Materiality and Cost benefit. Information is said to be material if it influences the decision making process. It is dependent on the size of the item, however, no general guideline is provided. Information provides certain benefits which are associated with the cost of using it. Such information should be provided only if the benefit derived from it outweighs the cost associated.

ELEMENTS OF FINANCIAL STATEMENTS

Financial statements portray the effects of financial transactions by grouping these into broad classes according to their economic characteristics. These broad characteristics are termed as the elements of financial statements. SFAC 6 defines ten interrelated elements:

ASSETS

Probable future economic benefits obtained or controlled by a particular entity as a result of past transactions or events.

LIABILITIES

Probable future sacrifices of economic benefits arising from present obligations of a particular entity to transfer assets or provide services to other entities in the future as a result of past transactions or events.

EQUITY

The residual interest that remains in the assets after deducting its liabilities. In a business enterprise, the equity is the ownership interest.

REVENUES

Inflows or other enhancements of assets of an entity or settlement of its liabilities (or a combination of both) from delivering or producing goods, rendering services, or other activities that constitute the entity's ongoing major and central operations.

EXPENSE

Outflows or other using up of assets or incurrences of liabilities (or a combination of both) from delivering or producing goods, rendering services, or carrying out other activities that constitute the entity's ongoing major and central operations.

GAINS

Increases in Equity (Net Assets) from peripheral or incidental transactions of an entity and from all other transactions and other events and circumstances affecting the entity except those that result from expenses or distribution to owners.

LOSSES

Decrease in equity (Net Assets) from peripheral or incidental transactions of an entity and from all other transactions and other events and circumstances affecting the entity except those that result from expenses or distribution to owners

COMPREHENSIVE INCOME

The change in equity of a business enterprise during a period from transactions and other events and circumstances from sources other than investments by owners or distribution to owners.

INVESTMENTS BY OWNERS

Increases in equity of a particular business enterprise resulting from transfers to it for the purpose of increasing ownership interests.

DISTRIBUTION TO OWNERS

Decreases in the equity of a particular business enterprise resulting from transferring assets, rendering services, or incurring liabilities to owners.

In addition to the above definitions SFAC 6 also defines several significant financial accounting and reporting terms such as event, transaction, circumstances, Accrual accounting, Deferral etc.

Similar to the Conceptual Framework provided by FASB followed by Companies listed in US, The International Accounting Standards Committee (IASC) has developed a framework for the preparation and presentation of financial statements. The framework describes the basic concepts that are relevant for the preparation of financial statements and are implemented Internationally.

However, this framework is not a standard. The framework covers the following issues:

- Scope of framework.
- Objectives of financial statements.
- Users of financial statements.
- Underlying assumptions of financial statements.
- Qualitative characteristics of financial statements.
- Elements of financial statements.
- Recognition criteria of elements of financial statements.
- Measurement criteria for elements of financial statements.
- Concept of capital and capital maintenance.

Since the scope of the framework, objectives, qualitative characteristics are almost the same under both FASB and IASB, we shall discuss in detail the remaining issues in conceptual framework developed by IASB.

Users of Financial Statements

The basic objective of preparation of financial statements is to provide information to the users of the statements. The users may be the internal people or external people to the organization.

Shareholder/Investors/Owners

The shareholders/owners are the investors who provide capital or resources to an enterprise in exchange for a share in ownership of the enterprise. Because of the separation of the ownership from management in case of Joint Stock Companies, the financial statements are means by which the shareholders are aware of how their funds are being put to use. The information provided in the financial statements help them to arrive at various investment decisions such as whether to invest further, or the withdraw the existing investments, etc. Similarly potential investors use the financial statements to arrive at investment decisions.

Management

Since the management people have the ultimately responsible for the financial performance, they periodically compile and interpret the financial statements. An analysis of the financial figures is essential for the smooth and efficient functioning of the enterprise.

Lenders

Banks, financial institutions and other lenders provide funds to the business entity. They would be willing to part their money only if they are assured a periodical return in the form of interest and ultimate return of their principal. The financial statements reflect the profitability and long-term solvency of the business and provide the assurance which the lenders look out for.

Suppliers/Creditors

The suppliers look for the short-term liquidity and solvency of the business for judging the credibility of the firm through the analysis of the statements. The financial statements facilitate the creditors in ascertaining the capacity of the organization to pay on time consideration for the goods and services supplied.

Employees

Employees have vested interest in the continued and profitable operations of the organization in which they work. Most of the incentive plans of large number of enterprise are directly related to the profitability of the business. This further magnifies the interest of the employees in the company's future profitability and health.

Customers

They comprise groups such as producers, wholesalers and retailers and final consumers. Legal obligations associated with guarantees, warranties and after sales service contracts tend to establish long-term relationship between the business and its customers. The financial statements may be used by the customers to draw inferences about the long-term viability of the firm.

Government and Other Regulatory Agencies

The correct assessment of income tax, excise duty, etc. requires a close scrutiny of the financial statements of an organization especially to detect tax evasion, if any. Governments plans and policies in respect of taxation, subsidies and incentives is guided by the requirements of the industries and also their past performance. Government as an overall guardian of public interest requires to keep a close watch on the various firms to detect profiteering and the creation of monopolies. A lot of information in this regard can be gathered from a scrutiny of the financial statements of business enterprises.

Research

Scholars undertaking research into management science covering diverse facets of business practices look into the financial statements for the information eventually used for analysis. Such statements serve as the mirrors of the entity represented by them and thus are of great value to persons searching for company specific information.

Others

Diverse persons such as academicians, researchers and analysts may approach business firms for information regarding the financial performance. To draw proper conclusions these persons would have to study the financial statements in depth. The public in general also examine the financial statements for employment opportunities, health of concern in particular and economy as a whole.

Underlying Assumptions of Financial Statements

Financial statements are prepared basically on two assumptions viz., going concern and accrual basis:

Going Concern

Financial statements are prepared based on assumption that a business entity carry on its operations indefinitely. It assumes that the enterprise neither the intention nor the necessity to liquidate or curtail materially its scale of operation of its business venture in the foreseeable future.

Accrual Basis

All the financial statements are prepared based on the accrual basis of accounting. Under the accrual system the actual receipts or payments are not taken as the base. The revenues/expenses are recognized if they belong to the relevant accounting period irrespective of cash or cash equivalent received/paid or not. Thus, the financial statements provide information not only the amount cash payments or receipts during the reporting period, but also the cash payable or receivable in the reporting period.

Recognition Criteria of Elements of Financial Statements

The principles of recognition help determine as to when an element is to be included in the statements, while measuring principles determine the valuation of such elements. There are four revenue recognizing criteria: definitions, measurability, relevance and reliability. In case an element meets the definition of an element, is capable of being reliably measured, and makes a difference in the decision of the user and is verifiable, neutral and representationally faithful, it needs to be included in the financial statements

Measurement Criteria of Elements of Financial Statements

Measurement is the process of determining the amount of elements to be recognized and carried to the income statement and balance sheet. There are four basic measurement described in the frame work:

Historical Cost (Historical Proceeds)

Assets such as plant, property and equipment and most of the inventories are reported at their historical values. These are the amounts of cash or its equivalents that are paid in order to acquire such assets and are commonly adjusted after the acquisition for amortization or other allocations. Liabilities that involve an obligation to provide goods or services to the customers are generally reported at historical proceeds, which is the amount of cash or its equivalent that is received when the obligation was incurred and may be adjusted after acquisition for the purpose of amortization or other such allocations.

Current Costs

This is used for some inventories and represents the cash or its equivalent that would have to be paid for acquiring the assets currently. Certain assets like investments are to be reported at their current market values. In the case of liabilities that involve marketable securities and commodities are to be reported at their current market value.

Net Realizable (Settlement) Value

In the case of short-term receivables and some inventories, reporting is done on the basis of their net realizable values. Liabilities that are incurred and which are known or estimated and payable at future dates are reported at their net settlement values.

Present (or Discounted) Value of Future Cash Flows

In the case of long-term receivables reporting is done at their present or discounted values which is the present value of the future cash inflows which an asset is expected to be converted in due course of the business less the present value of the cash outflows that are expected to be converted in the due course of the cash outflows that are necessary to obtain those funds. The long-term payables are also reported at their present or discounted values, which is the present value of the future cash flows that are expected to be required to satisfy the liability in due course of the business.

Concept of Capital and Capital Maintenance

Capital is the contribution made by the owner(s) in the business and is regarded as a liability to the business in the nature of owner's equity. The underlying feature for this treatment is the distinction between the owner(s) and that of the business owned by them, as a result of which the business is vested with an implied

obligation to repay such sum to the owner(s). The accountant's methodology of ascertaining and reporting results of business helps in comprehending the concept of capital maintenance. The surplus in the form of income alone is available for consumption while the capital is to be maintained intact.

Say, Atul starts a business with Rs.5,000 as capital. Assuming that his activity is trading of goods he buys goods for Rs.5,000 and sells them for Rs.7,500. As the business is to be separated from the personal transactions of the owner, the position of the firm is that it possess Rs.7,500 in cash and owes Rs.7,500 to Atul. The profit earned in this transaction is Rs.2,500 which even if drawn by Atul leaves Rs.5,000 undisturbed.

Income is the increase in capital which can be withdrawn bereft of any distortion of the capital. In this instance this concept of maintaining the capital is called the Financial capital maintenance concept where income shall be revenue less the historical cost of goods sold.

If the present capital of Rs.5,000 be shown in terms of articles where the price of each article is Rs.10, thus 500 articles. The 500 articles is the real capital and Rs.5,000 is the monetary capital. Even after withdrawing Rs.2,500, if there is no price fluctuations, Atul will be in a position to purchase 500 articles. Thus both monetary and the real capital are maintained.

If the price of the article goes up to Rs.15 and if Rs.2,500 representing profits from the earlier transaction is withdrawn then obviously Atul will be prevented from buying 500 articles with only Rs.5,000 in hand and thus will not be able to maintain the real capital intact. If the real capital maintenance concept is emphasized Atul should not withdraw Rs.2,500 as the full amount of Rs.7,500 is required to make the purchase. The specific price rise is considered and the accounting based on real capital maintenance is known as Current Cost Accounting. Hence, income shall be revenues less the current cost of goods sold.

PRINCIPAL FINANCIAL STATEMENTS

All commercial companies produce financial statements annually. In many countries, these have to be filed with the regulatory authorities and they have to be sent to shareholders. So the statements filed to the government are available to the public i.e. to competitors, customers, suppliers and financial analysts and consultancies. Generally large companies publish their statements in their websites and newspapers.

Basically there are three principal financial statements viz., the balance sheet, the income statement and the statement of cash flows. Apart from these statements, some countries require preparation of changes in shareholders equity as well as explanatory notes. Generally financial statements accompanied by various schedules and analysis statements. As said earlier, preparation of these statements is governed by different rules and vary from country to country.

Balance Sheet

It is also called as 'Statement of Financial Position'. It depicts the financial position of a company on a particular date. It gives the information of how the company has been financed and how that money has been invested in various productive resources. Company can obtain finance from owners and outsiders. The balance sheet is prepared based upon the fundamental accounting equation of

$$\text{Assets} = \text{Liabilities} + \text{Equity}$$

Thus, the balance sheet has three major sections viz., assets (i.e., the resources of the company), liabilities (i.e., the debts of the company) and shareholder's equity (i.e., the amount invested by owners). SFAC 6 defines these three elements as follows:

Assets are the probable future economic benefits obtained or controlled by a particular entity as a result of past transactions or events. **Liabilities** are probable future sacrifices of economic benefits arising from present obligations of a particular entity to transfer assets or provide services to other entities in the future as a result of past transactions or events. **Equity** is the residual interest in the net assets of an entity that remains after deducting its liabilities.

The values given in the balance sheet change from time to time, thus the values given in the balance sheet are relevant only on the date of balance sheet. But, at any time, the total amount of assets must be equal to the amount invested by owners and creditors. Generally, balance sheet is prepared annually, but in some countries it is required that the firms prepare more frequently and report to the regulatory authorities.

Income Statement

It is also called as 'Profit & Loss account or Income and Expenditure Statement'. It indicates the amount of net income or loss obtained by the company during a particular period. The preparation of the income statement is governed by the matching principle which states that the performance can be measured only if revenues and related costs are accounted for during the same time period. As per SFAC 6, revenues are the inflows of an entity and expenses are the outflows of an entity from delivering or producing goods, rendering services, or carrying out other activities that constitute the entity's ongoing major or central operations.

The main beneficiaries of this statement are the investors, creditors, management and other interested parties who are interested in knowing the financial performance of the entity. They consider that the past record is an indicator of the future performance of the entity and hence consider this statement as an important indicator of the performance of the entity on which they can base their investment decisions. The statement is of importance to the management because it helps it to gauge and analyze its efficiency and effectiveness in combining the factors of production into the goods and services which it sells.

Statement of Comprehensive Income

Some changes in assets and liabilities bypass the income statement and appear in the statement of changes in stockholder's equity viz., foreign currency translation adjustments, minimum pension liability adjustments, and unrealized gains or losses on available-for-sale investments. Such adjustments and other non-recurring items make it difficult to discern the operating results of an enterprise. FASB requires financial statement recognition and measurement of many financial instruments at fair value. But the treatment of resulting unrealized gains and losses on these instruments is unsettled. The concept of comprehensive income holds a solution to these problems.

According to SFAC 6, para 70, comprehensive income is "the change in equity of a business enterprise during a period from transactions and other events and circumstances from the non owner sources". It includes all changes in equity during a period, except those resulting from investments by owners and distributions to owners.

It arises as a result of,

- i. Exchange transactions between the entity and entities other than the owners.
- ii. Production including manufacturing, storing, transporting, lending, insurance and professional services.
- iii. Environmental activities due to economic, legal, social, political and physical environment (price changes and casualties).

As per US GAAP all items of comprehensive income should be displayed in the financial statement for the period in which they are recognized with the same prominence as other financial statements. Comprehensive income includes all items which affect the net assets of an enterprise other than transaction with owners such as dividends, share issuances etc. To comply with SFAS 130, the items termed as comprehensive income needs to be disclosed in one of the following possible manners:

- i. In a stand-alone statement of comprehensive income.
- ii. In a combined statement of earning and comprehensive income.
- iii. In an expanded statement of changes in stockholder's equity.

The FASB states a preference for (i) or (ii) above. However, the presentation of comprehensive income strictly in a footnote is not possible. As per GAAP the items which impact other comprehensive income of one period and then affect earnings in the same or later periods must be included in the earnings even though these had already been reported in the comprehensive income. This is a kind of recycling problem which would lead to double accounting the same item and requires that the amount previously or currently being reported in other comprehensive report be reversed out of other comprehensive income at the time the item appears in the earnings. This is referred to as "reclassification entry". Reclassifications may be stated either at gross i.e., with the reclassification shown separately or net i.e., netted against comprehensive income item with detailed relegated to a footnote. SFAC 130 stipulates that elements of other comprehensive income should be displayed either net of related tax effects or gross of tax effects with the tax effects shown as separate aggregate amount within other comprehensive income. The amount of the tax effects allocated to the items pertaining to other comprehensive income is required to be disclosed and this can be even in the form of footnotes.

Statement of Cash Flows

It is also called as 'Cash Flow Statement'. It explains where the cash has come from and how that cash has been utilized and effect of all these transactions on the cash balance of the firm. It gives information on company's cash flows relating to operating, financial and investing activities. SFAS 95 defines investing cash flows as those resulting from acquisition or sale of property, plant and equipment; acquisition or sale of a subsidiary or segment and purchase or sale of investments in other firms. Financing cash flows are those resulting from issuance or retirement of debt and equity securities and dividends paid to stockholders. Operating cash flows are those resulting from the cash flow consequences of the revenue producing activities of the firm.

Under the accrual accounting system, the income and expenses of the companies may not tally with the actual cash inflow and outflow of the company over the life of a company. So statement of cash flow is an important tool for analyzing the movement in the cash flow during specified period.

OTHERS

Statement of Stakeholders Equity

Statement of stakeholders equity consists of change in shareholding pattern of the company in a specified period. This includes the following items:

- Preferred shares.
- Common shares.
- Additional paid in capital.

- Retained earnings.
- Treasury shares.
- Employee stock ownership plan adjustments.
- Minimum pension liability.
- Valuation allowance.
- Cumulative translation allowance.

Equity and other related transactions are recognized as and when they occur. Usually preferred shares are recorded at their par value. Repurchase and retirement of common stock may be reported as treasury shares which reflects a reduction in common stock outstanding. Retained earnings increase with the income and decrease when dividends declared. The minimum pension liability results from reconciliation of the accounting liability for pensions with the economic liability. The valuation allowance for non-current investments and the cumulative foreign currency translation adjustment result from selective recognition of market value changes and exchange rate changes. This statement is useful for identifying reasons for changes in shareholder's claims on assets of the company.

OTHER INFORMATION

Notes to Accounts

Notes to Accounts are used to present additional information, or details of items that appear in the financial statements as aggregated figures. These are an integral part of the financial statements. These typically span over a number of pages and elaborate the data present in the financial statements. These also comprise of explanations of the management about the various assumptions and policies adopted in the preparation of financial statements. They mainly contain information about the items in the financial statements which unless so explained may lead to impairment of true and fair view of state of affairs. Drafting of these notes require considerable skill and knowledge in order to ensure that the information is adequately conveyed to the end user of the statements.

The following is an exhaustive list of various explanatory notes that form an integral part of the financial statements:

- Disclosure of accounting policies.
- Income taxes.
- Pension and other post employment benefit plans.
- Fixed assets.
- Business segments.
- Labor problems.
- Sales being accounted net of excise duty.
- Defalcation by an employee.
- Contingencies.

Schedules

Growing businesses has led to a growth in the investor's base. A majority of shareholders are those who are not conversant with the principles of Accounting. This has led to moving from horizontal form of Balance Sheet to vertical form of Financial Statements. The vertical forms of financial statements are easily comprehensible since it is not loaded with too many details. The detailed break-up of each figure contained in the Balance Sheet and Profit and Loss Account is contained in the Schedules.

The information required to be given under any of the items or sub-items in the Balance Sheet, if it cannot be conveniently included in the Balance Sheet itself, shall be furnished in a separate Schedule or Schedules to be annexed to and to form part of the balance sheet. This is recommended when items are numerous, to avoid cluttering up of the main body of the account.

The schedules to profit and loss account are prepared to convey more information on the items appearing in the profit and loss account. Some of this information may be statutory in nature like for example, information about raw material consumed, depreciation charge, provision for tax, etc.

MD&A Analysis

The Management Discussion and Analysis (MD&A) in the annual report comprises of a lengthy discussion and analysis provided by the company's management. MD&A can be a valuable tool in evaluating a company because it contains insight into the firm's own perspective on its performance, and this section also presents qualitative information that may not be found in the financial statement of the company.

In this report, company's discuss the financial health of the other investee company and also it include detailed explanation of Deferred tax assets, Sundry debtors, Cash and cash equivalents, Loans and Advances, Current liabilities, Provisions, Detailed discussion on net profit, Segregation of income and expenses, Disclosure of debt, Depreciation and amortization, Provision for investment, Stock option plans, Reconciliation of Indian and US GAAP financial statements, Related party transaction, and Events occurring after the balance sheet date.

US GAAP

The genesis of Generally Accepted Accounting Principles (GAAP) in United States referred to as USGAAP can be traced back to the 1920s where because of the speculative excesses in the stock market there lead to an overall crash of the economies, especially in the United States. The reasons that were attributed for the slump were the absence of uniform and stringent financial reporting requirements.

Considering this in view, the American Institute of Accountants, which later came to be known as the American Institute of Certified Public Accountants (AICPA), created a committee in 1930 to cooperate with the New York Stock Exchange (NYSE) with the aim of establishing standards to be followed for all accounting practices and procedures.

Though attempts were made earlier to establish accounting standards, it was this incident which enabled the promulgation of an idea of establishing a committee exclusively for deliberating upon the requirements of financial reporting. The relative absence of such a serious thought hitherto can be attributed to the bottlenecks in recognizing the complexities in the business and related activities and the dispersion of ownership which required consistency in accounting measurement and in the selection of accounting procedures. Considering the fact that the absence of uniform and transparent financial disclosures incapacitated the accounting profession from making appropriate and timely detection, the immediate necessary imperative was towards making a serious grapple with the concept of GAAP.

The committee was instrumental in laying down the rules of the Exchange which later came to be known as the 'Accounting Research Bulletins' and it attempted to attain uniformity in the accounting terminology. Over the years because of the lack of resources, the efforts of the committee were severely put to test especially with the new and unique situations which were evolving in the markets. An attempt was made to substitute the Accounting Principles Board (APB) for the committee on Accounting Procedures to facilitate the development of principles based on the research of Accounting Research Board. The formal approval of the Board issuances given by the Securities and Exchange Commission (SEC) gave further impetus to the division in its activity. Since its formation, SEC has been playing an active role in the development of rules for corporate financial reporting including issuing its own accounting pronouncements in accordance with the statutory authority to act in the public interest to establish GAAP for the publicly held entities.

Board issued opinion and statements dealing with the amendments of Accounting Research Bulletins, opinions on the form and content of financial statements and issuances requiring changes in both the measurement and disclosure policies of the profession. As a result of the operating problems and the conclusions drawn from the Wheat Study Group, the Financial Accounting Standards Board (FASB) was established in 1972 with 7 fulltime members with diversified backgrounds and assisted by a staff of professionals. The FASB issued 7 pronouncements called Statements of Financial Accounting Concepts (SFAC) in order to form a foundation of financial accounting standards which is discussed in our previous section.

To date FASB has issued 156 statements on Financial Accounting Standards, 43 interpretations and 52 technical bulletins and devoted substantially towards developing a conceptual framework for financial accounting which has resulted in the issuance of the 7 concept statements.

Generally Accepted Accounting Principles are concerned with the measurement of economic activity, recording, disclosing, preparation, and presentation of information in the form of financial statements. The APB statement 4 states as follows:

“Generally Accepted Accounting Principles therefore is a technical term in financial accounting. Generally Accepted Accounting principles encompass the conventions, rules, and procedures necessary to define accepted accounting principals at a particular time. The standard of ‘Generally Accepted Accounting Principles’ includes not only broad guidelines of general application but also detailed practices and procedures.

Generally Accepted Accounting Principals are conventional – that is, they become generally accepted by agreement (often tacit agreement) rather than formal derivation from a set of postulates or basic concepts. The principles have been developed on the basis of experience, reason, custom, usage, and to a significant extent practical necessity.”

Main Source of GAAP

The most authoritative and authentic sources of US GAAP can be stated as below:

- i. American Institute of Certified Public Accountants (AICPA):
 - Accounting Principles Board (APB) Opinions
 - Accounting Research Bulletins
 - Accounting Interpretations
 - Industry Audits and Accounting Guides
 - Statements of Position.
- ii. Financial Accounting Standards Board (FASB):
 - Statements
 - Interpretations
 - Technical Bulletins
 - Implementation Guides
 - Emerging Issues Task Force Consensuses.
- iii. Government Accounting and Standards Board (GASB):
 - Statements
 - Interpretations
 - Technical Bulletins
 - Implementation Guides.
- iv. International Accounting Standards.
- v. Pronouncements of the Securities and Exchange Commission (SEC).

- vi. Statements of Auditing Standards.
- vii. Various Publications of Professional Organizations.
- viii. Various textbooks, reference books, accounting articles, and committee reports that contain authoritative expressions of GAAP.

INTERNATIONAL FINANCIAL REPORTING STANDARDS (IFRS) OR IAS

The International Accounting Standards Committee (IASC) was formed in 1973 to develop worldwide accounting standards. Its existence was the result of an agreement by professional accountancy bodies in Australia, Canada, France, Germany, Japan, Mexico, the Netherlands, the United Kingdom and Ireland, and United States of America. The objective of the IASC was to harmonize the world's accounting standards and eliminate those differences that cannot be explained by legitimate environmental variables. Accounting bodies of most of the countries, including the Institute of Chartered Accountants of India, are members of this body and these members have resolved to conform to the standards developed by IASC, subject to variations needed due to local conditions or laws.

The IASC Foundation which is the parent entity of the International Accounting Standards Board (IASB), was formed in March, 2001, as a not-for-profit corporation incorporated in the State of Delaware, USA and from the 1st of April 2001, it assumed the responsibilities of setting accounting standard from its predecessor body, the International Accounting Standards Committee.

The IASC Foundation is an independent organization with two main bodies, the Trustees and the IASB, as well as Standards Advisory Council and the Standing Interpretations Committee. The IASC Foundation Trustees appoint the IASB members, exercise oversight and raise the funds needed, whereas IASB is entrusted with the sole responsibility of setting accounting standards.

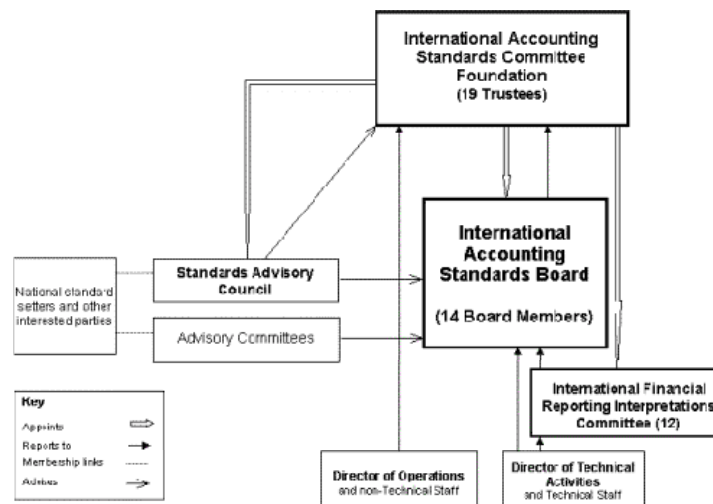
In addition to the accountancy profession, IASB's work has the worldwide support and involvement of the business community, financial executives, financial analysts, stock exchanges, securities regulators, lawyers, and bankers. IASB also works closely with the national standard setting bodies, securities regulatory agencies and stock exchanges in individual countries, intergovernmental organizations – such as the European Commission, the OECD, and the UN – and development agencies such as the World Bank.

Some important terms used in the context of the structure of the IASC foundation:

Overview

This gives a geographical representation of the structure of IASB.

Figure 1: Structure of IASB



Source: www.iasb.org

Constitution

The IASB is the standard-setting body of the IASC Foundation. The IASB comprises fourteen members, appointed by the Trustees who govern the IASC Foundation, twelve of whom shall be full-time members and two part-time members. The Trustees appoint one of the full-time members as Chairman of the IASB, who shall also be the Chief Executive of the IASC Foundation. Members of the IASB shall be appointed for a term of up to five years, renewable once.

Functions

The IASB:

- a. has complete responsibility for all IASB technical matters including the preparation and issuing of International Accounting Standards, International Financial Reporting Standards, and Exposure Drafts, which include dissenting opinions, if any, and final approval of Interpretations by the International Financial Reporting Interpretations Committee;
- b. publishes an Exposure Draft on all projects and normally publishes on major projects a Draft Statement of Principles or other discussion document for public comment;
- c. has full discretion over the technical agenda of the IASB and over project assignments on technical matters;
- d. has the responsibility of establishing procedures for reviewing comments made within a reasonable period on documents published for comment, normally forms Steering Committees or other types of specialist advisory groups to give advice on major projects, consults the Standards Advisory Council on major projects, agenda decisions and work priorities and normally issue bases for conclusions with International Accounting Standards, International Financial Reporting Standards, and Exposure Drafts; and
- e. considers holding public hearings to discuss proposed standards, although there is no requirement to hold public hearings for every project; and considers undertaking field tests (both in developed countries and in emerging markets) to ensure that the proposed standards are practical and workable in all environments, although there is no requirement to undertake field tests for every project.

The IASB publishes its standards in a series of pronouncements called International Financial Reporting Standards (IFRS). The term International Financial Reporting Standards include IFRSs, IFRIC Interpretations, IASs and SIC Interpretations. Till date 41 IAS (of which 10 have been withdrawn), 7 IFRS and 32 SIC interpretations.

IASB appears to be the most influential body involved in the standardizing and harmonization program. According to IASB, IAS are in the best interest of the users and prepares of financial statements. Prudent investment and managerial decisions in this increasingly complex and internationally oriented world require such standards. Generally investors, banks, creditors, managers employees and government have less difficulty in understanding and analyzing among and interim reports prepared in countries other than their own and that they can have confidence in those reports. The IASB provides that the professional accountancy bodies agree to support the standards development by the committee for the following ways:

- To, ensure that the published financial statement comply with these standards or that there is disclosure of the extent to which they don't, and to persuade government authorities controlling securities market and the industrial and business community. That the published financial statements should comply with these standards.

- To, ensure that the auditors satisfy themselves the financial statements comply with these standards or of the financial statements do not comply with these standards that the fact of non-compliance is disclosed in the financial statements, that in the event of non-disclosure to non-compliance is made in the audit report.
- To, ensure that, as soon as possible, appropriate action is taken in respect of auditors whose audit reports do not meet the requirements.
- Since establishment board is actively engaged in:
 - Development and review of IAS.
 - Promotion of harmonization by providing a basis for reducing the number of alternative accounting treatments permitted by IASs.
 - Preparation of financial statements in applying IAS and dealing with topics on which IAS does not yet exist.
 - Users in interpreting financial statements prepared in conformity with IAS.
 - Those interested in the formation of IASs by providing information about the approach used by IASB.

INDIAN ACCOUNTING STANDARD

The Institute of Chartered Accountants of India, recognizing the need to harmonize the diverse accounting policies and practices presently in use in India, constituted an Accounting Standards Board (ASB) on 21st April, 1977 with the prime objective of formulating the accounting standards so that such standards may be established by the Council of the Institute in India. In formulating the standards, ASB will consider all the applicable laws, customs, usages and business environment of the nation. The Institute is one of the Members of the International Accounting Standards Committee (IASC) and has agreed to support the objectives of IASC. While formulating the Accounting Standards, ASB will give due consideration to International Accounting Standards, issued by IASC and try to integrate them, to the extent possible, in the light of the conditions and practices prevalent in India.

The Accounting Standards will be issued under the authority of the Council. ASB has also been entrusted with the responsibility of propagating the Accounting Standards and persuading the concerned parties to adopt them in the preparation and presentation of their financial statements. The ASB will issue guidance notes on the Accounting Standards and give clarifications on issues arising therefrom. It would also review the Accounting Standards periodically. For discharging its duties, the ASB would weigh the purposes and limitations of published financial statements and the attest function of the auditors. It would enumerate and describe the basic concept to which accounting principles should be oriented and state the accounting principles to which the practices and procedures should conform.

The ASB will clarify the phrases commonly used in such financial statements and suggest improvements in the terminology wherever necessary. It would examine the various current alternative practices in vogue and identify such alternatives, which should be preferred. The Institute will issue the Accounting Standards for use in the presentation of the general purpose financial statements issued to the public by such commercial, industrial or business enterprises as may be specified by the Institute from time to time and subject to the attest function of its members. The term 'General Purpose Financial Statements' includes balance sheet, statement of profit and loss and other statements and explanatory notes, which form part thereof, issued for the use of shareholders/members, creditors, employees and public at large. References to financial statements in this preface and in the standards issued from time to time will be construed to refer to General Purpose Financial Statements.

The Responsibility of the preparing the financial statements would rest with the management of the enterprise. The auditor's responsibility is to form his opinion and report on such financial statements.

The Accounting Standards would be issued in a manner that they are in conformity with the provisions of the applicable laws, customs, usages and business environment of our country. However, if due to subsequent amendments in the law, a particular Accounting Standard is found deviating from the same, the provisions of the said law will prevail and the financial statements should be amended to be in conformity with such law. The Accounting Standards by their very nature cannot and do not override the local regulations which govern the preparation and presentation of financial statements in our country. But, the Institute shall determine the extent of disclosure to be made in financial statements and the related auditor's reports. Such disclosure may be by way of appropriate notes explaining the treatment of particular items and would be only in the nature of clarification and therefore need not be treated as adverse comments on the related financial statements.

The Accounting Standards are intended to apply only to items, which are material, and the Institute periodically whenever required would clarify any limitations regarding their applicability. The date from which a particular Standard will come into effect, as well as the class of enterprises to which it will apply, will also be specified by the Institute. However, no standard will have retroactive application, unless otherwise stated. The Institute will use its best endeavors to persuade the Government, appropriate authorities, industrial and business community to adopt these Standards to achieve uniformity in the presentation of financial statements.

While formulating the standards the primary objective would be to concentrate on basic matters and the intention would be to confine Standards to essentials and not to make them so complex that they cannot be applied effectively and on a nation-wide basis.

- The Accounting Standards Board (ASB) of the Institute of Chartered Accountants of India, has in line with the International Standards, issued twenty nine standards to be followed by its members while auditing the accounts of companies.
- In addition to these standards, the Institute of Chartered Accountants of India has issued 'statements', 'guidance notes', 'opinions', Accounting Standard Interpretations (ASI), General Clarifications (GC), and Background material for seminars which seek to bring about uniformity in corporate accounting practices.

WORLDWIDE ACCOUNTING DIVERSITY

Lot of diversity exists across countries with respect to the form and content of individual financial statements, the rules used to measure assets and liabilities and recognize and measure revenues and expenses and the magnitude and nature of the disclosures provided in a set of financial statements.

This diversity that exists in financial reporting creates problems especially for multinational companies in preparing consolidated financial statements on the basis of parent company GAAP. Each foreign subsidiary must either keep two sets of books, one is local GAAP and one is parent company GAAP or the foreign subsidiary's local GAAP financial statement must be reconciled to parent company GAAP. The diversity accounting also obstructs the MNC's to gain access into foreign capital markets, as investors and lenders in foreign countries might require financial statements prepared in local GAAP. Another problem is lack of comparability of financial statements when making foreign acquisition decision. A company might need financial statements for the potential acquisition target prepared in accordance with a set of accounting standards with which the

company's managers are familiar and that fairly present operating performance and financial position. The following are the areas where significant diversities are observed:

- Accounting (Annual) Report Format;
- Composition of Annual Accounts;
- Treatment of Taxation in Accounts;
- Valuation of Assets and Liabilities;
- Accounting for Merger and Acquisitions;
- Treatment of Goodwill;
- Accounting for Brands;
- Preparation of Group Accounts;
- Accounting for Research and Development Costs;
- Accounting for Post-retirement benefits;
- Treatment for Extra-ordinary items;
- Methods of computing depreciation;
- Inventory valuation;
- Accounting for lease;
- Accounting for Joint Ventures; and
- Accounting for Foreign Currency Translation; etc.

Factors Leading to Diversity

The following factors which causes the diversity in accounting practices of different countries:

DIFFERENCE IN LEGAL SYSTEMS

In the Western world, two legal systems are developed over the years viz., common law and code law. The common law system originated in England and in most of the commonwealth countries the legal system is common law. Common law is developed based on the cases and there are no general rules. In a common law system, accounting rules are not a part of law. In these countries the accounting regulation is in the hands of independent professional organizations of the private sector. Minimum relationship exists between company law and accounting standards in these countries. The code law system is originated in Roman and wide set of rules are developed to guide in all situations. In code law countries, the company law is very detailed and accounting standards are embodied in company law. In these countries, accounting standards regulation is in the hands of government and financial reporting is also under detailed legal regulations.

DIFFERENCE IN SOURCE OF FINANCE

In countries where public equity and public debt is more important source of finance has to report their statements more detail, especially they focus on income statements and earning per share than on balance sheet. But countries where company's finance is from private sources and bank loans, detailed financial statements are not required. For them, detailed income statement is not necessary and their major focus is on the balance sheet. More details relating to equity shareholders are required for this type of reporting.

DIFFERENCE IN TAXATION

There is a link between financial reporting and taxation. Fiscal authorities use financial statement information for determining the taxable income. In countries like Belgium expenses are deductible for tax purpose only when they are recognized in the profit and loss account. So financial reporting becomes tax biased. Some countries like Germany have the choice of choosing taxation accounting and financial accounting for reporting purpose and for taxation purpose. But they should confirm before reporting and should submit same statements for both purposes. Some countries like US allow difference in accounting methods for financial statements and for tax returns. They can submit different statements for different purposes. So this allows US companies to minimize their taxes and show higher earning per share.

INFLATION

In some countries like Latin American countries, they have historically high rates of inflation. Often these countries require to make adjustments to offset the impact of inflation. But some countries like US, there is low inflation and inflation accounting is not required.

CULTURAL DIFFERENCES

Another cause for variation in accounting systems is cultural differences. Cultural differences between the countries are identified as one of the important influencing factors on reporting and disclosure of financial statements. Hofstede, a prominent researcher, classified countries into four categories and labeled them as individualism, power distance, uncertainty avoidance and masculinity. According to him these factors determine the accounting and reporting systems in their respective countries.

POLITICAL AND ECONOMIC FACTORS

Some countries have political and economic tie ups and they have similar accounting systems. But in other countries, the accounting systems, methods and policies are different.

The diversity that exists in financial reporting creates problems for companies. The following problem has occurred due to the lack of harmonization of accounting policies:

- i. A need for employment of key personnel in multinational companies to fulfill the gap in accounting requirements between countries.
- ii. Requirements of different national accounting standards for access to other capital markets.
- iii. Poor development of stock market due to different accounting policies worldwide.
- iv. Difficulties in accessing capital markets for companies from less developed countries.
- v. Negative effect on the international trade of accounting practice and services.

In order to overcome above problems harmonization of accounting policies first started in 1973 when nine countries, including the United States, formed the International Accounting Standards Committee (IASC). IASC includes approximately 100 member nations and well over 100 professional accounting bodies. Its goals were to formulate general standards of accounting for the international community, and to promote their acceptance worldwide. In 1995 IASB and International Organization of Securities Commission (IOSCO) decided to work on harmonization of Accounting Standards.

HARMONIZATION OF ACCOUNTING STANDARDS

Harmonization of accounting standards refers to the continuous process of ensuring that the guidelines in the form of Generally Accepted Accounting Principles (GAAP) is formulated in accordance with the international best practices with suitable modifications and fine tuning considering the domestic economic, financial and social conditions. These guidelines should be formed in the manner that any change in the domestic and international environment may immediately be incorporated in these guidelines as and when required.

As we start the new millennium, international economic activity along with other international activities has been increasing at a very rapid rate. International trade, capital movements between countries, international investment, number of multinational firms, and international bond and equity offerings exhibited a huge growth over the last decade. With the increasing globalization the harmonization of international accounting standards has become a topic of great interest and an area of considerable concern to the profession.

Need of Harmonization

Harmonization of accounting standards is needed because of the following reasons:

GLOBALIZATION OF BUSINESS

The world has become a local market for the marketers and consumers. The economic and political boundaries are fast disappearing. Marketers have access to major markets of the world and consumers have a wide variety of goods and services to choose from. In this context, it becomes imperative for an organization to keep all its stakeholders happy. The difference in accounting and reporting requirements result in different operating results of the same firm in different jurisdictions. There have been instances in the past, where a firm revealed operating profits by reporting under one jurisdiction revealed operating losses by reporting under another jurisdiction. This disharmony in the operating results create frustration among the stakeholders who are concerned over the profitability of the firm and affects the reputation of the firm. The need of the hour is harmonized accounting and reporting practices to end such confusion and frustration.

CROSS BORDER INVESTMENT AND BORROWING

For the smooth functioning of any organization, availability of funds is the top priority. The funds can be accessed from capital markets in the form of debt and equity. Organizations try to get the funds at the cheapest cost and liberal terms and conditions. In doing so, the organizations tap both the domestic and international markets. Currently, issuers accessing capital markets in different jurisdictions need to comply with requirements of each jurisdiction. While going to the international market, the firms cannot ignore the fact that every country has its own financial reporting procedure. In some countries the procedure is more exhaustive and requires more details, while in other countries the system may be less demanding, requiring fewer details and not very exhaustive. The presence of different listing and reporting requirements under each jurisdiction results in increased cost of accessing multiple jurisdictions and the inefficiencies in cross border investment and borrowing. Thus the need and importance for a uniform and harmonized system of accounting procedure cannot be overlooked. A harmonized system of accounting will give a level playing field to the organization, be it domestic or international.

DIVERGENT ACCOUNTING PRACTICES

If one goes through the published annual accounts of various companies in a country like India, they can be found that there are divergent accounting practices for the same transaction by different companies. This, in effect, is defeats the comparability of financial statements. This divergence either because of the

absence of a harmonized accounting procedure or lack of harmony among the government, standard setting body and regulatory authorities. To do away with this shortcoming, one has to introduce a harmonized financial reporting system. This harmonized financial reporting system will ensure that all the corporate houses adhere to one common set of practices and procedures while reporting their operations, with no anomalies in the presentation of annual reports, and with the elimination of gaps among the accounting practices followed in different parts of the world.

CHANGE IN PRIORITY INDUSTRIES

During the last 10-15 years, the manner in which businesses were carried out underwent a sea change. Previously, the emphasis was more on manufacturing of consumer and capital goods, heavy machinery, etc. Lately, the trend has shifted to services. Compared to the manufacturing sector, knowledge-based industries are gaining ground. BPO, insurance, banking, medical facilities and tourism are some of the sectors, which have great promises for the future. These industries are either on the growth path or have gained enough momentum. In the past when the AS setting procedure was started, the emphasis was mainly on the manufacturing sector-related activities. Now, the scenario has changed. The emergence of the service industry demands a change in the trend of AS setting procedure. More AS should be introduced, which focus on service and knowledge-based industries as well.

GROWTH IN WEALTH

The world has changed a lot in the last decade. The US has emerged as a major political, economic and financial power of the new world order. China, India, and Brazil are fast catching up and have shown impressive growth in sectors like IT, tourism, medical facilities, mass production, etc. More wealth was generated in the last decade than in the last three decades put together. This phenomenal growth in wealth has given enough scope for the emergence of new investment avenues not only at the domestic level but also at the international level. The only problem with this new order is that the investment pattern, investment strategies and investment markets must be in a harmonized and structured manner. This harmonization is required not only for the above-mentioned factors but also for a financial reporting system. The financial reporting system is required to be harmonized, as it will give a common platform for all investment options, which will help in making investment decisions a factor.

Arguments Favor for Harmonization

There is strong pressure in favor of greater international harmonization, and virtually all the countries in the world now support International Accounting standards Committee efforts to develop a set of IFRS (IAS). Different international organizations are widely recognizing the need of harmonization. The following factors are strongly argued for harmonization:

- a. International accounting firms constitute another group. They provide auditing and consulting services in many countries. In order to perform these services, they must possess expertise in the area of domestic financial accounting principles and the related laws. Development of this expertise is very costly to these firms and global harmonization of accounting principles would likely to reduce these costs substantially. It ensures reliable and high quality financial reporting and disclosures.
- b. International accounting standards can be very important for the development of global financial markets, especially for stock exchanges.
- c. It enables a systematic review and evaluation of the performance of a multinational company having subsidiaries and associates in various countries wherein each country has its own set of GAAP. Similar accounting standard worldwide will make comparison of firms easier and more reliable.

Suppose one using ratio analysis of two firms' of different countries may cause problems due to different Accounting Standards but harmonization can reduce these problems.

- d. International accounting facilitates international transactions, pricing and resource allocation decision, and may render the international financial markets more efficient.
- e. Harmonization would break the barriers to free flow of capital. Investors would ideally like to direct their capital to the most efficient and productive companies globally, provided they are able to understand their accounting numbers.
- f. In case of developing countries, if they have no accounting standards in any segment of accounting transactions they may adopt IAS, with some modifications. That way, they may save their time as well as money. Poor countries that suffer on account of outdated and traditional accounting systems can update their systems in tune with developed countries and gain immensely from harmonization.
- g. In case of taxation authorities work will be minimized due to harmonization because revenue recognition in different foreign incomes will be a difficult task.
- h. A universal system of accounting practices minimizes the cost of promulgating multiple accounting standards by multiple accounting bodies based in different countries.

Box 1: United Nations Interest in Accounting Standards

The United Nations (UN) became interested in accounting and the need for improved corporate reporting when a group of eminent persons were appointed to study the impact of multinational, comparable system of standardization accounting and reporting. It also recommended the creation of a group of experts of international standards of accounting and reporting. The group was created in 1976 with the following objectives:

- To review the existing practice of reporting by transnational corporations and reporting required in different countries.
- To identify gaps in information in existing corporate reporting and to examine the feasibility of various proposals for improved reporting.
- To recommend a list of minimum items, together with their definitions, that should be included in reports by transnational corporations and their official taking into accounts the recommendations of various groups concerned with the subject matters.

As a result, the group issued a report that included a 34 page list of recommended items to disclose by the enterprise as whole that is consulate and by individual member companies including the parent company following issuance of the report an international working group of experts formed with objectives of contributing to the harmonization of accounting standards. It does not function as a standard-setting body; its mandate is to review and discuss accounting and reporting standards. The group will consider among other issues whether the UN should promulgate accounting standards. Needless to say, this effort by the UN has created mixed international reactions. Most of the concerned institutions have expressed the feeling that accounting standards at the domestic level or the international are best set in the private sectors. The some institutions are united in their support for the work of IASB and national accounting groups. The developing countries are mostly supportive of the UN actions. While the UN standards efforts are mainly targeting multinational. There is greater likelihood that eventually they would be expanded to all the companies in the world.

Source: www.icfaipress.org.

Limitations to Harmonization

Recent trends seem to indicate that there is a chance of achieving international harmonization. But the following are the limitations for achieving that target:

- a. Tax collection systems vary from one country to another country. Taxation is the major source of demand for the accounting profession. Thus, differences in tax systems lead to a diversity in the accounting principles and systems internationally. If the governments also show interest to harmonize the tax systems, then this limitation will disappear.
- b. Generally, formulation of accounting policies and establishment and implementation of new accounting policies depend upon the political and economic system of the country. Some countries follow capitalistic economy systems and some countries socialistic systems. Thus, this limitation will exist continuously for harmonization of accounting.
- c. The last limitation to international harmonization is created by accountants themselves through the strict national licensing requirements for foreign accountants. Naturally, this discourages the accountants from practicing the accounting for multinational companies.

In spite of the above limitations, harmonization of accounting policies has been increasing by leaps and bounds after '90s. Several countries in the world recognize IAS as a standard and is mandatory to reconcile their financial statements with this standard. The United Nations (UN) has shown a substantial interest in harmonization of International Accounting Standards. In the USA, the SEC recognizes financial statements prepared using IAS, but, still requires listed companies to reconcile their accounts using US GAAP. In India, AS are being harmonized with the IAS, to some extent possible, in the light of the conditions and practices prevailing in India.

SARBANES-OXLEY ACT, 2002

In the beginning of this Century, corporate and accounting scandals in the big giants like Enron, WorldCom, Tyco, and Parmalat negatively impacted the investor's trust and financial markets in the US and Europe. People lost faith in financial reporting and corporate practices. To restore the investors' confidence and to strengthen the corporate governance the US government passed the Sarbanes-Oxley Act, 2002. It laid down new accountability standards for corporate boards and auditors. It also established a Public Company Accounting Oversight Board (PCAOB) under the SEC, to oversee the work of public accounting firms in order to protect the interest of the investors. The Act applies to all public companies in the US and Non-US firms doing trading activity in the US. It also applies to the foreign firms with secondary listings on the New York Stock Exchange. It also applies to private companies which are preparing their initial IPO which are required to comply with certain provisions of Sarbanes-Oxley Act. The Act also specifies some civil and criminal penalties for non-compliance of the provisions of this Act.

Briefings of Sarbanes-Oxley Act

The Act is divided into 11 Titles and discuss a variety of matters, from Corporate Board responsibilities to Criminal Penalties relating to corporate officers, directors and auditors. In this part we discuss the Titles/sections of the Act briefly:

Title 1: Public Company Accounting Oversight Board (PCAOB) [Sec 101 to 109]

The Act established the PCAOB to protect the interest of the investors. The Board consists of five members and two of these members should be from accounting profession. No member should share in any of the profits of, or receive payments from a public accounting firm. The board has the power to establish guidelines for auditing, quality control, ethics, independence and other standards relating to the preparation of audit reports for issuers. The duties of the board include registration of public accounting firms, conducting inspections in the public accounting firms, enforcing compliance of the act etc.

Title 2: Auditor Independence [Sec 201 to 209]

In this title, the section 201 clearly discusses the role of auditors and clearly states their independence from their clients. The auditors should not perform certain functions to the firm, like investment management, human resource services, services relating to bookkeeping and financial statements and actuarial services along with the audit work. This title also discusses the matters relating to auditors rotation, audit committee and its role, reports to audit committees. As per Section 206 the CEO, Controller, CFO, Chief Accounting officers or other similarly positioned employees should not be employed by the Company's audit firm for year prior to the audit work.

Title 3: Corporate Responsibility [Sec 301 to 308]

As per Section 301,, a public company should create an audit committee consisting of board members who cannot receive payments outside the service on the board. Section 302 requires that the financial statements should be accompanied by a declaration statement of CEO and CFO on the accuracy of these statements. Section 304 discusses the forfeiture of certain bonuses and profits. Section 306 prohibits the insider trading during the pension fund blackout periods. Section 307 requires that an attorney is required to report to the CEO, if he is not responded, he should report it to the audit committee. In addition the provisions of the Act mandates SEC to direct National Securities Exchanges and Associations to prohibit the listing of any securities of issuer if they do not comply with the requirements under this Act.

Title 4: Enhanced Financial Disclosures [Sec 401 to 409]

This title is the most important and most difficult to fulfill compliance requirements. It discusses the disclosure requirements and internal control system. The requirement as per Section 401 ensures the accuracy of financial statements. As per section 402, extending credit in the form of a personal loan to any CEO or any director, directly or indirectly is unlawful. According to Section 404, an internal control report should be filed along with the annual report. Middle and small size business houses feel that the compliance of this section is most costly to them. In addition to this, each firm should disclose whether its senior financial officers adopt a code of ethics or not. It should present the contents of this code as part of annual financial reporting. This title also discusses the real-time disclosure of material changes to financial conditions and operations.

Title 5: Analyst Conflicts of Interest [Sec 501]

A registered securities association or national securities exchange should adopt rules designed to address conflicts of interest that can arise when research analysts and securities analysts, who recommend equities in research reports and public appearances, in order to improve the objectivity of research and provide investors with more useful and reliable information. The aim is to foster greater public confidence in security research and to protect objectivity & independence of security analysts.

Title 6: Commission Resources and Authority [Sec 601 to 604]

As per this title, \$776,000,000 is appropriated for the commission in the fiscal year 2003. Of this amount the commission is authorized to spend \$98 million for hiring additional 200 officials to provide enhanced oversight of auditors and audit services required by Federal Securities laws. As per section 602(d), the SEC should establish rules setting minimum standards for professional conduct for attorneys practicing before it.

Title 7: Studies and Reports [Sec 701 to 705]

As per section 701, the comptroller General of the United States have the authority to conduct a study to identify the factors that have led to the consolidation of public accounting firms since 1989. In addition to this, the commission should conduct a study of the role and function of credit rating agencies in the operation of the securities market (Sec 702). The commission should conduct a study on the

securities professionals (i.e. public accountants, public accounting firms, investment bankers, investment advisers, brokers, dealers, attorneys etc.) who have been found to have aided and abetted a violation of the Federal securities laws between January 1, 1998 to December 31, 2001. The committee should report its findings to Financial Services of the House of Representatives and Committee on Banking, Housing and Urban Affairs of the Senate. The commission is also authorized to conduct a study to check whether investment banks and financial advisers assisted public companies in manipulating their earnings and obfuscating their true financial conditions.

Title 8: Corporate and Criminal Fraud Accountability [Sec 801 to 807]

This title discussed the penalties and fines for altering documents and this title is also cited as “Corporate and Criminal Fraud Accountability Act, 2002”. As per this title, destruction, alteration or falsification of records during the Federal investigations and bankruptcy is treated as criminal fraud. Auditors are required to maintain all audit working papers for five years. Another important provision in this title is that the employees of issuers and accounting firms are extended “whistle blower protection”.

Title 9: White-Collar Crime Penalty Enhancements [Sec 901 to 906]

This title discusses the penalties and fines for White-Collar Crimes and this title is also cited as “White-Collar Crime Penalty Enhancement Act, 2002”. Section 903 increased the maximum penalty for mail and wire fraud from 5 to 10 years. SEC given the authority to seek court freeze of extraordinary payments to directors, officers and other important persons. Section 302 of title 3 of this Act, requires that the financial statements should accompany the declaration statement of CEO and CFO on the accuracy of these statements. A fine of not more than \$ 500,000 and/or imprisonment of up to 5 years will be imposed for willful and knowing violations of this section (i.e. Section 302 of the title 3 of SOX Act, 2002) as per section 906 of Title 9 of SOX Act, 2002.

Title 10: Corporate Tax Returns [Sec 1001]

This title states that the Federal Income tax return of a corporation should be signed by the CEO of such corporation.

Title 11: Corporate Fraud Accountability [Sec 1101 to 1107]

This title is also cited as “Corporate Fraud Accountability Act, 2002”. This title discusses the penalties and fines for individuals who have committed fraud by altering or destroying documents or otherwise impeding an official proceeding. The SEC is authorized to freeze the payment of an extraordinary payments to any director, officer, partner, controlling person, agent or employee during an investigation into violation of Securities Law. SEC may prohibit any person from serving as an officer or director of a public company who has committed securities fraud.

Implications of Sarbanes-Oxley

The various provisions of the Act apply to Publicly traded companies listed in US stock exchanges. However, the passing of the Act had several implications on other companies, organizations and countries as well.

IMPLICATIONS TO PRIVATE COMPANIES

Private companies though not bound by The Act are voluntarily moving towards adoption of few selective provisions such as stronger internal controls, additional internal audits and internal auditors etc. The efficiency and the benefits of these provisions in public companies have actually led to voluntary adoption of similar provisions in closely held companies.

Box 2: Key SOX Provisions being Implemented by Private Companies

Though technical compliance with many provisions of SOX is not required, many private companies have examined their business risks and have implemented certain provisions based upon the costs and potential benefits of the implementations. Progressive companies see these steps as an opportunity to improve governance and internal control processes. The provisions these companies are implementing or considering implementing based on the costs are:

Section 401: Ensuring that financial statements fairly present the condition of the business.

Section 301: Sourcing independent, knowledgeable directors to provide oversight and form the basis for an audit committee.

Section 305: Establishing audit committees.

Section 404: Establishing strong internal control systems and document retention policies.

Sections 201, 202, 206: Separating professional services by ceasing the use of external auditors for non-auditor services in order to avoid actual or perceived conflicts of interest.

Source: <http://www.foley.com>.

IMPLICATIONS TO NON-PROFIT ORGANIZATIONS

The passing of Act has been followed by consideration of passing legislations by a number of State Legislations that incorporate elements of Sarbanes-Oxley Act. The policies and the governance principles recommended by The Act have found acceptance in all sectors and are being applied to non-profit organizations as well. Those non-profit organizations that undertake annual audits, the provisions of The Act pertaining to Audit Committees, their independence have found acceptance. Provisions relating to changing of auditors once in every five years, the certification of Financial Statements by CEO and CFO which signify their full understanding of the contents of the financial statements, Insider trading and conflict of interest provisions and extensive Disclosure provisions are many such areas of The Act that are finding their application in non-profit organizations also.

IMPLICATIONS TO NON-US COMPANIES

The Act clearly applies to companies listed in the stock exchanges in US. Hence, The Act clearly apply to Non-US companies that have securities publicly traded in the US on national securities exchanges or Nasdaq as well as companies that are required to file reports with the SEC. The Act applies to all foreign issuers:

- that have securities, including American Depositary Receipts (ADRs), registered under section 12 of the Securities Exchange Act of 1934;
- that are required to file reports under section 13(a) or 15(d) of the Securities Exchange Act (including companies filing Form 20-F); or
- that have filed a registration statement that has not yet become effective (under the Securities Act of 1933) and that have not been withdrawn.

INTERNATIONAL IMPLICATIONS

The Act has its international implications. Most of the provisions of 'The Act' dealing with issues of disclosure and governance have also impacted the Non-US companies that globally access the markets. The Act which has improved the quality of reporting and has the potential to reduce future frauds is leading to incorporation of similar provisions in various legislations been pronounced in the various countries globally. The Act has led to similar legislations in Canada (Canadian Securities Administrators Regulation – CSAR), Especially, the requirements as to Internal control under section 404 have caught the attention outside US. In Japan, the Committee on Internal Control of financial reporting, more popularly known as 'J-SOX rule', 'Clause 49' in India, and similar legislations in France and UK.

SUMMARY

- With the rapid growth in cross-border investment over the last two decades there has been an increasing demand for high-quality, uniform financial reporting. The importance of relevant information is such that the investors are on the constant lookout for reliable and accurate information not only of the company but also of their competitors wherever they may have been situated in the world.
- Financial reporting varies from one country to another country. Different countries follow different accounting policies, principles and formats. International Accounting Standards board gave a frame work for preparation of financial statements and their presentation. It is not a standard it is only guideline.
- Every country has its own GAAP. To harmonize the accounting standards, International Accounting Standards Board is developing standards which are known as International Financial Reporting Standards. These standards are useful especially for multinational companies.
- There is a lot of diversity in the accounting field due to the legal systems, taxation policies and cultural differences. This diversity obstructing the companies to enter into foreign markets. Multinational companies are facing key personnel and increase in cost problems.
- After the scandals in the beginning of this century, to restore the investors' confidence and to strengthen the corporate governance the US government passed the Sarbanes Oxley Act, 2002. It laid down new accountability standards for corporate boards and auditors.

Chapter II

Ratio and Financial Analysis

After reading this chapter, you will be conversant with:

- Common-size Statements and Time Series Analysis
- Ratio Analysis
- Activity Analysis
- Liquidity Ratios, Long-term Debt Analysis, and Profitability Analysis
- Operating and Financial Leverage, EPS Analysis
- Integrated Ratio Analysis, Financial Distress Risk
- Valuation Implications of Financial Statement Analysis
- Break Even Analysis, Pro-forma Financial Statements

Introduction

Financial statements provide financial data, which requires analysis, interpretation and comparison. Internal users use this analysis for evaluating the efficiency of the management and the external users use it to decide upon whether the firm is a good investment. Thus we see that besides financial statements, its analysis and interpretation is also very important. This analysis and interpretation of financial statements and their comparison with others form the major part of ratio analysis.

Financial ratio analysis is the calculation and comparison of ratios, which are derived from the information in a company's financial statements. The level and historical trends of these ratios can be used to make inferences about a company's financial condition, its operations and attractiveness as an investment.

Ratio Analysis is a very powerful tool useful for measuring performance of an organization. It concentrates on the inter-relationship among the figures appearing in the financial statements. It helps to analyze the past performance of the firm and also to make further projections. It is a process of comparison of one figure against another, which makes a ratio, and the appraisal of the ratios to make proper analysis about the strengths and weaknesses of the firm's operations. The actual calculation of ratios is pretty simply an application of the necessary ~~formulae, formulae~~; however it is the analysis of these ratios, which is significantly complicated task, even for a skilled analyst.

COMMON-SIZE STATEMENTS

Common size analysis expresses comparisons in percentages. Each element of the income statement or the balance sheet is expressed as a percentage of a relevant basis. In the case of income statements the total revenues or sales form the basis, whereas in the case of Balance ~~Sheet, Sheet~~, total of assets -or in other words total of liabilities form the basis. This technique is also referred to as vertical analysis given the up-down (or down up) movement of our eyes as they review the statements. Common size financial statement analysis is an inquiry into the internal structure of financial statements.

As already explained, common size statements are an important tool for analysing the financial statements. Common size analysis can be of two types – analysis of the income statement or analysis of the balance sheet.

Uses of Common-size Statements

- i. **For inter firm/inter company comparisons** – Common size statements are especially useful for inter company comparisons because financial statements of different companies are recast in common size format. Comparison of a company's common size statements with competitor's statistics alerts our attention to differences in account structure or distribution.
- ii. **For industry analysis** – A comparison of company's performance with the statistics of the industry is useful for exploring the reasons for difference.
- iii. **For comparisons over a time period** – Comparisons of changing compositions of various elements within the income statement or balance sheet of a company also provides valuable information. Interpretation can be drawn depending on the changes in the composition. Such analysis is referred to as time series analysis and is discussed in detail in the next chapter.

Common-size Income Statement

Common size income statement analysis is often of greater importance. An income statement readily lends itself to a common size analysis, where each item is related to a key quantity (i.e., sales). To varying degrees, sales level affects each expense, and it is vital for our analysis to know what proportion of sales is absorbed by various expense items.

METHODOLOGY

The profit and loss account can be taken as the basis for constructing a common size income statement. Each element of the income statement is converted and expressed as a percentage of the total revenue. The sale figure or total revenue figure is taken as base and all other figures are expressed as percentage of sales. The items in income statement can be shown as percentage of sales to show the relation of each item to sales. Significant relationships can also be established between items of income statement and volume of sales. To a certain limit with the increase in sales, the administrative or financial expenses will remain constant but beyond the considerable extent, these expenses may go up.

Illustration 1

The following is the income statement of Tata Steel Ltd for the year ended March 31, 2006.

Income statement of Tata Steel Ltd for the year ended March 31, 2006

(Rs. in crore)

Particulars	Rs.	Rs.
Income:		
Sale of products and services	17,144.22	
Less: Excise duty	2004.83	
Net Sales		15,139.39
Add: Other income		254.76
Total income		15,394.15
Expenditure:		
Manufacturing and other expenses	9,320.50	
Depreciation	775.10	
	10,095.60	
Less: Expenditure transferred to capital and other accounts	112.62	
	9,982.98	
Add: Interest expense	118.44	
Total Expenditure		10,101.42
Profit before tax and exceptional items		5,292.73
Less: employee separation compensation		52.77
Profit before tax		5,239.96
Taxes: Current tax	1,579.00	
Deferred tax	127.58	
Fringe benefit tax	27.00	1,733.58
Profit after tax		3,506.38

Prepare a common size income statement of Tata Steel Ltd.

Financial Statement Analysis

Solution

Common-size Income Statement of Tata Steel Ltd for the year ended March 31, 2006

(Rs. in crore)

Particulars	Rs.	Rs.	Computation of %	%
Income:				
Sale of products and services	17,144.22			
Less: Excise duty	2004.83			
Net Sales		15,139.39	Net sales taken as base 100	100
Other income		254.76	$254.76 \times 100 / 15,139.39$	1.68
Total Income		15,394.15		101.68
Expenditure:				
Manufacturing and other expenses	9,320.50		$9,320.50 \times 100 / 15,139.39$	61.56
Depreciation	775.10		$775.10 \times 100 / 15,139.39$	5.12
	10,095.60			66.68
Less: expenditure transferred to capital a/c	112.62		$112.62 \times 100 / 15,139.39$	0.74
	9,982.98			65.94
Add: interest expense	118.44		$118.44 \times 100 / 15,139.39$	0.75
Total expenditure		10,101.42		66.69
Profit before tax and exceptional items		5,292.73	$5,292.73 \times 100 / 15,139.39$	34.96
Less: employee separation compensation		52.77	$52.77 \times 100 / 15,139.39$	0.35
Profit before tax		5,239.96		34.61
Less: Current tax	1,579.00			
Deferred tax	127.58			
Benefit tax	27.00	1,733.58	$1,733.58 \times 100 / 15,139.39$	11.45
Profit after taxes				23.16

ANALYSIS OF COMMON-SIZE INCOME STATEMENT

The common size income statement of one firm can be compared with income statements of other firms belonging to the same industry for cross sectional analysis. Let us take an analysis of the common size income statements of Infosys technologies and compare it with that of Satyam Computer services and TCS to understand the cross-sectional analysis.

Cross Sectional Analysis using Common Size Income Statement

(Rs. in crore)

Particulars	TCS		INFOSYS		SATYAM	
	Rs.	%	Rs.	%	Rs.	%
Income						
Income from sales and service	11,214.86	100.00	9,028.00	100.00	4,634.31	100.00
Other incomes	67.95	0.61	144	1.60	377.91	8.15
	11,282.81	100.61	9,172.00	101.61	5,012	108.51
Expenditure						
Employee costs	4000.6	35.67	4,273.00	47.33	2,700.67	58.28
Operation and other expenses	3,945.99	35.19	1,766.00	19.56	740.13	15.97
	7,946.59	70.86	6,039.00	66.89	3,440.80	74.25
PBDIT	3,336.22	29.75	3,133.00	34.70	1,571.42	33.91
Interest	4.49	0.04	-	0.00	2.72	0.06
Depreciation	257.38	2.29	409.00	4.53	122.81	2.65
Profit before tax	3,074.35	27.41	2,724.00	30.17	1,445.89	31.20
Provision for tax	337.23	3.01	303	3.36	197.34	4.26
Net Profit after tax	2,737.12	24.41	2,421	26.82	1,248.55	26.94

Note: While making the common size statement, for comparison purposes the provision for fringe benefit tax has not been considered.

Interpretation:

- Satyam Computer Services appears to have a marginal advantage over the other two companies in view of its profit margin which is 26.94% of sales.
- Infosys has the lowest ratio of operating cost to sales at 66.89%, while TCS and Satyam have a ratio of 70.86% and 74.25%.
- At the same time, Infosys has a higher depreciation charge than TCS or Satyam.
- Infosys and Satyam have a higher volume of employee costs and lower volume of operation expenses. This could be because of variations in classification of expenses by each of them. For instance employee costs of Infosys have been computed as salaries and bonus to overseas staff including staff expenses, overseas group health insurance, contribution to provident fund and staff welfare expenses. On the other hand, in case of TCS, the employee costs do not include training expenses.
- Because of a lower depreciation charge, Satyam is able to generate a higher margin than the other two firms.
- The other income of Satyam has also shown a considerable increase due to profit on sale of the company's entire investment in Sify Ltd to the tune of Rs.262 crore.

Common-size Balance Sheet

The common size balance sheet can be used for comparing assets and liabilities and to find out any increase or decrease in these items. The total assets, or in other words, total of liabilities is taken as base and all other figures are expressed as a percentage to this total. The percentages so calculated can be easily compared with the corresponding percentages in other periods and meaningful conclusions can be drawn.

Illustration 2

The following is the balance sheet of Tata Steel Ltd as on March 31, 2006

Balance Sheet of Tata Steel Ltd as on March 31, 2006

(Rs. in crore)

Particulars	Rs.	Rs.
Funds Employed:		
Share Capital	553.67	
Reserves and Surplus	9,201.63	
Total shareholders funds		9,755.30
Loans:		
Secured	2,191.74	
Unsecured	324.41	2,516.15
Deferred tax liability		957.00
Provision for employee separation compensation		1,388.71
Total funds		14,617.16
Application of Funds		
Fixed assets:		
Gross block	16,564.90	
Less: impairment	94.19	
Less: depreciation	6,605.66	9,865.05
Investments		4,069.96

Financial Statement Analysis

(Rs. in crore)

Particulars	Rs.	Rs.
Current assets:		
Stores and spare parts	442.66	
Stock in trade	1,732.09	
Sundry debtors	539.40	
Interest accrued on investments	0.20	
Cash and bank balances	288.39	
Loans and advances	1,234.86	
Total current assets (A)	4,237.60	
Less: current liabilities	2,835.99	
Provisions	972.73	
Total current liabilities (B)	3,808.72	
Net Current assets (A – B)		428.88
Miscellaneous expenditure		253.27
Total Assets		14,617.16

Prepare a common size balance sheet of Tata Steel Limited as on March 31, 2006.

Solution

Common Size Balance Sheet of Tata Steel Limited as on March 31, 2006

(Rs. in crore)

Particular	Rs.	Rs.	Computation of %	%
Funds Employed:				
Share Capital	553.67		$553.67 \times 100 / 14,617.16$	3.78
Reserves and Surplus	9,201.63		$9,201.63 \times 100 / 14,617.16$	62.95
Total shareholders funds		9,755.30		66.74
Loans:				
Secured	2,191.74			
Unsecured	324.41	2,516.15	$2,516.15 \times 100 / 14,617.16$	17.21
Deferred tax liability		957.00	$957 \times 100 / 14,617.16$	6.55
Provision for employee separation compensation		1,388.71	$1,388.71 \times 100 / 14,617.16$	9.50
Total funds		14,617.16	Total funds taken as base 100	100
Application of Funds:				
Fixed assets:				
Gross block	16,564.90			
Less: impairment	94.19			
Less: depreciation	6,605.66	9,865.05	$9,865.05 \times 100 / 14,617.16$	67.49
Investments		4,069.96	$4,069.96 \times 100 / 14,617.16$	27.84
Current assets:				
Stores and spare parts	442.66		$442.66 \times 100 / 14,617.16$	3.03
Stock in trade	1,732.09		$1,732.09 \times 100 / 14,617.16$	11.85
Sundry debtors	539.40		$539.40 \times 100 / 14,617.16$	3.69
Interest accrued on investments	0.20		$0.20 \times 100 / 14,617.16$	0.00
Cash and bank balances	288.39		$288.39 \times 100 / 14,617.16$	1.97
Loans and advances	1,234.86		$1,234.86 \times 100 / 14,617.16$	8.45
Total current assets (A)	4,237.60			28.99
Less: current liabilities	2,835.99		$2,835.99 \times 100 / 14,617.16$	19.40
Provisions	972.73		$972.73 \times 100 / 14,617.16$	6.65
Total current liabilities (B)	3,808.72			26.05
Net Current assets (A – B)		428.88	$(28.99 - 26.05)$	2.94
Miscellaneous expenditure		253.27	$253.27 \times 100 / 14,617.16$	1.73
Total Assets		14,617.16	Total assets taken as	100

ANALYSIS OF COMMON-SIZE BALANCE SHEETS

In analyzing a common size balance sheet, emphasis is laid on these aspects:

- Sources of financing, including the distribution of financing among current liabilities, non-current liabilities and equity capital.
- Composition of investments, including current and non current assets.
- Composition of cash and cash equivalents in current assets.

Common size balance sheet analysis is often extended to examine the proportions comprising particular sub groups. For example, in assessing liquidity of current assets, it is often important to know what proportion of current assets is comprised of inventories, and not simply what proportion inventories are of total assets.

The common size balance sheet can be used for cross sectional analysis by comparing it with the common size balance sheets of other similar firms or companies.

Let us undertake a cross sectional analysis of common size balance sheets of Infosys Technologies with the statements of TCS and Satyam Computer Services.

Cross Sectional Analysis using Common Size Balance Sheet as at March 31, 2000

(Rs. in crore)

Particulars	TCS		INFOSYS		SATYAM	
	Rs.	%	Rs.	%	Rs.	%
SOURCES OF FUNDS						
SHARE HOLDER'S FUNDS						
Share Capital	48.93	0.861	138	2.001	66.67	1.533
Reserves and Surplus	5,560.40	97.830	6,759	97.999	4,268.75	98.178
LOAN FUNDS						
Secured loans	26.52	0.467			12.57	0.289
Unsecured loans	8.98	0.158				
	35.5	0.625				
DEFERRED TAX LIABILITY	38.8	0.683				
	5683.71	100	6,897	100	,347.99	0
APPLICATION OF FUNDS						
FIXED ASSETS						
Original Cost	1,695.13	29.824	2,837	41.134	1153.16	26.522
Less: Accumulated Depreciation	525.35	9.243	1,275	18.486	803.74	18.485
Net Book Value	1169.78	20.581	1,562	22.648	349.42	8.036
Add: Capital work-in-progress	280	4.926	571	8.279	76.84	1.767
	1449.78	25.508	2,133	30.926	426.26	9.804
INVESTMENTS	1963.52	34.546	876	12.701	155.74	3.582
DEFERRED TAX ASSETS			56		4.29	
CURRENT ASSETS, LOANS AND ADVANCES						
Sundry debtors	2680.54	47.162	1,18	22.010	1,122.81	25.824
Cash and bank balances	171.17	3.012	3,279	47.542	3,052.3	70.201
Loans and advances	1107.87	19.492	1,252	18.153	13.24	4.214
interest accrued on investments	0.33	0.006		0.000	110.59	2.543
Inventories	22.94	0.404		0.000		0.000
	3,982.85	70.075	6,049	87.705	4,468.97	102.782
Less: Current Liabilities And Provisions						
Current liabilities	1171.9	20.619	808	11.715	435.71	10.021
Provisions	540.54	9.510	1,409	20.429	271.56	6.246
	1712.44	30.129	2,217	32.144	707.27	16.267

Financial Statement Analysis

NET CURRENT ASSETS	2270.41	39.946	3,832	55.560	3,761.70	86.516
TOTAL	5683.71	100	6,897	100	4,347.99	100

Interpretation: Common size balance sheet of TCS, Satyam and Infosys can be compared from the following perspectives:

- **Short-term Liquidity** – The short-term liquidity can be assessed by looking at the proportion of net current assets to total assets. This percentage is relatively very high for Satyam Computer Services when compared to others. This can be attributed to two factors – one, the large composition of cash in current assets (70.2%) and the relatively lower percentage of current liabilities (16.27%). On the other extreme the net current assets percentage to total assets is less in TCS, because of the relatively meager proportion of cash balances which are only 3% of total assets.

A closer look at the cash flow information of Satyam Computer Services reveals that the actual net increase in absolute cash is only Rs.689 crore which means that the cash balance at the end of the year is only Rs.1,256 crore. The remaining balance in “cash and bank balances” represents a long term fixed deposit of Rs.1,795 crore.

- **Long-term Solvency** – All the three software companies are financed mostly through internal funds (i.e., reserves and surplus) and hence the proportion of debt to equity is very negligible. As such they have a satisfactory long-term financial position.
- **Composition of Fixed Assets** – Since all the three companies are software companies, their major fixed assets comprise land and buildings and computer equipment. A look at the notes to accounts and the schedules to balance sheet reveals that in case of TCS, out of the gross block of assets, 55% are buildings and computer equipment, while in case of Satyam and Infosys the composition of these two assets is 77% and 56% respectively.

While buildings have been depreciated on straight line basis over their useful life in case of TCS and Infosys, in case of Satyam they have WDV method. The proportion of accumulated depreciation to gross block of assets is more in case of Satyam (69%) which suggests that the company must have adopted a faster depreciation of its assets in their initial years. On the other hand the proportion of accumulated depreciation to gross block of assets is considerably low for TCS (31%)

- **Investments** – The proportion of investments also shows considerable variation with TCS having a higher percentage (34.5%) while Satyam has the lowest percentage in investments (3.5%). But, Satyam has a major portion (40% of total assets) invested in long term fixed deposit which is included in cash and bank balances.

TIME SERIES ANALYSIS

A comparison and analysis of statements over several years is known as Time Series analysis. The objective of such an analysis is to determine the direction and speed of the performance of the company that enable future of the company to be predicted.

This analysis involves the setting of consecutive balance sheets, income statement or cash flows side by side and reviewing and analyzing the changes in individual categories on a year-to-year basis. Using systematic patterns in the financial components such as revenues, costs and profits etc., inferences are drawn and future values predicted. As in the case of Cross sectional analysis, time series analysis requires a consistency in accounting practices and accounting period, for example, foreign currency translations may cause a

sizable inconsistencies over time. Hence, these factors must be calibrated before time series analysis is undertaken.

Methods of Time Series Analysis

YEAR-TO-YEAR CHANGE ANALYSIS

In this analysis, financial statements are compared over relatively short period such as two or three years. A short period year-to-year analysis is manageable and understandable. This involves the comparison of absolute figures of a financial component over time. Generally, legislations of all countries require that companies provide financial statements of two, five or nine consecutive years in their annual reports. This method is simple and easy to form opinion about the behavioral patterns of financial component.

Year to year analysis begins with the calculation of monetary amount changes and computation of percentage changes from the previous to the current year, for a better understanding and measure of change. The advantage of presenting both in terms of absolute rupees and in terms of percentages has made this method more popular for short term analysis. The percentage change must be calculated to show how the size of the change relates to the size of the amount involved.

$$\text{Percentage Change} = 100 \times \frac{\text{Amount of Change}}{\text{previous Year Amount}}$$

Computation of year to year change is straight forward. But still it should be noted that we cannot compute a meaningful change,

- When negative amount appears in the previous period and a positive amount in the next period or vice versa.
- When there is no amount for the previous period or has a amount in the previous year and none in the next year, the increase or decrease is 100%.
- When the previous period amount is small. This is because it can signal a large change merely because of the small amount used in computing the change. Therefore it should be interpreted with caution.

Comparative Profit and Loss Account

Illustration 3 presents comparative Profit and Loss accounts of Tata Steels Ltd for the year ending March 31, 2006 and 2005.

Illustration 3

Comparative Profit and Loss Accounts of Tata Steels Limited for the year ended March 31, 2006 and 2005

Particulars	FY 2005-06 Rs. in crore	FY 2004-05 Rs. in crore	Change Rs. in crore	Change %
INCOME:				
Sale Of Products And Services	17144.22	15876.87	1267.35	8%
Less — Excise Duty	2004.83	1377.92	626.91	45%
Net Sales	15139.39	14498.95	640.44	4%
Other Income	254.76	148.03	106.73	72%
Total Income (A)	15394.15	14646.98	747.17	5%
EXPENDITURE:				
Manufacturing And Other Expenses	9320.50	8658.41	662.09	8%
Depreciation	775.10	618.78	156.32	25%
	10095.60	9277.19	818.41	9%
Less — EXPENDITURE (OTHER THAN INTEREST)				
Transferred To Capital And Other Accounts	112.62	204.82	92.2	45%
	9982.98	9072.37	910.61	10%
Interest	118.44	186.80	(68.36)	-37%
Total Expenditure (B)	10101.42	9259.17	842.25	9%
PROFIT BEFORE TAXES AND EXCEPTIONAL ITEMS	5292.73	5387.81	(95.08)	-2%

Financial Statement Analysis

Particulars	FY 2005-06 Rs. in crore	FY 2004-05 Rs. in crore	Change Rs. in crore	Change %
C = (A – B)				
Employee Separation Compensation	(52.77)	(119.11)	66.34	-56%
Profit On Sale Of Long Term Investments		28.58	28.58	100%
PROFIT BEFORE TAXES	5239.96	5297.28	(57.32)	-1%
Taxes				
(A) Current	1579.00	1833.66	(254.66)	-14%
(B) Deferred Tax	127.58	(10.54)	138.12	1310%
(C) Fringe Benefits Tax	27.00	–	27	100%
(D)	1733.58	1823.12	(89.54)	-5%
PROFIT AFTER TAXES (C-D)	3506.38	3474.16	32.22	1%
Balance Brought Forward From Last Year	1790.21	637.42	1152.79	181%
AMOUNT AVAILABLE FOR APPROPRIATIONS (E)	5296.59	4111.58	1185.01	29%
Appropriations:				
(A) Proposed Dividends	719.51	719.51	0	0%
(B) Tax On Dividends	100.92	101.86	0.94	1%
	820.43	821.37	0.94	0%
(C) General Reserve	1500.00	1500.00	0	0%
(F)	2320.43	2321.37	0.94	0%
BALANCE CARRIED TO BALANCE SHEET (E-F)	2976.16	1790.21	1185.95	66%
Basic and Diluted Earnings per Share Rs.	63.35	62.77		

Analysis and Interpretation

Some of the prominent trends could be captured by having a look at comparative Profit and Loss accounts of Tata Steels Ltd (Illustration 3).

It is revealed that, there has been a 8% increase in the sales revenue from operations amounting to Rs.1267.35 crore and interest charges has reduced by 37% amounting to Rs.68.36 crore.

However this increase in revenue is off set by increase in excise duty by 45% amounting to Rs.626.91 crore, increase in manufacturing and other expenses by 8% and increase in depreciation charges 25%.

As per notes to accounts the manufacturing and other expenses and depreciation shown in the Profit and Loss Account include Rs.24.14 and Rs.0.84 crore respectively in respect of Research and Development activities undertaken during the year.

In its MD&A section, Tata Steels attributes the increase in manufacturing cost was due to sustained high prices of raw materials, increase in other expenses was mainly due to payments made to consultants, expenditure of techno-economic feasibility studies and payments towards miscellaneous contracts in connection with increased mining activities and increase in depreciation charges was on account of increase in capital expenditure mainly on the completion of 1 million tonnes and 2.4 million tonnes steel capacity expansion programmes and development expansion in mines and collieries.

This has resulted in the decline in profits before tax and exceptional items by 2% amounting to Rs.95.08 crore.

Other factors which have contributed to the marginal increase in profits after tax of 1% was,

- There was increase in other income to the extent 72% amounting to RS 106.73 crore. This was mainly on account of dividend income.

Ratio and Financial Analysis

- ii. Decrease in Employee Separation Compensation by 56% amounting to Rs.66.34 crore. In its MD&A section, Tata Steels attributes the decrease in ESS was on account of, provision for employee separation compensation was calculated on the basis of the net present value of the future monthly payments using discount rate of market yields on government bonds, as per AS-15 and reduction in the old cases, thereby charges were reduced by Rs.95 crore and 2.79 crore respectively. Under ESS 1,141 employees were separated and the charges went up by Rs.31.41 crore during the year.
- iii. Total tax payments has reduced by 5% amounting to ~~RS-Rs.~~ 89.54 crore.

In sum, Tata Steels Ltd operating performance was not satisfactory because, even though sales increased by 8% this was off set by increase in manufacturing, and other expenses by 9% implying thereby that strict control has not been exercised on these expenses.

Limitations

Year-to-Year change analysis tends to be highly unreliable because of the following reasons:

- Year-to-year changes could be due to chance, rather than to the impact of changes in policies and practices.
- Year-to-Year changes could be due to seasonal variations which are purely short term and can distort long-run predictions.
- Year-to-Year changes could be due to cyclical fluctuations which may cause misinterpretation.
- Increase/decrease in change i.e. in performance/sales is as a result of continuous, incremental improvement over a period of time and is not simply a one-year phenomenon.

For these reasons, the use of Year-to-Year analysis is limited in practice and trend statements is preferred for time series analysis.

TREND ANALYSIS

Trend analysis is an improvement over year-to-year analysis. When a comparison of financial statements covering more than three years is undertaken, the year-to-year analysis becomes too cumbersome. In trend analysis, changes are calculated for several successive years instead of for two or three years. Therefore Trend analysis is a comparative analysis of a company's financial position over long period of time. Trend analysis is important because it may point to basic changes in the nature of a business and also helps in drawing meaningful conclusions regarding the operating performance over several years and financial position of the enterprise. It is based on the idea that what has happened in the past gives an idea of what will happen in the future.

One of the main goals of trend analysis is to forecast future values of the series. It allows a researcher to look at a pattern of change over long time rather than at a single discrete point in time or over a short period so that better conclusions can be drawn.

The computation of a series of index numbers requires the choice of a base year that will for all items have an index number of 100. The base period should be a normal year with regard to business conditions, since the base year used as a reference should be representative. Generally, the earliest year is selected as the base year. However, where the earliest year cannot fulfil the conditions of being a normal year then another year is chosen. All index, numbers are computed with reference to the base year using this formulae,

$$\text{Index} = 100 \times \text{Index Year Amount} / \text{Base Year Amount}$$

In planning an index number trend comparison, it is not necessary to include in it all the items in the financial statements, only the most significant items may be included. As in the case of year-to-year analysis, certain changes negative and

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positive amounts cannot be expressed by means of index numbers. Hence, this acts as a limitation of using trend analysis. The trend analysis using index number is also referred to as trend percentage.

The index number trend or percentage trend has been found to be well suited to comparison of changes in the working capital items over the years. The strength of trend analysis lies in the fact that it conveys to the analyst a better understanding of management's philosophy, policies, motivations which are revealed through analysis over years. The more diverse the economic environments covering the periods compared, the better a picture of the ways in which the enterprise has weathered its adversities and taken advantage of its opportunities.

The first step in trend analysis is the preparation of a trend statement. For example, if we want to carry out trend analysis for five years, say, 2002 to 2006, of Infosys Technologies Ltd. We will take 2002 as base year. So the figures of each item of 2002 will act as 100. Then, we will convert financial statement items of the following years as a percentage of base-year value of 2002. Exhibit carries such percentages for two financial statements items and one can observe the trend of each item. For example, sales have increased to 347% in five years. And the trend of the sales is an increasing trend. Fixed assets also show an upward trend. However, growth in fixed assets is less than the growth in sales signifying better utilization of fixed assets.

We have commented on the trend by just observing the percentages over a period of time. One can use statistical techniques to establish a trend also.

Trend Analysis

Particulars	2002 in crore	2003 in crore	2004 in crore	2005 in crore	2006 in crore
Sales	2604	3623	4767	6868	9039
	100%	$3623/2604 \times 100$ = 139%	$4767/2604 \times 100$ = 183%	$6868/2604 \times 100$ = 263%	$9039/2604 \times 100$ = 347%
Net Fixed assets	718	742	970	1495	2133
	100%	$742/718 \times 100$ = 103%	$970/718 \times 100$ = 135%	$1495/718 \times 100$ = 208%	$2133/718 \times 100$ = 297%

Figure 1: Trend Analysis of Fixed Assets Turnover

An analyst must exercise care in using index number comparisons because they have the following weaknesses:

Limitations of Trend Analysis using Index Numbers

- Certain changes especially from negative to positive amounts cannot be expressed in terms of index numbers.
- In interpreting the trend analysis analyst should have awareness of the impact of inconsistent application of accounting principles over the years.
- The longer the period selected for trend analysis, the more distortive effects of price-level changes on such comparisons.

Following is the Extract taken from Annual Reports of Infosys:

(Rs in crore)

The above table is converted into percentage terms (i.e., trend analysis) by taking 2002 as base year.

Trend Analysis in Percentage

Revenue Analysis

◆ **Increase in sales revenue:** The sales is showing an increasing trend. That is the sales have increased from 100% in 2002 to 347% in 2006. As per the information given in annual reports, this increased revenue from sales can be attributed to on account of increased contribution of revenue from North

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America, the company's largest geographic market, which accounted for more than 60% of the total revenues and Europe which contributed for more than 20% of the total revenue. (Infosys has already established a global delivery center in Shanghai in China. An expanding Chinese market will allow Infosys to reduce its dependence upon mature markets such as North America and Europe.)

- **Increase in sales volume:** Infosys most valuable intangible asset is their client base. Infosys has increased its customer base over a period of 5 years and has built strong relationships with the global corporations it serves. The company's customer base includes large corporations such as ABN-Amro, BT and Telstra. Such strong relationship with large corporations, besides enhancing the brand image of the company, provides a steady stream of revenues. This gives stability to their revenues and also reduce their marketing costs.
- **Other income:** Is showing an increasing trend, that is other income has increased from 100% in 2002 to 316% in 2006, this was mainly on account of interest received on deposits, dividend received on investment in mutual funds and on exchange differences.
- **Extra-ordinary income:** Has increased from 100% in 2002 to 361% in 2006 this was mainly on account of sale of entire investment in Yantra Corporation, USA ("Yantra"), during the year ended March 31, 2005 for a total consideration of US \$12.57 million.

Expenses Analysis

- **Operating expenses:** Operating expenses such as Power and fuel, telephone charges, office maintenance, travel and conveyance, and repairs to building and plant and machinery increased due to increased business activity. Which is substantiated by increase in sales.
- **Employee expenses:** Employee costs consisting of salaries paid to employees in India and include overseas staff expenses, is showing an increasing trend that is from 100% in 2002 to 1102% in 2006, this increase was mainly on account of increase in the number of administration personnel from 10738 in 2002 to 52715 employees in 2006. This implies that there is a 40% growth in employee strength and has been accompanied by a substantial growth in income and PAT by 38% and 32% respectively. This increase in growth of income and PAT is less compared to employee growth because there was more number of recruitments in the year 2005, and 2006, it may be assumed that these employees are in the training period.
- **Selling and marketing expenses:** The increase in advertising expenses from 100% in 2002 and 485% in 2006 and marketing expenses from 100% in 2002 to 260% in 2006 was mainly due to increase in development centres and marketing offices through out the world over a period of 5 years. They have also invested significantly in education and training programs
- **Depreciation expenses:** Depreciation expenses has increased from 100% in 2002 to 255% in 200, this was on account of depreciation provided, in full, on assets acquired for research and development activities and also Due to several new development centres being operationalised over the years, due to which the costs of computer equipment, plant and machinery and furniture and fixtures increased substantially.

Profitability Analysis

Profit After Tax: The profit after tax has increased from 100% in 2002 to 300% in 2006, this was mainly on account of increase in sales. It can be seen from the figures that PAT has not grown in proportion with the growth in sales and other revenue which can be attributed towards increase in certain expenses like

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operating expenses, selling and distribution expenses, depreciation charges and tax expenses.

PBDIT as a % of Sales: It shows a decreasing trend, which is a not a good sign. This has decreased from 100% in 2002 to 82% in 2006 over a period of five years. This was mainly due to increase in expenses, like other operating expenses which increased by almost by 1102% over a period of five years as compared to sales which increased only by 347%. There was also increase selling and marketing expenses which was much more than the increase in sales.

To sum up Infosys operating performance was satisfactory because, sales increased by 347% and PAT has increased by 300% (though not directly proportional to sales) over a period of 5 years. Though there was a decrease in PBDIT as a % of sales which can be substantiated mainly on account of expansion of operations of the business activity through out the world.

RATIO ANALYSIS

Ratios are the best tools for measuring liquidity, solvency, profitability and management efficiency of the firm. The importance of ratio analysis is discussed below:

- i. It helps in analyzing the probable causal relationships among different items after analyzing the past results.
- ii. These ratios that are derived after analyzing the past results help the management to prepare budgets, to formulate policy, and to prepare a future plan of action.
- iii. It takes the time dimension into consideration by trend analysis. Trend Analysis helps in understanding the performance of the company over a period of time, whether it is improving or not.
- iv. It is also called the surveyor of efficiency as it throws light upon the efficiency of the management and the degree of utilization of the assets by the business.
- v. Ratio analysis helps in making inter-firm comparisons and also comparisons between the different divisions of the company.
- vi. The short-term liquidity position of the firm can be easily found by applying the liquidity ratios. Often a firm may have the assets, however may be short of short-term funds. Liquidity ratios help in understanding the firm's short-term liquidity position.

Ratios are classified on the basis of financial statement i.e., activity ratios, liquidity ratios, solvency ratios and profitability ratios. Balance sheet is taken as basis for calculating the liquidity and solvency ratios. Profitability ratios are calculated on the basis of profit and loss account; and for determining efficiency, productivity of resources, ratios are calculated on the basis of profit and loss account and the balance sheet.

ACTIVITY ANALYSIS

Activity analysis indicates the efficiency in the use of capital employed in the business. Turnover ratios calculated to analyze the efficiency of company's operations i.e., activities. Thus, these ratios indicate the asset liquidity and asset management efficiency of the business.

Working Capital Turnover Ratio

Working Capital Turnover Ratio indicates the number of times the working capital is turned over in the course of a year. It measures the efficiency with which the working capital is being used by a firm. A higher ratio indicates efficient utilization of working capital and a low ratio indicates otherwise. But a very high working capital turnover ratio is not good for any firm. This ratio can be used for

making of comparative and trend analysis for different firms in the same industry and for various periods.

$$\text{Working Capital Turnover Ratio} = \frac{\text{Cost of Sales or Sales}}{\text{Average Working Capital}}$$

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

Illustration 4

Find out working capital turnover ratio:

	Rs.
Cash	20,000
Bills Receivables	10,000
Sundry Debtors	50,000
Stocks	40,000
Sundry Creditors	60,000
Cost of Sales	3,00,000

Solution

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

$$\text{Current Assets} = \text{Rs.}20,000 + \text{Rs.}10,000 + \text{Rs.}50,000 + \text{Rs.}40,000 = \text{Rs.}1,20,000$$

$$\text{Current Liabilities} = 60,000$$

$$\text{Net Working Capital} = \text{CA} - \text{CL} = \text{Rs.}1,20,000 - \text{Rs.}60,000 = \text{Rs.}60,000$$

$$\text{So, Working Capital Turnover Ratio} = \frac{\text{Rs.}3,00,000}{\text{Rs.}60,000} = 5 \text{ times}$$

Capital Turnover Ratio

Capital turnover ratio is the relationship between cost of goods sold (or sales when information about cost of goods sold is not available from the financial statements) and the capital employed. This ratio is calculated to measure the efficiency or the effectiveness with which a firm is utilizing its resources or the capital employed. As capital is invested in a business to make sales and earn profits, this ratio is an indicator of overall profitability of a business.

$$\text{Capital turnover ratio} = \frac{\text{Cost of Goods Sold or Sales}}{\text{Capital Employed}}$$

Since the capital employed in a business consists of investments in (i) fixed assets and (ii) working capital, the capital turnover can be classified as:

- Fixed assets turnover, and
- Working capital turnover.

Fixed assets turnover is the relationship between sales or cost of goods sold and fixed/capital assets employed in the business. Working capital turnover ratio indicated the extent of the utilization of the net working capital.

$$\text{Fixed turnover ratio} = \frac{\text{Cost of Goods Sold or Sales}}{\text{Fixed / Capital Employed}}$$

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$$\text{Working capital turnover ratio} = \frac{\text{Cost of Goods Sold or Sales}}{(\text{Average}) \text{ Working Capital}}$$

The working capital turnover ratio is further classified into (i) inventory turnover ratio, (ii) debtors turnover ratio, and (iii) creditors turnover ratio. These ratios are discussed in the activity ratios in detail.

Fixed Asset Turnover Ratio

This ratio indicates to what extent fixed assets are contributed towards sales. We cannot assess this ratio with one-year data. This should be compared with the previous periods to assess the investment in fixed assets is reasonable or not.

Following is the extract taken from the annual report of Tata Steel Limited. Calculate Fixed Assets Turnover Ratio:

Sale of Products and Services

(Rs. in crore)

	31.03.2006	31.03.2005
Sale of products	16,521.44	15,250.69
Sale of Power and Water	393.50	348.49
Income from Services, Sale of Miscellaneous Goods	229.28	277.69
Total Sales	17,144.22	15,876.87
Less: Excise Duty	2,004.83	1,377.92
Net Sales	15,139.39	14,498.95

The company's Net Fixed Assets for the above periods are Rs.9,865.05 crore and Rs.9,112.24 crore respectively.

Fixed Assets Turnover Ratio of Tata Steel for the years 2006 and 2005 is given below:

	2006	2005
Net Sales (Rs. in crore) (A)	15,139.39	14,498.95
Net Fixed Assets (Rs. in crore) (B)	9,865.05	9,112.24
Fixed Asset Turnover Ratio (A) ÷ (B)	1.53	1.59

Fixed Asset turnover ratio of the company is decreased from 1.59 to 1.53. There is not much difference in the ratio. Fixed assets are contributing 1.5 times to sales.

Inventory Turnover or Stock Turnover Ratios

Every firm has to maintain a certain level of inventory of finished goods so as to meet the requirements of the business. The level of inventory should neither be too high nor too low. Keeping more inventory implies:

- Unnecessary blockage of capital, which can otherwise be profitably, used somewhere else.
- Over-stocking requires more space, thus more rent will be paid.
- Chances of obsolescence of stocks are high since consumers prefer the goods of latest design.
- Slow disposal of stocks will mean slow recovery of cash, which adversely

affects liquidity.

It is therefore advisable to dispose off inventory as early as possible. On the other hand, too low inventory may mean loss of business opportunities. The inventory turnover ratio refers to the number of times the stock of finished goods is turned over as sales, or sold or replaced. The inventory turnover ratio also known as stock velocity ratio indicates whether inventory has been efficiently used or not. The inventory turnover ratio evaluates the efficiency with which a firm is able to manage its inventory.

$$a. \text{ Inventory Turnover Ratio} = \frac{\text{Cost of Goods Sold}}{\text{Average Inventory}}$$

Average inventory is calculated by adding the stock in the beginning and at the end of the period dividing it by two.

Generally, the cost of goods sold may not be known from the published financial statements. In such a case, the inventory turnover ratio may be calculated by dividing net sales by average inventory at cost. If average inventory at cost is not known then inventory at selling price may be taken as the denominator and where the opening inventory is not known, the closing inventory figure may be taken as the average inventory.

$$b. \text{ Inventory Turnover Ratio} = \frac{\text{Net sales}}{\text{Average inventory at cost}}$$

$$c. \text{ Inventory Turnover Ratio} = \frac{\text{Net sales}}{\text{Average inventory at selling price}}$$

$$d. \text{ Inventory Turnover Ratio} = \frac{\text{Net sales}}{\text{Inventory}}$$

Illustration 5

The cost of goods sold of A Ltd. is Rs.4,00,000. The opening stock/inventory is Rs.40,000 and the closing inventory is Rs.60,000. Find out inventory turnover ratio.

Solution

$$\begin{aligned} a. \text{ Inventory Turnover Ratio} &= \frac{\text{Cost of Goods Sold}}{\text{Average Inventory at Cost}} \\ &= \frac{4,00,000}{\frac{40,000 + 60,000}{2}} = \frac{4,00,000}{50,000} = 8 \text{ times} \end{aligned}$$

Interpretation of Inventory Turnover Ratio

A high inventory turnover ratio indicates efficient management of inventory because more frequently the stocks are sold, the lesser amount of money is required to finance the inventory. A low inventory turnover ratio indicates an inefficient management of inventory. A low inventory turnover implies over-investment in inventories, dull business, poor quality of goods, stock accumulations, accumulation of obsolete and slow moving goods and low profits as compared to total investments. But a too high turnover of inventory may not necessarily always imply a favorable situation. A high inventory turnover may be the result of very low level of inventory which results in shortage of goods in relation to demand and a position of stock out or the turnover may be high due to a conservative method of valuing inventories at lower values or the policy of the firm to buy frequently in small lots. There ~~is no such rule~~ ~~are no such rules~~ of thumb or standard inventory turnover ratio for interpreting the inventory turnover

ratio. The norms may be different for different firms depending upon the nature of industry and business conditions.

Debtors or Receivable Turnover Ratio

A business concern may sell goods on cash as well as on credit. Credit is one of the important elements of sales promotion. Following a liberal credit policy can increase the volume of sales. But the effect of a liberal credit policy may result in tying up substantial funds of a firm in the form of trade debtors. Trade debtors are expected to be converted into cash within a short period and are included in current assets. Thus, the liquidity position of a concern to pay its short-term obligations in time depends upon the quality of its trade debtors.

Debtors turnover ratio indicates the velocity of debt collection of firm. In other words, it indicates the number of times average debtors (Receivables) are turned over during a year.

$$\text{Debtors (Receivables) Turnover ratio} = \frac{\text{Net Credit Annual Sales}}{\text{Average Trade Debtors}}$$

$$\text{Trade Debtors} = \text{Sundry Debtors} + \text{Bills Receivables and Accounts Receivables}$$

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

When the information about opening and closing balances of trade debtors and credit sales is not available, then the debtors turnover ratio will be calculated as,

$$\text{Debtors Turnover Ratio} = \frac{\text{Total Sales}}{\text{Debtors}}$$

Interpretation of Debtors Turnover

Debtors turnover indicates the number of times the debtors are turned over during a year. Generally, the higher the value of debtors turnover the more efficient is the management of debtors/sales or more liquid are the debtors. Similarly, low debtors turnover implies inefficient management of debtors/sales and less liquid debtors. But a very high debtors turnover ratio may imply a firm's inability due to lack of resources to sell on credit thereby losing sales and profits. There is no rule of thumb for interpretation of the ratio. This ratio should be compared with ratios of other firms doing similar business and a trend may also be found to make a better interpretation of the ratio.

Debtors Turnover Ratio of Tata Steel for the years 2006 and 2005 is given below:

	2006	2005
Net Sales (Rs. in crore) (A)	15,139.39	14,498.95
Debtors (Rs. in crore) (B)	539.40	581.82
Debtors Turnover Ratio (A) ÷ (B)	28.06 times	24.92 times

During the year 2006, the company's Debtors turnover ratio is increased. It is indicating the efficiency in the management of debtors increased compared to the last year.

Average Collection Period Ratio

This ratio represents the average number of days for which a firm has to wait before its receivables are converted into cash.

$$\text{Average Collection Period} = \frac{\text{Average Trade Debtors (Debtors + Bills Receivable)}}{\text{Sales per day}}$$

$$\begin{aligned}\text{Sales per day} &= \frac{\text{Net Sales}}{\text{No. of working days}} \\ \text{Average Collection Period} &= \frac{\text{Average Trade Debtors} \times \text{No. of working days}}{\text{Net Sales}} \\ \text{Or} &= \frac{\text{Debtors Turnover Ratio}}{\text{No. of Working Days}}\end{aligned}$$

If the period is in months:

$$\text{Average Trade Debtors} = \frac{\text{Average Trade Debtors} \times \text{No. of months}}{\text{Net Sales}}$$

Interpretation of Average Collection Period Ratio

The average collection period ratio represents the average number of days for which a firm has to wait before its receivables are converted into cash. It measures the quality of debtors. Generally, the shorter the average collection period the better is the quality of debtors as a short collection period implies quick payment by debtors. Similarly, a higher collection period implies an inefficient collection performance, which in turn adversely affects the liquidity or short-term paying capacity of a firm out of its current liabilities. Moreover, longer the average collection period, larger are the chances of bad debts. But a very short collection period may imply firm's conservative policy to sell on credit or its inability to allow credit to its customers due to lack of resources and thereby losing sales and profits.

Managers and analysts' compare average collection period with the company's credit terms to determine how effectively the company manages its receivables. For eg. If the credit period is 30 days then the average collection period should be 30 days. However, if this collection period is more than 30 days, it indicates collection problem. During this time period of 30 days, the company's resources are tied up i.e., low liquidity since it amount to free credit out of the company's own resources. For a better understanding of the company's performance in receivables, a comparison over several years is to be made. For an internal and external analysis the average collection period of a particular firm should be compared with industry average and other firms in the industry.

Illustration 6

Find out (a) Debtors Turnover, and (b) Average collection period from the following information:

	31st December 2005	31st December 2006
	Rs.	Rs.
Annual credit sales	6,00,000	7,00,000
Debtors in the beginning	90,000	1,00,000
Debtors at the end	1,10,000	1,20,000

Days to be taken for the year: 360

Solution

$$\begin{aligned}\text{Average Debtors} &= \frac{\text{Opening Debtors} + \text{Closing Debtors}}{2} \\ \text{Debtors Turnover} &= \frac{\text{Net Credit Annual Sales}}{\text{Average Debtors}} \\ \text{Average Debtors for 2005} &= \frac{90,000 + 1,10,000}{2} = \text{Rs. } 1,00,000 \\ \text{Debtors Turnover} &= \frac{6,00,000}{1,00,000} = 6 \text{ times}\end{aligned}$$

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$$\text{Average Debtors for 2006} = \frac{\text{Rs. 1,00,000} + 1,20,000}{2} = \text{Rs. 1,10,000}$$

$$\text{Debtors Turnover} = \frac{7,00,000}{1,10,000} = 6.36 \text{ times}$$

$$\text{Average Collection Period} = \frac{\text{No. of Working days}}{\text{Debtors Turnover}}$$

$$\text{Average Collection Period of 2005} = \frac{360}{6} = 60 \text{ days}$$

$$\text{Average Collection Period of 2006} = \frac{360}{6.36} = 56.60 \text{ days or 57 days (approx).}$$

Creditors/Payables Turnover Ratio

In course of business operations, a firm has to make credit purchases and incur short-term liabilities. The supplier of goods, i.e., creditor is naturally interested in finding out how much time the firm is likely to take in repaying its trade creditors. From the business point of view, it represents cheap source of funds as a means of finance for most businesses. Consequently, many firms exploit its potential to the full.

$$\text{a. Creditors/Payable Turnover Ratio} = \frac{\text{Net Credit Annual Purchases}}{\text{Average Trade Creditors}}$$

$$\text{b. Average Payment Period Ratio}$$

$$= \frac{\text{Average Trade Creditors (Creditors + Bills Payable)}}{\text{Average Daily Purchases}}$$

$$\text{Or } \frac{\text{Creditors Turnover Ratio}}{\text{No. of Working Days}}$$

$$\text{Average Daily Purchases} = \frac{\text{Annual Purchases}}{\text{No. of Working Days in a Year}}$$

Interpretation of Average Payment Period

Average payment period ratio represents the average number of days taken by the firm to pay its creditors. Generally, lower the ratio, the better is the liquidity position of the firm and higher the ratio, less liquid is the position of the firm. But a higher payment period also implies greater credit period enjoyed by the firm and consequently large the ~~benefit-benefit~~ are reaped from credit suppliers. But a much higher ratio may also imply lesser discount facilities.

LIQUIDITY ANALYSIS

The term liquidity refers to the firm's ability to pay its liabilities in the short run. This is also known as short-term solvency. Liquidity ratios are calculated to determine the relative strength of the concern in meeting its current obligations, so as to maintain the sound liquidity. Short-term obligations are compared with short-term resources for calculating the ratio.

Short-term Liquidity/Solvency Analysis

Generally short term is the period up to one year. A company's short Liquidity refers to the ability to convert assets into cash or to obtain cash. The importance of short-term liquidity can be best understood by taking repercussions stemming from a company's inability to meet short-term liabilities. Lack of liquidity in the company indicates the company's inability to take the economies of scale like discounts on bulk purchases etc. It also limits the actions of management i.e. managers may restrict themselves for taking the opportunities. In extreme cases, companies may sell their investments and assets to meet the short-term obligations.

Lack of short-term liquidity leads to lower profits and fewer opportunities. It foretells the investor about the loss of capital investment. In case of non-corporate entities this problem leads to the loss of their personal assets. Creditors may suffer from delayed payments of interest and principal amounts or they may lose their amounts due to company. This problem also affects the relationship with customers. Lack of liquidity may cause the non-execution of contracts with customers and non-payment of damages to customers.

The above situations highlights why short-term liquidity is of great importance. In short, if a firm fails to meet the short-term obligations, it means the existence of the firm is in danger. Thus, all other analysis are secondary. An analyst, though he may assume the firm is a going concern, he must keep in mind the liquidity and short term measures while analyzing a company. The following are the important liquidity ratios, which indicates the short-term solvency of a firm.

Short-term Solvency Ratios

CURRENT RATIO

This is the most important liquidity ratio. It indicates the firm's ability to pay its current liabilities out of its current assets. It shows the firm's commitment to meet its short-term liabilities (current liabilities). This ratio indicates the extent of 'margin of safety' or 'cushion' available to the current creditors. It is calculated by dividing the current assets by current liabilities. The formula is:

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

Current assets are those assets which can be converted into cash within an accounting year. It includes cash, bank balance, short-term investments, bills receivable, sundry debtors, closing stock, prepaid expenses, short-term loans and advances. Current liabilities are the liabilities which are payable within an accounting year. It includes bank overdraft, bills payable, sundry creditors, outstanding expenses, provision for taxation, proposed dividends, accrued interest, advance payments, long-term debt maturing within a year.

Traditionally, a current ratio of 2:1 i.e., two rupees of current assets for every rupee of current liabilities has been considered adequate. This standard was based on the assumption that in case of bankruptcy or/and falling prices, the book value of current assets can shrink by one half and yet the current liabilities (dues and obligations) can be met in time. If the current assets is less than twice the current liabilities, then payment of current liability affects the day-to-day operations of the concern. In theory, the larger the current ratio, the greater is the protection available to short term creditors. However, on the other hand, a higher ratio is an indicator of idle fund, inefficient use of fund and excessive dependence on long-term fund, which is costlier than the current liabilities.

Financial Statement Analysis

Thus this 2:1 measure cannot be accepted as applicable to all companies irrespective of the type of their business since other factors that affect the working capital (current asset minus current liabilities) are also to be considered. In general the shorter the operating cycle, the lower the current ratio, and the longer the operating cycle the higher the current ratio.

Also, in practice, a company with a high current ratio may not be necessarily be in a position to meet its obligations, due to improper distribution of current assets. Hence, this ratio should be used in conjunction with other ratios to give better picture of the current financial position.

We can calculate the amount of current assets and current liabilities if current ratio and working capital is given.

For example, if the current ratio is 2.5 and the working capital is Rs.1,50,000 then,

$$\text{Working Capital} = \text{Current Assets} - \text{Current Liabilities}$$

$$\begin{aligned}\text{Working Capital} &= 2.5 \text{ Current Liabilities} - \text{Current Liabilities} \\ &= 1.5 \text{ Current Liabilities}\end{aligned}$$

$$\text{Current Liabilities} = \frac{1,50,000}{1.5} = 1,00,000$$

If working capital is 1.5 then the current assets are 2.5.

If the Current Liabilities is Rs.1,00,000 then the current assets will be

$$\text{Rs.1,50,000} \times 2.5 / 1.5 = \text{Rs.2,50,000}$$

$$\begin{aligned}\text{And current liability} &= \text{Current Asset/Current Ratio} \\ &= \text{Rs.2,50,000}/2.5 = \text{Rs.1,00,000}.\end{aligned}$$

Liquid or Acid-test or Quick Ratio

This ratio is a supplementary ratio to give double assurance as to the soundness of the current financial position of a business. This ratio is calculated by dividing the quick asset by current liabilities. It represents the number of times current liabilities are covered by quick assets or the number of rupees of liquid assets relative to total current liabilities. It indicates the firm's ability to pay its current liabilities out of its most liquid assets. Liquid assets are the assets which can be converted into cash immediately without any loss and includes cash, bank balance, bills receivables, sundry debtors, short-term investments. In other words,

$$\text{Quick Assets} = \text{Current Asset} - \text{Inventory and prepaid expenses.}$$

The reason for exclusion of inventories and prepaid expenses in the above computation is that they normally take time to realize in cash. Inventory may be slow moving or possibly obsolete or may be pledged to creditors, hence the inclusion of these in the liquid assets seem meaningless. Some of the accountants prefer the term Liquid Liabilities instead of current liabilities. Liquid liabilities are all current liabilities excluding bank overdraft. The formula to calculate this ratio is:

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

A quick ratio of 1:1 is considered fairly good and ideal. It is considered wise to maintain the liquid asset equal to liquid liabilities at all times. However, a comparison of the firm's past quick ratio, a comparison with major competitors and industry average would be more meaningful.

For example, if the current ratio is 2.5 and the liquid ratio is 1.5, the current liabilities are Rs.60,000, then the quick asset and inventory will be,

$$\text{Current ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}} = 2.5 = \frac{\text{Current Assets}}{\text{Rs. 60,000}}$$

Then the current assets will be Rs.60,000 x 2.5 = 1,50,000

$$\text{Quick Ratio} = \frac{\text{Quick Assets}}{\text{Current Liabilities}} = 1.5 = \frac{\text{Quick Assets}}{\text{Rs.60,000}}$$

Then the quick assets will be Rs.60,000 x 1.5 = 90,000

$$\begin{aligned} \text{Stock} &= \text{Current Assets} - \text{Quick Assets} \\ &= \text{Rs.1,50,000} - \text{Rs.90,000} = \text{Rs.60,000} \end{aligned}$$

When analysts view the liquidity of the firm from an extremely conservative point of view they use absolute liquid ratio.

In this ratio, absolutely liquid assets are considered and includes only cash in hand, cash at bank and short-term marketable securities. Bills receivable and inventories are excluded because there is a doubt of its reliability in cash at a time. This ratio is calculated by following formula:

$$= \frac{\text{Cash in hand} + \text{Cash at Bank} + \text{Short-term marketable securities}}{\text{Current Liabilities}}$$

Long-term Solvency or Capital Structure Analysis

It is important for a company to be able to assess its capacity to satisfy its long-term commitments. Also, it is important and useful for a firm to quantify the sources and nature of its long-term funding and to maintain a proper balance within the components. Lending institutions, shareholders, employees, debenture holders are interested in the firm's continued ability to meet its debt repayment obligations, to operate profitably, to finance expansion and to diversify its activities without raising additional loans. In other words, they are interested in the long-term solvency.

All the business activities of the company i.e. financing activities, operating activities, and investing activities affect the long-term solvency of the company. One of the key elements in long-term solvency is capital structure. Capital structure relates to the company's sources of financing and its economic considerations. An enterprise's risk, the possibility of losing something of value is related to capital structure and hence analysts judge the long-term solvency of an entity as part of capital structure assessment. Assessment of long-term solvency requires determination of firm's ability to generate sufficient cash flows to maintain productive capacity and meet debt and other obligations. Potential equity investors look into the financial structure and the stability of the company before they invest.

SIGNIFICANCE OF CAPITAL STRUCTURE RATIOS

The fundamental risk with a company with debt in its capital structure is the risk of inadequacy of cash under **unfavorable** conditions. Debt involves a commitment to pay fixed charges (interest and principal repayments), which cannot be postponed. Also, a high debt component in the capital structure implies lessened ability to raise further debt during adverse market conditions. Capital structure ratios measure the components of capital structure and their relationship with each other or in total. A company's financial stability and solvency position depends on the financing sources and the types and sizes of various assets it own. These ratios indicate financial strength from different points of view.

Capital Structure Ratios

DEBT-EQUITY RATIO

This ratio determines the soundness of the long-term financial policies of the company and also measures the relative investment proportions of outsider's fund and shareholder's fund in the company. It is also known as "External-Internal" equity ratio. It is calculated by the following formula:

$$= \frac{\text{Long-term Debts}}{\text{Shareholders Fund}} \text{ or } \frac{\text{Long-term Debts}}{\text{Shareholders Fund} + \text{Long-term Fund}}$$

The ideal ratio is 1:2 (i.e. 0.5) in first formula, and 2:3 (i.e. 0.67) in second formula. A low ratio is favorable from the creditor's point of view because it provides safety to creditors. But the same low ratio is unfavorable from the shareholders point of view because he has to forgo the higher returns, if the outsider fund is utilized for acquiring fixed assets.

Long-term debts include debentures. Shareholder fund includes share capital (equity share capital and preference share capital), profit and loss account, capital reserves, reserves for contingencies, sinking fund, fund for redemption of debentures less fictitious assets like preliminary expenses, discount on issue of shares, debentures, etc. However it may be noted that preference shares which are redeemable within 12 years are taken as debt.

A high debt equity ratio connotes high degree of leverage, which implies substantial interest charges, and substantial exposure to interest rate movements. A low proportion of debt indicates a conservative capital structure. Most Software companies in India since are knowledge based with strong entrepreneurial roots; these companies rely primarily on equity financing and are conservatively structured.

Providers of finance often impose restrictions on companies to borrow further through 'debt covenants', which are expressed in terms of certain ratio measurements. In the event of breach, the provider may withdraw his finance and hence the debt equity ratio is a critical measure which every company want to present in a positive light.

Following are the extracts taken from the Annual Report of Tata steel Ltd. Calculate Debt to Equity Ratio:

(Rs. in crore)

Debt to Equity Ratio of Tata Steel Ltd. for the years 2006 and 2005 is given below:

Ideal ratio of debt to equity is 0.5. The company's ratio is 0.26. It is indicating that the loans are more secured compared to the last year. The industry average debt-equity ratio for the year 2006 is 1.06. The industry's trend is showing that the company's are depending more on debt resources. But Tata Steel has more equity than debt which indicates the sound financial health of the company.

CAPITAL GEARING RATIO

This is the most commonly used measure which quantifies the relationship between fixed return bearing debt to equity. It quantifies the relationship between long-term sources of finance bearing fixed costs (loans, debentures, bonds and preference shares) to equity (bearing variable cost). The formula is,

$$\text{Capital Gearing Ratio} = \frac{\text{Fixed Interest Bearing Securities}}{\text{Equity Shareholders Fund}}$$

Fixed interest-bearing securities include preference share capital, debentures and long-term loans, which carry fixed rate of dividend and interest.

The higher this ratio the more vulnerable the company is perceived to be since there is high fixed commitment on its profits before equity interests can be

satisfied. The standard ratio is 1. If the ratio is 1, then the firm is said to be evenly geared. If the ratio is more than 1 than the firm is highly geared i.e., major portion of funding is in the form of fixed interest-bearing securities. If the ratio is less than 1, then the firm is low geared.

Following is the extract taken from the annual report of Tata Steel Limited. Calculate Capital Gearing Ratio:

“The company’s secured loans includes fixed interest debentures of Rs.2,135.22 crore as on 31.03.06 as against in the previous year Rs.2,342.68 crore. Shareholders fund for the same periods is Rs.9,502.03 crore and Rs.6,845.10 crore respectively”.

Capital Gearing Ratio of Tata Steel for the years 2006 and 2005 is given below:

Company’s capital gearing ratio is decreased from 0.399 to 0.25. It indicates that the company has lessened its fixed bearing interest securities. That is the company is low geared. Ratios like debt-equity ratio, and capital gearing ratio indicate that the company is more depending on their internal resources than outside resources.

FIXED ASSET RATIO

This ratio explains whether the fixed assets are financed out of long-term funds or not. Or which part of capital employed is used for purchasing the asset. It is calculated as:

$$= \frac{\text{Fixed Assets}}{\text{Capital Employed}} \text{ or } \frac{\text{Fixed Assets}}{\text{Long-term Funds}}$$

It is prudent that the fixed assets and core working capital of a company is to be covered by long-term funds. If the ratio exceeds 1 implies some of the fixed assets were financed by short-term borrowing and current liabilities. This is very dangerous since short-term borrowing indicate repayment within a short period. According to finance principle, the long-term requirements of fund should be met from the long-term fund and short-term requirements of fund should be met from the short-term fund.

From the point of view of debenture holders and other parties extending loan to the company, the ratio reveals the security available to them. When the ratio is more than 1, it implies the loans are secured by a mortgage on the fixed assets, and indicates whether additional secured loans can be raised or not.

The standard ratio is 0.67 and should not be more than 1. If it is less than 1, then it indicates that the part of the working capital is financed through long-term funds. Fixed assets means net fixed asset i.e., original cost less depreciation and investment in shares of subsidiaries. Capital employed includes share capital (equity and preference), reserves and surpluses, and long-term funds. Capital employed can be calculated based on the assets also.

$$\text{Capital Employed} = \text{Share holders funds} + \text{Long term funds} - \text{Misc. Expenditure or, Fixed Assets} + \text{Investments} + \text{Current Assets} - \text{Current Liabilities.}$$

Following is the extract taken from the Balance Sheet of Tata Steel Ltd.

(Rs. in crore)

Fixed Assets Ratio of Tata Steel for the years 2006 and 2005 is given below:

$$\text{Note: Capital Employed} = \text{Fixed Assets} + \text{Investments} + \text{Current Assets} - \text{Current Liabilities}$$

Company’s fixed asset ratio is decreased from 0.76 to 0.69. It indicates that the company is depending less on long-term funds for financing current assets, which is a positive sign.

Length of Cash Cycle

Financial Statement Analysis

The cash cycle, also called the cash conversion cycle, measures the length of time between the outflow of cash associated with the purchase of productive inputs for a particular good or service and the inflow of cash associated with the sale of the output and the resulting collection of accounts receivable. It expresses the connection between working capital and the movement of cash.

$$\text{Cash cycle} = \text{stock days} + \text{debtor days} - \text{creditor days}$$

The length of the cash cycle dictates the amount of money that needs to be tied up in working capital for a given level of sales.

A shorter cash conversion cycle is better, other things being equal. It is possible for the cash conversion cycle to be negative, this is most likely for certain retailers who buy on credit, sell for cash and have a high stock turnover.

The reduction of time in realization of receivables would reduce the operating cycle of the company. This will lead to reduction in interest payments by the company.

Example: Days receivables out (collection period) = 50 days, days inventory in stock (inventory period) = 70 days, and days payables out (payment period) = 60 days.

$$\text{Cash conversion cycle} = 50 \text{ days} + 70 \text{ days} - 60 \text{ days} = 60 \text{ days.}$$

Cash Flow Statement Ratios

Cash flow statement provides information about the organisations liquidity and its ability of generating funds from internal sources. Generally the data in the cash flow statements is used for,

- Reviewing individual cash flow items for analysis.
- Examining the trend of different cash flow components over time.
- Examining the relationship between cash flow components and related elements in income statement.
- Analyzing the interrelationship between cash flow components.

When analyzing the liquidity of a firm, it is believed that cash flow information is more appropriate than balance sheet or income statement information. Ratios, which can show the cash position or change in cash of the organisation, are called as Cash Flow Ratios. High level of these ratios indicates the increase in cash earnings and liquidity of the organisation. Cash flow ratios as a tool for analysis have been slow to develop and now play a prominent role. Most credit analysts use these ratios in their credit rating decisions.

Cash flow ratios are used to test for solvency and liquidity. They are used to test how much cash was generated over a period of time and compare that to the near-term obligations. This gives the management a dynamic picture of the resources that must be pooled to meet its obligations.

Operating Cash Flow Ratio

Creditors and lenders use these ratios to analyze the company's ability to meet its payment commitments. While traditional ratios like current and liquidity ratios indicate the availability of current assets on a single day, operating cash flows reveal the cash generated over a period of time. This ratio considers the cash availability from operating activities towards meeting the current liabilities and obligations.

$$= \frac{\text{Net cash flow from operating activities}}{\text{current liabilities}}$$

Ratio and Financial Analysis

Current Liabilities = Current maturities of long-term debts and current notes payable.

This ratio indicates the firm's ability to meet its currently matured liabilities. Higher the ratio, better the firm's ability to meet its currently matured liabilities. Higher ratio indicates the better liquidity position of the organisation. This ratio is related to liquidity ratios.

Operating cash flow ratios vary from industry to industry, since in the case of capital intensive company the cash generation from operating activities is substantially lower than other industries.

Following is the extract taken from the annual report of Tata Steel Limited. Calculate operating cash flow to total debt ratio.

"The company's current liabilities includes creditors for goods Rs.814.88 crore as on 31.03.06. Current maturities of long term debts are Rs.250 crore and Cash from operating activities is Rs.3,631.39 crore."

$$\begin{aligned} \text{Operating cash flow to current debt} &= \frac{\text{Operating Cash Flow}}{\text{current maturities of long term debts and current notes payable}} \\ &= \frac{3,631.39}{1,064.88} = 3.41 \text{ times} \end{aligned}$$

The company has cash flows of 3 times more than the debt i.e. the company's debt paying capacity is covered 3 times.

Concept of Free Cash Flow

An important derivative tool for analyzing cash flows is the free cash flow calculus. Free cash flow means the amount available for corporate purposes after provisions for financing outlays and expenditures to maintain productive capacity at current levels. This concept is helpful in assessing the internal growth and financial flexibility of the organization. It indicates the ability of the firm to meet ongoing financial and operational commitments and above it, its ability to finance growth.

Generally free cash flows are calculated as follows:

Particulars	Amount
Cash from Operations	xxx
Less: Capital Expenditure required to maintain productive capacity used up in the production of income	xxx
Dividends	xxx
Free Cash Flow	xxx

Positive free cash flows reflect the availability of amount for business activities after allowance for financing and investing requirements in order to maintain productive capacity at current level. One thing to be noted that the companies does not disclose the capital expenditure needed to maintain productive capacity at current levels.

From the following extracts of Tata Steel Ltd., let us calculate the free cash flows.

The company incurred a capital expenditure of Rs.1,527.58 crore (from M&A analysis section), during the FY 2005-06 mainly on the completion of 1 million tonnes and 2.4 million tonnes steel capacity expansion programmes and development expansion in mines and collieries. Cash from operating activities is Rs.3,631.39 crore. The company proposed dividend of Rs.719.51 crore during the year 2006 and tax on dividends is Rs.100.92 crore.

Calculation Free Cash Flow of Tata Steel Ltd.

Financial Statement Analysis

Free cash flows, in other words are nothing but the amount available for maintenance of the organization. If free cash flow is increasing, it means there is a reduction in the investment activities results in slow growth. If free cash flow is decreasing, it indicates the investment in productive purpose. Generally the trend of this cash flow depends upon the management's future plans.

Operating Cash Flow/Total Debt

This ratio indicates the firm's ability to cover total debt with the operating cash flow. The higher the ratio, better it will be to carry its total debt. It is very important ratio from a debt standpoint. The formula for this ratio is,

$$= \text{Operating Cash Flow/Total Debt}$$

Total debt includes all the possible debt items in the balance sheet.

~~Following is the extract taken from the annual report of Tata Steel Limited. Calculate operating cash flow to debt ratio.~~

~~"The company's total debt as on 31.03.06 is Rs.5290.74 crore and Cash from operating activities is Rs.3,631.39 crore."~~

$$\begin{aligned} \text{Operating cash flow to Total debt} &= \text{Operating Cash Flow/Total Debt} \\ &= 3,631.39 / 5,290.74 = 0.68 \end{aligned}$$

~~The company's operating cash flow covers the 68% of the debt. The debt paying capacity from operating cash flows is more to the company.~~

Evaluating Cash Flow Adequacy

Cash flow adequacy shows whether a business is generating sufficient cash from operations to pay for fixed assets as well as liabilities repayments and dividends to the owners. Generally cash flow adequacy of a company is evaluated by using the following ratio:

Cash flow Adequacy

$$= \frac{\text{EBITA} - \text{Cash taxes} - \text{Cash interest} - \text{Capital expenditures}}{\text{average of the annual debt maturities scheduled over the next five years}}$$

A high cash flow adequacy indicates the high credit quality of the firm. Other capital flow adequacy ratios include the following:

Cash Flow Yield

This ratio measures overall ability to generate operating cash flows in relation to net income. The formula for calculating cash flow yield is,

$$\frac{\text{Net Cash Flows from Operating Activities}}{\text{Net Income}}$$

~~Following is the extract taken from the annual report of Tata Steel Limited. Calculate cash flow yield.~~

~~"The company's net income for the year 2006 is Rs.3,506.38 crore Cash from operating activities is Rs.3,631.39 crore."~~

$$\begin{aligned} \text{Cash flow Yield} &= \text{Operating Cash Flow/Net Income} \\ &= \text{Rs.3,631.39 crore/3,506.38} = 1.03 \end{aligned}$$

LONG-TERM DEBT ANALYSIS

Debt Covenants

Debt covenants are agreements between a company and its creditors that the company should operate within certain limits. Debt covenants are agreed as a condition of borrowing. They may be changed if debt is restructured. For example, a company might not be allowed to issue new debt if net working capital is below a specified level or if an interest coverage ratio is too low. Other Common covenants conditions are based on company's net worth, working capital, leverage, interest coverage, and cash flow; and involve restrictions on issuing debt and

paying dividends, or impose conditions such as the acceleration of debt payments if the specified condition is binding.

This means that if a company breaches, or is in danger of breaching its debt covenants, not only does this indicate that the company is not financially strong, but the problems are likely to become worse as lenders react. It is generally understood that such covenants serve to protect bondholders against activities that transfer wealth from ~~debtholders~~ debt holders to shareholders.

Debt Ratios

Debt Service Coverage Ratio

This ratio is an extension of the above interest coverage ratio. It indicates the ability of the firm to repay the interest and installments on time. This ratio is important from lenders point of view. The formula is –

Debt service coverage ratio

$$= \frac{\text{Net profit before interest and taxes}}{\text{Interest + Principal payment installment} / 1 - \text{tax rate}}$$

The rule – the higher the ratio, better it is. A high debt service coverage ratio implies better security to the lenders. This ratio is similar to interest coverage ratio used by managers to decide upon the amount of debt obligations to be raised. In fact, both interest coverage ratio and debt service coverage ratio are used in conjunction by managers before they decide upon the quantum of debt to be issued. It indicates that the net profit before interest and taxes are adequate to cover the interest and principal repayment.

Calculate the debt service coverage ratio, if the company earns profit after interest and taxes Rs.2,00,000; 5% debentures payable in 5 equal installments are Rs.2,00,000. The tax rate is 50%.

$$\begin{aligned} \text{Debt Service Coverage Ratio} &= \frac{\text{Net profit before interest and taxes}}{\text{Interest + Principal installment} / 1 - t} \\ &= \frac{\text{Rs.2,00,000}}{10,000 + 40,000 / 0.5} = 2.22 \text{ times} \end{aligned}$$

Dividend Coverage Ratio

This ratio measures the adequacy of profits to cover the dividends. This ratio safeguards the preference shareholders dividend incomes. The formula is,

Dividend Coverage Ratio (for preference shareholders)

$$= \frac{\text{Profits after tax}}{\text{Preference dividends}}$$

Dividend coverage ratio (for equity shareholders)

$$= \frac{\text{Profits after tax – preference dividends}}{\text{Equity dividends}}$$

This ratio indicates the profits available to equity shareholders. The dividend coverage ratio reflects the dividend policy of company. A high cover indicates that the company operates a conservative dividend policy and does not distribute large portion to equity interest.

From the following information calculate the cover for preference and equity dividend:

	Rs.
Capital: 7% preference shares of Rs.100 each	3,00,000
Equity shares of RS.10 each	8,00,000

Financial Statement Analysis

Profit after tax	2,71,000
Equity dividend rate	20%

$$\begin{aligned}\text{Preference Dividend Coverage Ratio} &= \frac{\text{Profit after Tax}}{\text{Preference Dividends}} \\ &= \frac{\text{Rs. 2,71,000}}{\text{Rs. 21,000}} = 12.9 \text{ times} \\ \text{Equity Dividend Coverage Ratio} &= \frac{\text{Profit after Tax} - \text{Preference Dividends}}{\text{Equity Dividends}} \\ &= \frac{\text{Rs. 2,71,000} - \text{Rs. 21,000}}{\text{Rs. 1,60,000}} = 1.56 \text{ times}\end{aligned}$$

Interest Coverage Ratios

This ratio measures the cover or safeguard that exists for the lenders of debt. This ratio reveals the debt servicing capacity of the firm. Lenders check this ratio before deciding on lending the money to the firm. Hence this is an important ratio from the lenders point of view. It measures the adequacy of profits to cover the interest i.e., whether the business earns sufficient profits so as to pay the interest charges periodically. The formula is:

$$\text{Fixed interest coverage ratio} = \frac{\text{Net profits before interest and taxes}}{\text{Interest}}$$

The rule – the higher the ratio, better for lenders and more secured their periodical interest income. If the firm has good coverage of interest obligation, it can be said that the firm will be able to refinance its principal as and when it becomes due. A relatively high, stable coverage ratio indicates a good record. This ratio is often used by managers to decide upon the amount of debt obligations to be raised. This practice of issue of debt obligations at an interest rate less than the return from use of these funds is called 'trading on equity' or 'leverage'. This ratio identifies the extent to which the company will be able to safely 'trade on equity' since the higher the interest payable, the higher the risk that the company will fail to meet its interest obligations.

Illustration 7

Following is the extract taken from the Tata Steel Ltd Profit & Loss Account. Calculate Interest coverage ratio based on this information:

(Rs. in crore)

	31.3.2005	31.3.2006
Total Income (A)	15394.15	14646.98
Expenditure:		
Manufacturing and Other Expenses	9320.50	8658.41
Depreciation	775.10	618.78
	10095.60	9277.19
Less: Expenditure (Other Than Interest)		
Transferred to Capital and Other Accounts	112.62	204.82
	9982.98	9072.37
Interest	118.44	186.80
Total Expenditure (B)	10101.42	9259.17
Profit Before Taxes And Exceptional Items (A – B)	5292.73	5387.81
Employee Separation Compensation	(52.77)	(119.11)

Ratio and Financial Analysis

Profit on Sale of Long-term Investments		28.58
Profit before Taxes	5239.96	5297.28

Solution

Calculation of Interest Coverage Ratio of Tata Steel Ltd for the years 2006 and 2005 is:

(Rs. in crore)

	2006	2005
Expenditure Before Interest	9982.98	9072.37
Employee Separation Compensation	52.77	119.11
Expenditure before interest and tax (A)	10,035.75	9,191.48
Total income (B)	15394.15	14646.98
Net Profit before interest and taxes (C = B – A)	5,358.40	5,484.08
Interest (D)	118.44	186.80
Interest Coverage ratio (C) ÷ (D) x 100	45.24	29.36

Interest coverage ratio is increased to 45.24 during year 2006 as compared to 2005. This indicates the increase in security to the creditors. Thus creditors are more secured than before for their interest payments.

PROFITABILITY ANALYSIS

Profitability ratios focus on the sufficiency and sustainability of an entity's earnings. These ratios are very important for all users of financial statements. For equity shareholders, income is the most important determinant of changes in their share values. They are concerned with the firm's ability to generate, sustain and increase profits. Analysis of profit is vital to the investors since they derive revenue in the form of dividends. Also increased profit leads to increased market price leading to increase capitalization.

- For creditors, income and operating cash flows are common and desirable sources of interest and principal repayments.
- For the managers profitability is often used as a performance measure.

Following are the important income statement ratios, which are necessary for analyzing income:

Gross Profit Ratio

The gross profit ratio measures the relationship of gross profit to net sales and is usually expressed as a percentage. Thus, it is calculated by dividing the gross profit by sales.

$$\begin{aligned}\text{Gross Profit Ratio} &= \frac{\text{Gross Profit}}{\text{Net Sales}} \times 100 \\ &= \frac{\text{Sales} - \text{Cost of Goods Sold}}{\text{Sales}} \times 100\end{aligned}$$

Cost of goods sold includes all the expenses relating to main trading activity of the business.

For trading concern

$$\text{Cost of goods sold} = \text{Opening stock} + \text{Purchases} + \text{Direct Expenses} - \text{Closing Stock}$$

For Manufacturing concern

$$\text{Cost of goods sold} = \text{Opening stock of finished goods} + \text{Cost of Manufacturing} + \text{Direct Expenses} - \text{Closing Stock of finished goods}$$

Financial Statement Analysis

For Software Services

Cost of goods sold = Costs relating to software development

Gross profit ratio represents the excess of what the concern is able to charge as sale price over the cost of goods sold. This surplus is available to meet the operating expenses and non-operating expenses. The amount remaining after meeting those expenses represents the net profit, which belongs to shareholders.

Gross Profit ratio is used by managers for analysis purposes. It indicates the extent to which selling prices of goods per unit may decline without resulting in losses on operations of a firm. It reflects the efficiency with which a firm manufactures its products. A high gross profit ratio indicates more income from the main business operations, which is desirable. A low gross profit ratio normally indicates high cost of goods due to unfavorable purchasing policies, lesser sales, lower selling prices, fierce competition, over-investment in plant and machinery, etc.

Managers also use gross profit margins for cost control purposes. In the case of trading industries, gross profit margins are used to determine inventory in interim statements, to estimate inventory in case of insured losses.

Auditors and Tax authorities use gross profit ratio to judge the accuracy of the accounting records.

Illustration 8

Calculate gross profit ratio:

		Rs.
Total Sales	=	13,00,000
Sales Returns	=	50,000
Cost of goods sold	=	10,00,000

Solution

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

$$\text{Net sales} = \text{Total Sales} - \text{Sales Returns}$$

$$= \text{Rs. } 13,00,000 - 50,000 = \text{Rs. } 12,50,000$$

$$\text{Gross profit} = \text{Net Sales} - \text{Cost of Goods Sold}$$

$$= \text{Rs. } 12,50,000 - 10,00,000 = \text{Rs. } 2,50,000$$

$$\text{Gross Profit Ratio} = \frac{\text{Rs. } 2,50,000}{\text{Rs. } 12,50,000} \times 100 = 20\%$$

The major components of the gross profit ratio are sales and cost of goods sold since gross profit is simply the excess of net sales over cost of goods sold. The net sales can be computed by deducting the sales returns or returns inwards, if any out of the sales.

INTERPRETATION OF GROSS PROFIT RATIO

The gross profit ratio indicates the extent to which selling prices of goods per unit may decline without resulting in losses on operations of a firm. It reflects the efficiency with which a firm manufactures its products. As the gross profit is found by deducting cost of goods sold from the net sales, higher the gross profit (G/P) better is the result. There is no standard norm for gross profit ratio and it may vary from business to business, but the gross profit should be adequate to cover the operating (administrative and office expenses, selling and distribution expenses) expenses and to provide for fixed charges, dividends and accumulation of reserves. A low gross profit ratio, normally indicates high cost of goods due to

unfavorable purchasing policies, lesser sales, lower selling prices, fierce competition, over-investment in plant and machinery, etc.

Following are the extracts taken from Annual report of Infosys. Based on this information find out Gross profit.

Income

(Rs. in crore)

Gross Profit Ratio of Infosys Technologies Ltd for the years 2006 and 2005 is calculated in the following table. Infosys main business activity is software development. Thus, for calculating the gross profit ratio only software related expenses and incomes should be taken into account.

(Rs. in crore)

Selling and distribution and general administration expenses are indirect expenses and should not be taken into account for determining the gross profit.

Gross profit ratio is slightly decreased. But, during the year, the volumes grew by 30.5%. Blended pricing increased by 1.2% in US Dollar terms. It was decreased by 1.4% in the previous year. During the year, the Rupee appreciated by 1.47%. The average Rupee-Dollar rate for the year was Rs.44.21 as against Rs.44.87 in the previous year. (Annual Report, M & D analysis, page no. 48). Thus the decrease in gross profit is mainly due to fluctuation in currency rates.

Operating Profit Ratio

The operating profit ratio establishes the relationship between operating profit and net sales or revenue earned. In other the operating profit ratio is calculated by dividing operating profit by sales. Operating profit is calculated as follows:

$$\text{Operating Profit} = \text{Net Sales} - \text{Operating Cost.}$$

Or

$$= \text{Net sales} - (\text{Cost of Goods Sold} + \text{Administrative and Office Expenses} + \text{Selling and Distributive Expenses})$$

Operating Ratio can also be calculated as:

$$\text{Operating Profit} = \frac{\text{Net Profit} + \text{Non-operating Expenses} - \text{Non-operating Income}}{\text{Net Sales}} \times 100$$

$$\text{Thus, Operating Profit Ratio} = \frac{\text{Operating Profit}}{\text{Sale}} \times 100$$

The ratio can also be calculated as:

$$\text{Operating Profit Ratio} = 100 - \text{Operating Ratio}$$

Operating activities of a business is the primary revenue producing activities of a business. Operating profit ratio allow users to assess the impact of operating activities on the profitability of the firm. This ratio indicates the operating efficiency of the business. A higher ratio is desirable as it indicates the more income from operating activities.

Illustration 9

From the following details given below, calculate operating profit ratio

		Rs.
Cost of goods sold	=	10,00,000
Administrative and Office expenses	=	87,500
Selling and distribution expenses	=	1,12,500
Net sales		15,00,000

Solution

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

$$\text{Operating profit} = \text{Sales} - (\text{Cost of goods sold} + \text{Administrative office expenses} + \text{Selling \& distribution expenses}).$$

$$= \text{Rs.}15,00,000 - (\text{Rs.}10,00,000 + 87,500 + 1,12,500) = \text{Rs.}3,00,000$$

$$\text{Operating Profit Ratio} = \frac{\text{Rs.}3,00,000}{\text{Rs.}15,00,000} \times 100 = 20\%$$

Alternatively,

$$\text{Operating Profit Ratio} = 100 - \text{Operating Ratio}$$

$$\text{Operating Ratio} = \frac{\text{Rs.}10,00,000 + 87,500 + 1,12,500}{\text{Rs.}15,00,000} \times 100$$

$$= \frac{\text{Rs.}12,00,000}{\text{Rs.}15,00,000} \times 100 = 80\%$$

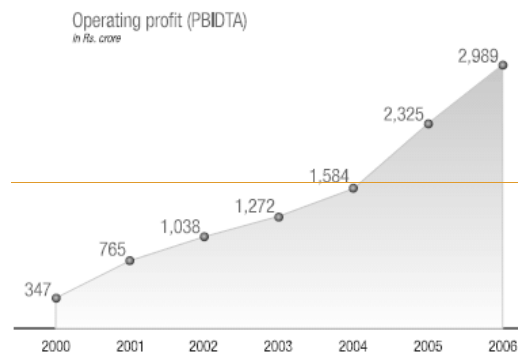
$$\text{Operating Profit Ratio} = 100 - 80 = 20\%.$$

Following are the figures taken from Annual report of Infosys (given as annexure) Based on this information find out Operating profit ratio:

Operating Profit Ratio of Infosys Technologies Ltd for the years 2006 and 2005 is given below:

(Rs. in crore)

Figure 2: Operating Profit of Infosys from 2000 to 2006



Source: www.infosys.com.

The operating profit of the Infosys is showing an increasing trend. Industry average operating profit margin is 27.64% (CMIE, Monthly Industry Analysis). Infosys operating profit during the year 2006 is 33%. Thus, the company's operating performance is good when compared with the industry.

Net Profit Ratio

The net profit ratio establishes the ratio between net profit (after taxes) and sales, and indicates the efficiency of the management in manufacturing, selling, administrative and other activities of the firm. It gives the measure of net income

Ratio and Financial Analysis

generated by each rupee of sales. This ratio gives an overall measure of the firm's profitability and is calculated as follows:

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

The two basic elements of the ratio are net profits and sales. The net profit will be obtained after deducting income tax. The ratio is very useful because if the profit is not sufficient, the firm shall not be able to achieve a satisfactory return on its investment.

This ratio also indicates the firm's capacity to face adverse economic conditions such as price competition, low demand, etc. Obviously, higher the ratio, the better is the profitability. While it is desirable to have a high ratio, economic conditions, competitive forces within an industry, capital structure of particular firm and high fixed costs cause the net profit ratio to vary from industry to industry.

But while interpreting the ratio, it should be kept in mind that the performance of profits must also be seen in relation to investment or capital of the firm and not only in relation to sales.

Several refinements to net profit ratio exist. The numerator is refined by deducting the 'other income' and 'other expenses', since it is argued that these items cause distortion in interpreting the ratio since these items do not relate to net sales which is considered as the denominator.

Illustration 10

Following is the profit and loss account of "X" Ltd. Co for the year ended December 31st, 2006.

Dr.		Cr.	
Particulars	Rs.	Particulars	Rs.
To Opening Stock	2,50,000	By Sales	14,00,000
To Purchases	8,75,000	By Closing Stock	2,50,000
To Wages	22,500		
To Gross Profit c/d	5,02,500		
	16,50,000		16,50,000
To Administrative expenses	50,000	By Gross Profit b/d	5,02,500
To Selling and Distribution Expenses	2,22,500	By Interest on investments (Outside business)	25,000
To Non-operating expenses	75,000	By Profit on sale of Investments	20,000
To Net Profit	2,00,000		
	5,47,500		5,47,500

You are required to calculate:

- Gross profit Ratio.
- Net profit ratio.

Solution

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

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Financial Statement Analysis

$$= \frac{\text{Rs.5,02,000}}{\text{Rs.14,00,000}} \times 100 = 35.9\%$$

$$\text{Net Profit Ratio} = \frac{\text{Net Profit (after tax)}}{\text{Net Sales}} \times 100$$

$$= \frac{\text{Rs.2,00,000}}{\text{Rs.14,00,000}} \times 100 = 14.3\%$$

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

$$= \frac{\text{Rs.2,00,000} + \text{Rs.75,000} + \text{Rs.25,000} + \text{Rs.20,000}}{\text{Rs.14,00,000}} \times 100 = 22.8\%$$

Following figures are extracted from the Profit and Loss account of Infosys Ltd (see annexure):

Net Profit Ratio of Infosys Technologies Ltd for the years 2006 and 2005 is given below:

(in Rs. crore)

The net profit ratio is slightly decreased. This can be attributed to changes in currency rates, increase in expenses due to increased activity. The average industry net profit ratio is 20% (CMIE Monthly Industry Analysis). Even though there is a slight decrease in the net profit margin it is more than the industry average. The company's overall performance is quite good.

Return on Investment

Return on Investment is the most widely used measure of company performance. This is an important measure for those who finance the company in the form of equity and debt. This ratio links the profits and investment required to generate them. It also helps to assess a company's return relative to its capital investment risk, since riskier investments are expected to yield higher returns. This ratio is the most widely used ratio for managerial effectiveness, level of profitability, planning and control.

This ratio reflects the managerial skill, resourcefulness, ingenuity, and motivation of managers. It is also an important indicator of long-term financial strength of the company. The diverse perspective of various users of the financial statements has resulted in different versions on return on Investment.

- Return on Capital Employed (ROCE):** Traditionally, capital employed has been considered as total long term funding. This ratio assesses the return earned by both equity and debt. It indicates how well the firm utilizes its asset base.

Return on Capital Employed

$$= \frac{\text{Earnings before interest and tax}}{\text{Net Assets Employed}}$$

$$= \frac{\text{EBIT}}{(\text{Average Total Debt} + \text{Shareholder's Equity})}$$

Return = Net Profit + Interest on long term debts + provision for tax

Capital employed = Equity share capital + Reserves and surplus + Preference share capital + Debentures + Long term loans – Miscellaneous expenses.

Or

Capital employed = Net total assets = Fixed assets + Current Assets – Current Liabilities.

Ratio and Financial Analysis

This ratio measures the ability of the firm to reward providers of long term funds. This ratio also helps to attract future providers of capital. This is one of the most important ratios used for measuring the overall efficiency of a firm. The primary objective of the business is to maximize its earnings; this ratio indicates the extent to which this primary objective of business is being achieved. This ratio is of great importance to the present and the prospective shareholders as well as the management of the company. It reveals how well the resources of the firm are being used; higher the ratio better is the results.

- b. **Return on Equity:** Since from the point of view of equity shareholders, preferred stock has a fixed claim to the net assets of the company, this ratio is computed by dividing the income after tax less preference dividend by total shareholder's equity less preference stock.

$$\text{Return on equity} = \frac{\text{Net Income} - \text{Preference dividends}}{\text{Average shareholder's equity}}$$

This ratio focuses on the efficiency of the company in earning profits on behalf of its equity shareholders, by relating the profits to the total amount of equity shareholder's funds employed in the company. The two elements of the ratio are net profits and equity shareholders funds. Equity Shareholders funds include equity share capital, free reserves such as share premium, revenue reserve, capital reserve, retained earnings and surpluses less accumulated losses, if any. Net Income are arrived at after deducting interest on long-term borrowing and income tax, because those will be the only profits available for shareholders.

The return on shareholders investments should be compared with the return of other similar businesses in the same industry. The inter-firm comparison of this ratio helps in determining whether the investments in the firm are attractive or not as the investors would like to invest only in those companies where the returns are higher. Likewise the trend ratios can also be calculated for a number of years to get an idea of the prosperity, growth or deterioration in the companies' profitability and efficiency.

Illustration 11

The following is the information given for a company whose accounting year-ends on 31st March, 2006.

	Rs.
25,000 share of Rs.10 each Rs.8 paid	2,00,000
11%, 12,500 preference shares of Rs.20 each	2,50,000
Profit after tax	2,00,000
Rate of tax	50%

Calculate the return on equity capital.

Solution

$$\text{Return on equity capital} = \frac{\text{Net profit after tax} - \text{Preference dividend}}{\text{Equity share capital (paid-up)}} \times 100$$

Profits available for equity shareholders:

	Rs.
Profit	2,00,000
Less: Tax @ 50%	1,00,000

Financial Statement Analysis

Profit after tax	1,00,000
Less: Preference dividend	27,500
	72,500

$$\text{Returns on Equity Capital} = \frac{72,500}{2,00,000} \times 100 = 36.25\%$$

This ratio is a more meaningful ratio to the shareholders who are interested to know profits earned by the company and those profits, which can be distributed to the shareholders in the form of dividends to them. The interpretation of this ratio is similar to the interpretation of return on shareholders investments i.e., higher the ratio better it is.

Following is the extract taken from the annual report of Tata Steel Limited. Calculate Return on capital employed and Return on Net Worth for 2006.

$$\begin{aligned} \text{Return on Capital Employed} &= \frac{\text{EBIT}}{\text{Average (Total Debt + Shareholder's Equity)}} \\ &= \frac{5,358.40}{13,146.185} = 0.4076 \\ \text{Return on Equity} &= \frac{\text{Net Income} - \text{Preference Dividends}}{\text{Average Shareholder's Equity}} \\ &= \frac{3,506.38 - 0}{8,173.565} = 0.429 \end{aligned}$$

Note:

- Earning Before interest and Tax = Net Profit + Interest + Tax
 $= 3,506.38 + 1,733.58 + 118.44 = 5,358.40$
- Shareholders Equity = Share Capital + Reserves - Misc. Expenditure
 $2006 = 553.67 + 9,201.63 - 253.27 = \text{Rs. } 9,502.03$
 $2005 = 553.67 + 6,506.25 - 214.82 = \text{Rs. } 6,845.10$
 $\text{Average Shareholders Equity} = 9,502.03 + 6,845.10 / 2 = 8,173.565$
- Total of Debt and Shareholders Equity = Share Capital + Reserves + Long-term Loans - Misc. Expenditure
 $2006 = 553.67 + 9,201.63 + 2,516.15 + 2,345.71 - 253.27 = \text{Rs. } 14,363.89$
 $2005 = 553.67 + 6,506.25 + 2,739.70 + 2,343.68 - 214.82 = \text{Rs. } 11,928.48$
 $\text{Average Debt and Shareholders Equity} = 14,363.89 + 11,928.48 / 2 = \text{Rs. } 13,146.185$

Du Pont Analysis

Du Pont Company of the US developed a system of financial statement analysis which has acquired good recognition and acceptance. Analyzing the return ratios in terms of profit margin and turnover ratios is referred to as the Du Pont System.

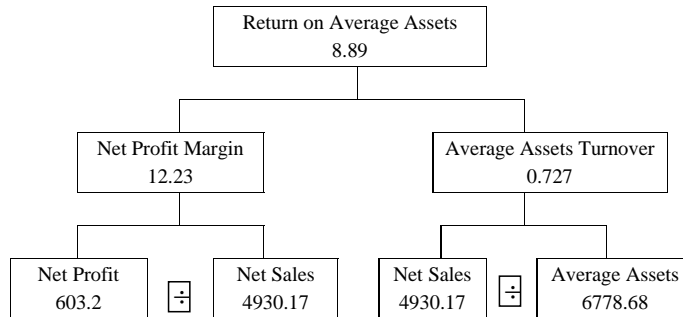
Let's consider the return on assets ratio:

It is important to examine a firm's rate of Return on firm Assets (ROA) in terms of profit margin and asset turnover. The profit margin measures the profit earned per rupee of gross revenue but does not consider the amount of assets used to generate the revenue margin ratio.

$$\text{Return on assets} = \frac{\text{Net profit/sales}}{\text{Average assets/sales}}$$

$$= \text{Net profit margin} \times \text{Average asset turnover}$$

When analyzing a change in return on assets, the analyst could look into the above equation to see changes in its components: net profit margin and total assets turnover.



We can extend the basic Du Pont analysis to analyze the determinants of Return on Equity (ROE).

$$\text{Return on Equity (ROE)} = \frac{\text{Net Profit}}{\text{Sales}} \times \frac{\text{Sales}}{\text{Average Assets}} \times \frac{\text{Average Assets}}{\text{Average Equity}}$$

The third component of the equation is called equity multiplier. The equity multiplier can be restated in terms of the total debt-to-assets ratio as follows:

$$\begin{aligned}
 \text{Equity Multiplier} &= \frac{\text{Average Assets}}{\text{Average Equity}} \\
 &= \frac{\text{Average Assets}}{\text{Average Assets} - \text{Average Debt}} \\
 &= \frac{1}{1 - (\text{Average Debt} / \text{Average Assets})} \\
 &= \frac{1}{1 - (\text{Debt to Assets ratio})}
 \end{aligned}$$

This way, we can breakdown each return ratio into its margin and turnover components.

Return on Equity: (ROE) is related to ROA through the interest-expense-to-average-asset ratio and a leverage ratio – the asset-to-equity ratio, often termed the equity multiplier. Thus, you can determine the impact of ROE of changes in leverage as well as changes in firm operations and efficiency. For example, suppose firm A and B each have a 20 percent ROE. The components of the ratios indicate that the sources of the weaknesses of the firms are different Firm A has a stronger profit margin ratio but lower asset turnover than Firm B. Furthermore, Firm A has a higher leverage ratio than Firm B. The next step in the analysis would be to decompose the weak ratios for each firm into components and determine the potential sources of the weaknesses. To improve asset turnover, the farm must increase production efficiency or price levels or reduce current or non-current asset levels. To increase profit margins, the firm must increase production efficiency or price levels more than costs or reduce costs more than revenue.

Table 1

No.		Firm A	Firm B
1.	Operating Profit margin ratio	0.3	0.12
2.	Asset turnover	0.2	0.36
3.	ROA (1 × 2)	0.06	0.043
4.	Interest Expense to average firm assets	0.05	0.03
5.	Average firm assets to average firm equity	2	1.5
6.	ROE (3 – 4) × 5	0.02	0.02

Thus Du Pont Analysis is an Excellent Method: To determine the strengths and weaknesses of a firm. A low or declining ROE is a signal that there may be a weakness. However, using Du pont analysis, you may be able to determine the source of the weakness. Asset management, expense control, production efficiency or marketing could be the potential weakness within the firm. Expressing the individual components rather than interpreting ROE itself, may identify these weaknesses more readily.

OPERATING AND FINANCIAL LEVERAGE

All the business enterprises employ debt fund and equity fund, so as to maximize the profits and earning available for equity shareholders. The basic advantage of using the debt is that the after tax cost of the debt is less and the interest is deductible. The term leverage refers to employment of debt fund. A leverage ratio indicates the use of debt fund in the capital structure of the concern. When earning exceeds the cost of the fund, it is said to be favorable and when the return is less than the cost of fund, it is said to be unfavorable.

Leverages are of three types:

- Operating Leverage.
- Financial Leverage.
- Combined Leverage.

OPERATING LEVERAGE

Operating leverage indicates the extent of the change in earning before interest and tax due to the change in sales volume. It is calculated by the following formula:

$$\text{Operating Leverage} = \frac{\text{Contribution}}{\text{Earning Before Interest and Taxes (EBIT)}}$$

Contribution is nothing but sales minus variable cost. There is an inverse relationship between the operating leverage and fixed cost. Higher the fixed cost, lower is contribution. Lower the fixed cost, higher is the contribution. EBIT is nothing but sales less variable cost less fixed cost.

A high operating leverage ratio means large effect on EBIT due to small change in sales. The operating leverage explains the impact of changes in sales revenue and operating incomes.

FINANCIAL LEVERAGE

When the firm uses debt fund in its capital structure to finance its need, then the firm is said to have financial leverage. Financial leverage measures the changes in the earning before tax due to change in earning before interest and tax (operating incomes). The formula is,

$$\text{Financial Leverage} = \frac{\text{Earning Before Interest and Taxes}}{\text{Earning Before Tax}}$$

This leverage may be favorable or unfavorable. When the return on investments exceeds the cost of debt capital, the firm is said to have favorable financial leverage. It is also known as trading on equity. When the cost of debt capital exceeds the return on investments, then the firm is said to have unfavorable financial leverage.

Following the extracts taken from the Tata Steel Ltd's Profit & Loss account, Calculate Financial Leverage:

(Rs. in crore)

Financial Leverage of Tata Steel for the years 2006 and 2005 is given below:

The company has more than 1 of financial leverage i.e. the company has favorable financial leverage.

COMBINED LEVERAGE

Combined leverage = Operating leverage x Financial leverage.

EARNING PER SHARE (EPS) ANALYSIS

According to the FASB's statement, publicly traded corporations with a complex capital structure would be obliged to report basic EPS and diluted EPS. If a non-public company chooses to disclose EPS, it must do so in accordance with SFAS 128. The dual presentation is required on the face of the corporation's Income statement even if both of these corporations result in the same EPS amount. In addition, it also requires a reconciliation of the numerator and the denominator of the basic EPS computation to the numerator and denominator of the diluted EPS computation.

Simple Capital Structure is one that has no potential dilutive securities and contains only the common stock, non-convertible debt and preferred stock outstanding and simply represent basic EPS.

Complex capital structure is one that has potential dilutive securities such as options, warrants, or convertible securities which have the potential to be exercised and reduce EPS (dilutive securities). It requires Dual Presentation of both Basic EPS and Diluted EPS.

Basic EPS

The EPS is a good measure of the profitability. The EPS when compared with the EPS of similar companies, gives, a view of the comparative earnings or earnings power of a firm. EPS when calculated for a number of years indicates whether earning power of the company has increased over the years or not. It also helps in calculating market price of the share.

Earnings per share are a small variation of return on equity capital. As per AS-20 dealing with earnings per share should be shown as basic earnings per share and diluted earnings per share.

Basic earning per share is calculated by dividing the net profit after the taxes and preference dividend divided by the Weighted Average number of equity shares outstanding. The numerator represents the total amount of earnings available to equity shareholders after all deductions. Thus,

$$\text{Basic EPS} = \frac{\text{Net Profit after tax} - \text{Preference Dividend}}{\text{Weighted Average Number of Shares}}$$

Diluted EPS

Diluted Earning per share is calculated by dividing the net profit after taxes and preference dividend by the weighted average number of shares. This is used when there are potential equity shares in the capital structure of the organization. A potential equity share is a financial instrument or other contract that entitles, or may entitle, its holder to equity shares.

$$\text{Diluted E. P. S} = \frac{\text{Net income available to equity shareholders}}{\text{Weighted average shares outstanding (including potential dilutive shares)}}$$

In practice, most companies also compute EPS based on the normal or maintainable profits. This is referred to as Headline profit. The numerator is the profit derived from the ongoing activities of the business prior to charging such exceptional or one-off expenses and after all other deductions.

Box
EPS is the most widely available and commonly used performance statistical ratio in all publicly traded companies. It is used by investors to measure the operating performance and for valuation purpose either individually or together with market prices. It is now a standard practice to give EPS information in the published statements and hence is readily available for analysts. Analysts are required to exercise caution when comparing the EPS of one company with another since it may be misleading when two companies which are identical in all respects except the number of shares issued are compared. Similarly trend analysis is undertaken using this ratio, the analysis may be misleading since any bonus issue would affect this ratio.

Calculation of EPS of Infosys Technologies Ltd for the years 2006 to 2005 is as follows:

(Rs. in crore)

In determining earnings per share, the company considers the net profit after tax and includes the post-tax effect of any extraordinary/exceptional item. The number of shares used in computing basic earnings per share is the weighted average number of shares outstanding during the period. The number of shares used in computing diluted earnings per share comprises the weighted average shares considered for deriving basic earnings per share, and also the weighted average number of equity shares that could have been issued on the conversion of all dilutive potential equity shares. The diluted potential equity shares are adjusted for the proceeds receivable, had the shares been actually issued at fair value i.e. the average market value of the outstanding shares. (Annual Report, Notes to Accounts, page no. 69) Basic earnings per share before exceptions are Rs. 88.67 as compared to Rs. 69.25 for the previous year i.e. it was increased by 28%. It indicates the growth in earnings.

Figure 3: Earning per Share of Infosys from 2000 to 2006

Antidilution: SFAS 128 computation of diluted EPS is intended to be a conservative measure of performance and, therefore, reflects but excludes antidilution (increase or decrease in EPS due to the issuance of potential stock) in the computation of diluted EPS. However, there are some situations which call for inclusion of antidilution and exclusion of dilution. Therefore, FAS 128 recommends the following guidelines while applying antidilution:

- i. Each potential share issue must be dealt separately in determining whether it is dilutive or antidilutive.
- ii. To reflect maximum dilution in the case of multiple share issue where one may be dilutive on its own but antidilutive when combined with another, issues are considered in sequence starting from most dilutive to least dilutive.
- iii. If the Income Statement includes both the net income and income from continuing operations/income before extraordinary items and accounting changes, then the control income figure for judging dilution is the income from continuing operations or the income before extraordinary items and accounting changes as the case may be otherwise control income figure for judging dilution is the net income. Once if the issue/series of issues of potential shares is determined as dilutive, it is included in the computation of diluted EPS and vice versa.

Illustration 12

A company reports net income of Rs.2,00,000 and has 1,00,000 shares of outstanding common stock. Basic EPS is Rs.2.00 (Rs.2,00,000/1,00,000 shares). The same company has 20,000 shares of potential common stock.

Solution

Situation 1: Assume the numerator adjustment for the potential common shares is Rs.20,000. Including these potential common shares, EPS is computed as follows:

$$= \frac{\text{Rs.2,00,000} + 20,000}{1,00,000 + 20,000} = \frac{\text{Rs.2,20,000}}{1,20,000} = \text{Rs.1.83}$$

In this situation, the potential common shares are dilutive (i.e., they reduce EPS), and diluted EPS is Rs.1.83.

Situation 2: Assume the numerator adjustment for the potential common shares is Rs.1,00,000. Including these potential common shares, EPS is computed as follows:

$$= \frac{\text{Rs.2,00,000} + 1,00,000}{1,00,000 + 20,000} = \frac{3,00,000}{1,20,000} = \text{Rs.2.50 per share.}$$

In this situation, the potential common shares are antidilutive (i.e., they increase EPS), and would not be included in diluted EPS.

Weighted Average Number of Common Shares Outstanding SIMPLE CAPITAL STRUCTURE

The number of shares determined by relating (a) the portion of time within a reporting period that a particular number of shares of a certain security has been outstanding to (b) the total time in that period. For example, if 100 shares of a certain security were outstanding during the first quarter of a fiscal-year and 300 shares were outstanding during the balance of the year, the weighted average number of outstanding shares would be 250 ((100 x 1/4) + (300 x 3/4)). In computing diluted EPS, equivalent common shares are considered for all dilutive potential common shares

Table 2: Weighted Average (WA) Computation

Transaction	Effect on WA Computation
<ul style="list-style-type: none"> Common stock outstanding at the beginning of the period. 	<ul style="list-style-type: none"> Increase number of shares outstanding by the number of shares.
<ul style="list-style-type: none"> Issuance of common stock during the period. 	<ul style="list-style-type: none"> Increase number of shares outstanding by the number of shares issued times the portion of the year outstanding.

Financial Statement Analysis

Transaction	Effect on WA Computation
<ul style="list-style-type: none"> Conversion into common stock. 	<ul style="list-style-type: none"> Increase number of shares outstanding by the number of shares converted times the portion of the year outstanding.
<ul style="list-style-type: none"> Company reacquires its stock. 	<ul style="list-style-type: none"> Decrease number of shares outstanding by number of shares reacquired times portion of the year outstanding.
<ul style="list-style-type: none"> Stock dividend or split. 	<ul style="list-style-type: none"> Increase number of shares outstanding by number of shares issued for the dividend or resulting from the split.
<ul style="list-style-type: none"> Reverse split. 	<ul style="list-style-type: none"> Decrease number of shares outstanding by decrease in shares.
<ul style="list-style-type: none"> Pooling of interest. 	<ul style="list-style-type: none"> Increase number of shares outstanding by number of shares issued.
<ul style="list-style-type: none"> Purchase. 	<ul style="list-style-type: none"> Increase number of shares outstanding by number of shares issued times portion of year since acquisition.

Illustration 13

Common Stock outstanding January 1, 19x2	5,00,000 shares
Preferred stock (convertible into 2 shares of common stock) outstanding January 1, 19x2	1,00,000 shares
Convertible debentures (convertible into 100 shares of common stock for each Rs.1,000 bond)	Rs.1,00,000

- On March 31, ABC reacquired 10,000 shares of its own common stock.
- On May 1, 50,000 shares of ABC preferred stock were converted into common stock.
- On July 1, Rs.50,000 of ABC convertible debentures was converted into common stock.
- On September 30, ABC reacquired 10,000 shares of its common stock.

Solution

Computation of Weighted Average Shares

		Rs.
i.	Common stock outstanding January 1, 19x2	5,00,000
ii.	Common stock reacquired March 31, 19x2	(7,500)
iii.	Conversion of preferred stock on May 1, 19x2	66,667
iv.	Conversion of convertible debentures on July 1, 19x2	2,500
v.	Common stock reacquired on September 30, 19x2	(2,500)
	Total weighted average shares 19x2	5,59,167

- Common Stock Outstanding:** Because the 5,00,000 shares of common stock were outstanding for the entire year all the shares are included in the weighted average shares.

- ii. **Common Stock Recquired:** On March 31, 19x2, 10,000 shares were reacquired which means that 9/12 of the year they were not outstanding. As the 10,000 shares are already included in the 2,00,000 shares (1 above) that portion which was not outstanding during the full year must be deducted. Thus, September 12 of the 10,000 shares or 7500 exclude from the computations, which means that only 4,92,500 of the 5,00,000 shares were outstanding for the full year.
- iii. **Conversion of Preferred:** On May 1, 19x2 1,50,000 shares of the preferred were converted into common stock. Since the conversion rate is 2 for 1, an additional 1,00,000 shares were outstanding from May 1 to the end of the year. Thus, 8/12 of the 1,00,000 shares or 66,667 shares are included in the weighted average shares outstanding for the year.
- iv. **Conversion of Convertible Debentures:** On July 1, 19x2 Rs.50,000 of the convertible debentures were converted into common stock. The conversion rate is 100 shares for each Rs.1,000 bond which means that the Rs.50,000 converted consisted of fifty Rs.1,000 bonds or 5,000 shares of common stock. Since the conversion was on July 1 only 6/12 of the 5,000 shares (2,500) are included in the weighted average shares outstanding for the year.
- v. **Common Stock Recquired:** 10,000 additional shares put of the 5,00,000 shares outstanding at the beginning of the year were reacquired on September 30, which means that for 3/12 of the year they were not outstanding. Thus, 3/12 of 10,000 shares or 2,500 shares, must be excluded from the computation of weighted average shares outstanding for the year.
- vi. **Computation of Diluted EPS (DEPS):** There are basically two methods used to incorporate the effects of other dilutive securities and EPS (excluding participating and two-class common securities).

COMPLEX CAPITAL STRUCTURE

The Treasury Stock Method

This assumes the exercise of options and warrants at the beginning of the period (or at the date of issuance, if later.) The funds obtained from such exercise is used to purchase common stock at the average market price for the period, for the computation of the DEPS. For example, if a corporation has warrants outstanding for 1,000 shares of common stock exercisable at Rs.10 per share and the average market price of the common stock is Rs.116 per share, the following would occur—the company would receive Rs.10,000 (1,000 x Rs.10) and issue 1,000 shares from the exercise of the warrants which would enable it to repurchase 625 shares (Rs.10,000/ Rs.16) in the open market. The net increase in the denominator (which effects a dilution in EPS) is 375 shares (1,000 issued less 625 repurchased). If the exercise price is greater than the average market price, the exercise should not be assumed since the result of this would be antidilutive. In this case, DEPS of prior periods presented in comparative form should not be restated to reflect a change in market price.

Denominator should be increased by net dilution as follows:

Net dilution = Shares issued – Shares repurchased.

Where shares issued = Proceeds received/exercise price.

Shares repurchased = Proceeds received/Average market price per share.

Illustration 14

By dividing its Rs.5,00,000 net income by 5,00,000 shares of outstanding common stock, a company determines its basic EPS to be Re.1. In addition, options are outstanding that permit the purchase of 50,000 shares of common stock at Rs.50. The average market price of the stock is Rs.80.

Financial Statement Analysis

Solution

The treasury stock method is applied as follows:

Step 1: 50,000 shares sold at Rs.50: $50,000 \times \text{Rs.}50$
= Rs.25,00,000 in proceeds.

Step 2: Rs.25,00,000 used to purchase treasury stock at
Rs.80: $\text{Rs.}25,00,000 / \text{Rs.}80 = \text{Rs.}31,250$

Step 3: Net increase in outstanding shares: $50,000 - 31,250 = \text{Rs.}18,750$

Diluted EPS is computed as follows:

$$= \frac{\text{Rs.}5,00,000}{5,00,000 + 31,250} = \frac{\text{Rs.}5,00,000}{5,31,250} = \text{Rs.}0.94$$

Converted Method

This method is used for those securities which are currently sharing in the earnings of the company through the receipt of interest or dividends as preferential securities, but which have the potential for sharing in the earnings as common stock. This method logically recognizes that the convertible security only can share in the earnings of the company as one or the other, not both. Thus, the dividends or interest less tax effects applicable to the convertible security as a preferential security are not recognized in the income available to common stockholders' figure used to compute DEPS, and the weighted-average number of shares adjusted to reflect the assumed conversion as of the beginning of the year (or date of issuance, if later).

Note:

Numerator:

Income available to common stockholders' recomputed to reflect conversion:

- Add back interest expense less tax effects.
- Convertible preferred dividends no longer subtracted.
- Add back other expenses attributable to convertible issues.

Denominator:

Common stock outstanding if convertible securities were assumed converted at beginning or date of issuance, if later.

Exceptions: SFAS 128 specified some situations where the If-converted method applicable to convertible securities and Treasury-stock method applicable to options and warrants does not hold good. They are:

- i. Options and warrants containing provisions requiring or permitting debt or other securities of the issuer be tendered for all or a portion of the exercise price, the If-converted method should be used.
- ii. The terms of the options or warrants requiring the proceeds of the exercise to be used to retire existing debt, the If-converted method should be used.
- iii. For convertible securities which require cash payment upon conversion, and are therefore, considered equivalent to warrants, in which case the treasury stock method should be used.

Illustration 15

Sagar and Co., had Rs.10,00,000 of net income for the year and 10,00,000 shares of common stock outstanding. Consider the following two independent situations:

Situation 1:

Ratio and Financial Analysis

1,00,000 shares of 6% Rs.10 par-value convertible preferred stock area outstanding, and are convertible into 1,00,000 shares of common stock.

$$\text{Basic EPS} = \frac{\text{Rs.10,00,000} - 60,000}{10,00,000} = 0.94$$

$$\text{*Preferred Dividend} = 1,00,000 \text{ shares} \times \text{Rs.10 par} \times 0.06$$

$$\begin{aligned} \text{Diluted EPS} &= \frac{10,00,000 - 60,000 + 60,000}{10,00,000 + 1,00,000} \\ &= \frac{10,00,000}{11,00,000} = 0.91 \end{aligned}$$

Explanation: The Rs.60,000 preferred dividend is deducted to determine basic EPS. To determine diluted EPS, the preferred dividend is added back to the numerator, and the Rs.1,00,000 equivalent common shares are added to the denominator. This reduces EPS from Rs.0.94 to 0.91.

Situation 2:

1000 convertible bonds, 10% 10,000 par value, are outstanding and each is convertible into 1500 shares of common stock. The income tax rate is 35%, and interest already has been deducted in determining net income.

$$\text{Basic EPS} = \frac{\text{Rs.10,00,000}}{10,00,000 \text{ shares}} = \text{Rs.1.00}$$

$$\begin{aligned} \text{Diluted EPS} &= \frac{\text{Rs.10,00,000} + \text{Rs.6,50,000}}{10,00,000 + (1,000 \times 1,500) \text{ shares}} \\ &= \frac{\text{Rs.16,50,000}}{25,00,000} = \text{Rs.0.66} \end{aligned}$$

After-tax interest: 1,000 bonds \times Rs.10,000 \times 0.10 $(1 - 0.35)$

Explanation: Basic EPS is calculated based on Rs.10,00,000 of net income 10,00,000 shares of common stock outstanding. To include the dilutive effect of the convertible bonds in diluted EPS, the after-tax effect of the interest is added to the numerator (i.e., interest that would have been avoided and the accompanying increase in income taxes), and the equivalent number of common shares (Rs.1,500 to per bond) is added to the denominator. The impact is a reduction in EPS from Rs.1.00 to Rs.0.66.

POTENTIAL COMMON STOCK

Convertible Securities

This is the security that is convertible into another security on the basis of a conversion rate. These will have a dilutive effect when the preferred dividend per common share or interest net of tax and non-discretionary adjustments per common share exceeds Basic EPS. In such a case, the conversion of preferred stock and debt is to be assumed at the beginning of the period or at the time of to be issuance. Incorporation of dilutive effect calls for the application of If-converted Method. The method assumes the conversion of convertible securities as of the beginning of the earliest period reported. The preferred dividend, interest charges, non-discretionary adjustments made net of tax are added back to the income attributable to common stockholders from where these are deducted under non-conversion method.

Options and Warrants

These will have a dilutive effect on EPS when the average market price exceeds the market price. The option exercise and the issue of common shares are assumed to have taken place and the proceeds of the issue of common shares are used to purchase treasury stock at average market price and the incremental shares issued are added to the denominator of the diluted EPS computation which is laid down under Treasury Stock Method. This is a method of recognizing the use of proceeds that would be obtained upon exercise of options and warrants in computing diluted EPS and assumes that any proceeds would be used to purchase common stock at average market price during the period. Mathematically,

$$\text{Net dilution} = \text{Shares issued} - \text{Shares repurchased.}$$

$$\text{Shares issued} = \text{Proceeds received/exercise price.}$$

$$\text{Shares repurchased} = \text{Proceeds received/average market price.}$$

In the case of outstanding options and warrants only for a part of the period, weighted average computation is followed:

Illustration 16

Sagar and company had Rs.10,00,000 of net income for the year and 10,00,000 shares of common stock outstanding. Consider the following two independent situations:

Situation 1:

1,00,000 shares of 6% Rs.10 par-value convertible preferred stock are outstanding, and are convertible into 1,00,000 shares of common stock.

$$\text{Basic EPS} = \frac{\text{Rs.10,00,000} - \text{Rs.60,000}^*}{10,00,000 \text{ shares}} = \text{Rs.0.94}$$

$$^*\text{Preferred Dividend} = 1,00,000 \text{ shares} \times \text{Rs.10 par} \times .06$$

$$\begin{aligned} \text{Dividend EPS} &= \frac{\text{Rs.10,00,000} - \text{Rs.60,000}^* + 60,000}{10,00,000 + 1,00,000 \text{ shares}} \\ &= \frac{\text{Rs.10,00,000}}{11,00,000} = \text{Rs.0.91} \end{aligned}$$

Explanation: The Rs.60,000 preferred dividend is deducted to determine basic EPS. To determine diluted EPS, the preferred dividend is added back to the numerator, and the 1,00,000 equivalent common shares are added to the denominator. This reduces EPS from Rs.0.94 to 0.91.

Situation 2:

100 convertible bonds, 10%, 10,000 par value, are outstanding, and each is convertible into 1500 shares of common stock. The income tax rate is 35%, and interest already has been deducted in determining net income.

$$\text{Basic EPS} = \frac{\text{Rs.1,00,000}}{1,00,000 \text{ shares}} = \text{Rs.1.00}$$

$$\begin{aligned} \text{Diluted EPS} &= \frac{\text{Rs.10,00,000} + \text{Rs.6,50,000}^*}{10,00,000 + (1,000 \times 1,500) \text{ shares}} \\ &= \frac{\text{Rs.16,50,000}}{25,00,000} = \text{Rs.0.66} \end{aligned}$$

$$^*\text{After-tax interest} = (1000 \text{ bonds} \times \text{Rs.10,000 par} \times 0.10) \times (1 - .35)$$

Explanation: Basic EPS is calculated based on Rs.10,00,000 of net income and 10,00,000 shares of common stock outstanding. To include the dilutive effect of the convertible bonds in diluted EPS, the after-tax effect of the interest is added to the numerator (i.e., interest that would have been avoided and the accompanying

increase in income taxes), and the equivalent number of common shares (1500 per bond) is added to the denominator. The impact is a reduction in EPS from Rs.1.00 to Rs.0.66.

Contingent Shares

These shares are issued upon satisfaction of certain conditions at the end of the reporting period or at the end of the contingency period as the case may be.

FAS 128 incorporated the following guidelines regarding the conditions for issuance of stock and respective treatment if their effect is dilutive. If shares are to be issued in the future with no restrictions on issuance other than the passage of time, they are to be considered issued and treated as outstanding in the computation of dilutive EPS. SFAS 128 uses as examples, the maintenance of current earnings levels and the attainment of specified earnings increases. If the contingency is to merely maintain the earnings levels currently being attained, then the shares are considered outstanding for the entire period and considered in the computation of dilutive EPS if the effect is dilutive. If the requirement is to increase earnings over a period of time, the diluted EPS computation shall include those shares that would be issued based on the assumption that current amount of earnings will remain unchanged, if the effect is dilutive. Previously reported DEPS should not be restated to give recognition to shares issued as a result of the earnings level attainment. If contingent issuance is based upon the lapsing of time and the market price of the stock (generally affects the number of shares issued), both conditions must be met to include the contingently issuable shares in the DEPS computation. The Board prohibits the restatement of DEPS data based on the fluctuations in the market price occur in future periods.

Table 3

Conditions for Issuance of Stock	Treatment of Contingent Issuance in Diluted EPS, If Dilutive
<ul style="list-style-type: none"> • Attainment or maintenance of a specified level of earnings, and that amount has been attained. 	<ul style="list-style-type: none"> • Additional shares that would be issued, based on current earnings, are included in diluted EPS.
<ul style="list-style-type: none"> • Future market price of stock. 	<ul style="list-style-type: none"> • Additional shares that would be issued, based on the current market price, are included in diluted EPS.
<ul style="list-style-type: none"> • Future earnings and market price of stock. 	<ul style="list-style-type: none"> • Additional shares that would be issued, based on both current earnings and current market price of stock, are included in diluted EPS only if both conditions are met.
<ul style="list-style-type: none"> • Condition other than earnings and/or market price of stock. 	<ul style="list-style-type: none"> • Additional shares that would be issued under an assumption that the current status will remain unchanged are included in diluted EPS.
<ul style="list-style-type: none"> • Other contingently issuable potential common shares (for example, contingently issuable convertible securities). 	<ul style="list-style-type: none"> • Additional shares that would be issuable under current conditions based on appropriate Sections of FAS-128 for options and warrants, convertible securities and contracts that may be settled in stock or

Financial Statement Analysis

	cash are included in diluted EPS.
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Other Ratios and Value Metrics

EARNINGS BEFORE INTEREST, TAXES, DEPRECIATION AND AMORTIZATION (EBITDA)

Earnings before interest, tax, depreciation, and amortization (EBITDA) is computed by adding depreciation and amortization expenses to earnings before interest and taxes (EBIT). It is often used as a measure of cash flow, but suffers from limitations. It ignores,

- i. Variations in accounting methods.
- ii. Cash required for working capital.
- iii. Debt service and other fixed charge requirements.
- iv. The need to maintain productive capacity for these reasons, it should not be used blindly for valuation purposes.

Price to Earning (P/E)

PRICE/EARNINGS RATIO

The P/E ratio is an exceptional tool, because it's easy to calculate and it incorporates many valuation factors. This ratio comprises of two components, one reflecting the expectation of market concerning future earnings (market price of shares) and another reflecting the earnings available to equity shareholders based on the results of most recent past accounting period. Sometimes this ratio also called earning multiple, and indicate that how much investor paid for every rupee earning of the company. The ratio is defining the relation between the market value per share and the earning per share:

$$\text{Price Earning ratio} = \frac{\text{Market Price pershare}}{\text{Earning per share}}$$

For example, supposing the current market price is Rs.70 per share, and current period EPS is Rs.10 per share.

$$\text{Price/Earnings Ratio} = \text{Rs.70/Rs.10} = 7 \text{ times}$$

This implies that if Rs.70. is paid for these shares, then 7 years of earnings of Rs.10 pe share are being bought. Since the current market value of a share reflects the expectations of investors concerning the future profits of the company, the ratio effectively measures the market's anticipation of future earnings.

Analyst generally compares P/E ratio with industry average and some other company within the industry. P/E ratios typically range between 5 and 30. High P/E ratios are associated with firms for which strong growth and good prospects is predicted in the future. If the P/E ratio of a firm is less than the industry average we can say that the firm's share price is undervalued. The use of other firms in the industry as the control group is often not a solution because firms within the same industry can have different types of business, risk and growth profiles.

Analysts and investors quickly use this ratio to decide whether the company is highly rated or lowly rated by comparing with P/E ratio of the market. Such comparisons should however be limited to within an industry and at a particular point in time.

Price-Earning Ratio of Infosys Technologies Ltd for the years 2006 and 2005 is given below:

*Source: www.nseindia.com

**Source: CMIE Monthly Industry Analysis.

Infosys price-earning is more than the industry average i.e. the firms share price is over-valued. Generally P/E ratio of a firm depend on various factors, some of the important factor include earning growth, composition of debt and equity, brand etc. Infosys earnings are increased by 28% during the year 2005-06 and there were no long-term liabilities. All these led to the increase in the earnings per share.

Price to Book Value (P/B)

This is the ratio between market value of share and book value of the share. This ratio compares investor's assessment of a company's wealth at a particular point of time with the company's reported financial position. This ratio is calculated by using the following formula,

$$\text{Price to Book Value} = \frac{\text{Market Price pershare}}{\text{Book Value per share}}$$

This ratio is useful to know how many times that the share is overvalued or undervalued in the market. If this ratio yields slightly in excess of 1, then the reported costs of net assets based on historical cost (reflected in the book value per share) can be said to approximate the market's perception of the company's earnings power (reflected in Market price per share). If the market price substantially exceeds book value, then the market thinks historical cost disclosures are irrelevant for projecting future rate of returns. A ratio of less than one means the market considers firm assets as impaired though it is unrecognized by the financial reporting system.

Market price per share is available on any day from the major stock exchange portals. The Book value per share can be calculated by assets approach method or liabilities approach method. Here we calculated Book value per share based on assets.

Following is the balance sheet of Infosys

(Rs. in crore)

Number of equity shares as per annual report as on 31.3.2006 were 27,55,54,982 and on 31.3.2005 were 27,05,70,549.

For calculating the Price/Book value ratio, first we have to find out the book value per share:

(Rs. in crore)

Price/book value Ratio of Infosys Technologies Ltd for the years 2006 and 2005 is as follows:

*Source: www.nseindia.com

Market price is nearly 12 times more than the book value per share. It is a positive sign. Shareholders equity is 12 times overvalued in the open market.

Book Value Per Share

Book Value per share is published in most annual reports. Book value indicates the amount of shareholder's equity that relates to each share of outstanding Equity stock. It is the intrinsic value of share and is obtained by dividing the shareholders funds with number of equity shares. Thus,

$$\text{Book value of Share} = \frac{\text{Total Shareholders Funds} - \text{Prefrence Shareholders Funds}}{\text{Number of Equity Shares Outstanding}}$$

$$(or) \quad \frac{\text{Equity Shareholders Funds}}{\text{Number of Equity Shares Outstanding}}$$

Equity Shareholders Funds can be calculated using two approaches. One is assets side approach and the other one is liabilities side approach.

Assets Side Approach

Equity Shareholders Funds = Assets – Liabilities – Preference shareholders Claims

Total assets include all fixed assets, investments, current assets, loans and advances. Assets may either be valued at book value, or net realizable value, or net replacement value. Investments are to be valued at market value only, no matter what the method of valuation may be. In case of inventories, the finished stock may be valued at market value, however raw material and work-in-process must invariably be valued only at cost. Bad and doubtful debts are to be provided for and deducted from the Sundry Debtors. Fictitious assets on the asset side should not be taken into account. Liabilities include all secured, unsecured and current liabilities. Preference shareholders claims include their capital and arrears in dividends and proposed dividends, if any.

Liability Side Approach

Equity Shareholders Funds = Equity Share Capital + Reserves – Fictitious Assets

Paid up equity share capital should be considered after adjusting the calls-in-arrears and calls in advance. Reserves include all free reserves, capital reserves, share premium, retained earnings and surplus less accumulated losses if any. All the items shown under the head Miscellaneous Expenditure on the asset side should be deducted from shareholders funds as fictitious assets.

Equity Shareholders funds include capital and reserves such as share premium, revenue reserve, capital reserve, retained earnings and surpluses less accumulated losses if any.

Extracts of Schedules 1 and 2 of the Infosys Technologies are given below

Schedule 1: Share Capital

(Rs. in crore)

Schedule 2: Reserves & Surplus

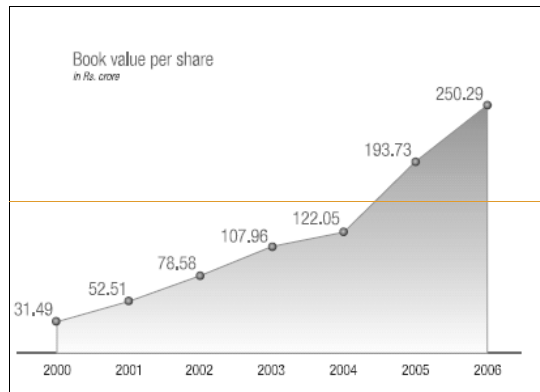
(Rs. in crore)

Number of equity shares as per annual report as on 31.3.2006 were 27,55,54,980 and on 31.3.2006 were 27,05,70,549.

Book Value of Shares of Infosys Technologies Ltd for the years 2006 and 2005 is calculated as below:

The outstanding issued, subscribed and paid up equity share capital increased from 27,05,70,549 shares to 27,55,54,980 shares as of March, 31, 2006 due to the issue of shares 49,84,431 shares on the exercise of stock options under the 1998 and 1999 employee stock option plans. Book value per share has increased to Rs.250.29 as against Rs.193.73 due to higher cash generation and higher value addition.

Figure 4: Book Value per Share of Infosys from 2000 to 2006



Source: www.infosys.com

Book value per share of Infosys is showing an increasing trend. It is a positive sign for the company as well as to shareholders. This ratio is only useful to shareholders to know how much amount they will get if the company is going for liquidation. Generally, analysts do not use book value of share because this value is based on the historical cost.

Unlike the market value of the share that reflects the potential of the firm as seen by the investor, Book value of the share represents past un-recovered cost of the asset.

Book Value per Share is of limited use to the investment analyst since it is based on the book figures which are historical in nature. However, when the market value is below the book value, investors view the company as lacking potential. When the market value is more than the book value then the investors view the company as having more potential and worth more than the market value of share.

DIVIDEND PAYOUT RATIO

This ratio measures what a company pays out to its investors in the form of dividend. This is the ratio between dividends and earnings. It indicates the portion of current earnings per common share being paid out in dividends. Thus,

$$\text{Dividend Payout} = \frac{\text{Dividends}}{\text{Profit After Tax}} \times 100$$

Or,

$$\text{Dividend payout ratio} =$$

$$\frac{\text{Dividend per equityshare}}{\text{Diluted earnings per share before Nonrecurring items}}$$

This ratio is very important from the shareholders point of view. If a company pays whole or substantially the whole of its earnings for paying dividends and retains nothing for future growth and expansion, then the chances of capital appreciation are dim. Hence, a shareholder looking for quick returns looks for companies whose dividend payout ratio is high and investors looking for capital appreciation look for companies whose payout is low.

This ratio can be calculated by taking diluted earnings per share from a conservative viewpoint. Also, for a stable dividend policy, the nonrecurring items are not to be considered.

There is no thumb rule for a correct dividend payout ratio. Growth companies generally retain more profits to fund its growth plans and pay less dividends, on the hand companies belonging to industries which have reached matured stage and have little room for growth may pay high dividends. This ratio reflects on the

Financial Statement Analysis

policy of the company. A high payout ratio signifies liberal policy and a low payout ratio signifies conservative policy. Companies usually hesitate to decrease dividends since they have an adverse effect on the market price.

Following are the extracts taken from Annual report of Infosys. Based on this information find out dividend payout ratio:

From Directors' Report

"In October 2005, we paid an interim dividend of Rs.6.50 per share (130% on par value of Rs.5). We recommend a final dividend of Rs.8.50 per share (170% on par value of Rs.5 per share) and a Silver Jubilee special dividend of Rs.30.00 per share (600% on par value of Rs.5 per share) aggregating to Rs.45.00 per share (900% on par value of Rs.5 per share). The total dividend amount is Rs.1,238 crore, as against Rs.310 crore for the previous year. Dividend (including dividend tax) as a percentage of profit after tax excluding Silver Jubilee special dividend is 19.36% as compared to 18.48% in the previous year".

Following is the extract of Infosys Profit & Loss account:

(Rs. in crore)

Calculation of Dividend Ratio of Infosys Technologies Ltd for the years 2006 and 2005 is given below:

Special dividend is not a normal item. Thus, while calculating dividend payout ratio, special dividend and tax on this special dividend should not be taken into account.

Dividend tax on Normal dividend = Rs. 174 x (Rs. 411/Rs. 1238) = Rs. 58 crore.

Infosys is paying around 20% in their earnings as dividend. It was approximately increased by 1% compared to the last year. Software industry's dividend payout ratio is 41.65%. Compared to the industry the company is paying less dividends to investors. But it is paid special dividend this year as 2006 is their silver jubilee year. Here, we do not take the special dividend for calculating dividend payout ratio since these are abnormal dividends.

INTEGRATED RATIO ANALYSIS

Comprehensive financial analysis requires an analysis of three interrelationships among ratios and these have important implications for financial analysis. Disaggregation of a ratio into its component elements allows us to gain insight into factors affecting a firm's performance.

- i. **Economic Relationships** – Change in one item is dependent on the other. For example, higher sales are usually associated with higher investment in working capital components such as receivables and inventories. Ratios comprising these elements should be correlated.
- ii. **Overlap of Components** – The components of many ratios overlap due to the inclusion of an identical term in the numerator or denominator or because a term in one ratio is a component of another ratio. The change in one of these terms will change a number of ratios in the same direction.
- iii. **Ratios as Composites of Other Ratios** – Ratios are not independent but they are dependent. That is, some ratios are related to other ratios across categories. For example, the ROA ratio is a combination of profitability and turnover ratios.

FINANCIAL DISTRESS RISK

Financial distress means severe liquidity problems that covers, both the difficulty a firm has in meeting its debt obligations and the consequences of these difficulties, which may take the form of restrictions imposed by creditors on a company's behavior (for example, a company may find it impossible to raise new funds).

The information about the financial distress can be obtained from sources like cash flow analysis for current and future periods, corporate strategy analysis, analysis of financial statements of the firm and those of a comparison set of firms and external variables such as security returns and bond ratings.

The financial statement analysis, using financial ratios focuses on univariate (single financial variable) analysis or multivariate (combination of financial variables) analysis to predict corporate insolvency or bankruptcy.

Univariate Analysis

In Univariate analysis individual ratios are considered to predict corporate insolvency or bankruptcy. The two main assumptions in this analysis are:

- i. The distribution of the ratio differ between the distressed or bankrupt firms and non distressed or non bankrupt firms.
- ii. This systematic distribution difference can be exploited for prediction purpose.

An important study is Beaver (1966) took samples of 79 failed firms, that is firms that had either become bankrupt or failed to pay interest and dividend and 79 non failed firms. For each failed firm, a non failed firm of the same industry and asset size was selected. He tested some 30 financial ratios for each failed and non failed firms over a period of five years before the failure and selected the following 5 ratios which are the best predictors and found there was a marked difference of these ratios between the failed and non failed firms.

The five ratios selected by Beaver are:

- i. Cash flow/total assets
- ii. Net assets/ total assets
- iii. Total debt/ total assets
- iv. Working capital/ total assets
- v. Current asset/ current liabilities.

Multiple Discriminant Analysis

In Multiple Discriminant analysis several ratios are considered simultaneously to predict corporate insolvency or bankruptcy.

PREDICTING BANKRUPTCY

The Altman Z-score model is a classification model for corporate borrowers and can also be used to get a default probability prediction. Based on a matched sample by year, size, and sectors of defaulted and solvent firms, and applying the linear discriminant analysis, the best-fitting scoring model for commercial loans results in the following equation:

$$Z = 1.2 \times X_1 + 1.4 \times X_2 + 3.3 \times X_3 + 0.6 \times X_4 + 1.0 \times X_5$$

Where,

- X_1 = working capital/total assets ratio.
- X_2 = retained earnings/total assets ratio.
- X_3 = earnings before interest and taxes/total assets ratio.
- X_4 = market value of equity/book value of total liabilities ratio.
- X_5 = sales/total assets ratio.

If a corporate borrower's accounting ratios X_i weighted by the estimated coefficients in the Z function, result in a Z score below a critical value, the borrower would be classified as "insufficient" and the loan would be refused.

A number of issues need to be discussed here. First the model is linear, whereas the path to bankruptcy can be assumed to be highly nonlinear, and the relationship between the X_i values itself is likely to be nonlinear. A second issue is that, with the exception of the market value of equity term in the leverage ratio, the model is essentially based on accounting ratios. In most countries, standards require

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accounting data only at discrete intervals (e.g., quarterly) and are generally based on historic- or book-value accounting principles. As the world become more complex and competitive, and the decision flow becomes faster, the predictability of simple Z-score models may worsen. Brazil offers a good example. When fitted in the mid-1970s, the Z-score model did a quite good job of predicting default even two or three years prior to bankruptcy. However, more recently, even with low inflation and greater economic stability, this type of model has performed less well as the Brazilian economy has become more open.

The recent application of nonlinear methods (such as neural networks) to credit risk analysis shows potential to improve on the proven credit-scoring models. Rather than assuming there is only a linear and direct effect from the X_i variables on the Z credit score (or, in the language of neural networks, from the input layer to the output layer), neural networks allow for additional explanatory power via complex correlations or interactions among the X_i variables (many of which are nonlinear). For example, the five variables in the Altman Z-score model can be described by some nonlinearly transformed sum of X_1 and X_2 as a further explanatory variable. In neural network terminology, the complex correlations among the X_i variables form a “hidden layer” which, when exploited (i.e., included in the model), can improve the fit and reduce type 1 and type 2 errors. (A type 1 error consists of misjudging a bad loan as good; a type 2 error consists of misjudging a good loan as bad.)

The higher the Z-Score, the less likely a firm will go bankrupt.

Limits of “Scoring Model”

The original Z-Score has limitations. It was modeled using only publicly-traded manufacturing firms. Service industries and retailers were not taken into consideration. Further, the Z-Score cannot be applied to nonprofit or sovereign entities due to the market capitalization component required in term X_4 . The Z-Score was redeveloped for privately held firms by substituting book value of equity for the market capitalization in X_4 . Later The Z'-Score was developed specifically for non-manufacturing firms and firms in emerging markets.

The Z-Score model is a linear discriminant function of some measures that are objectively weighted and summed up to arrive at an overall score that then becomes the basis for classification of firms into distressed and non-distressed

Altman (1968) proposed the so-called Z-Score model, which was modified later on by Altman, Haldeman; Naryanan (1977) named it ZETA credit risk model. The purpose of this study was to construct, analyze and test a new bankruptcy classification model which considers explicitly recent developments with respect to business failures. ZETA Analysis is another bankruptcy prediction. Like the Z-Score family, ZETA is predicated on seven ratios:

- X_1 = return on assets, measured by the earnings before interest and taxes/total assets.
- X_2 = stability of earnings, measured by a normalized measure of the standard error of estimate around a 5-10-year trend in X_1 .
- X_3 = debt service, measured by the familiar interest coverage ratio, i.e., earnings before interest and taxes/total interest payments (including that amount imputed from the capitalized lease liability).
- X_4 = cumulative profitability, measured by the firm's retained earnings (balance sheet)/total assets.
- X_5 = liquidity, measured by the familiar current ratio.
- X_6 = capitalization, measured by common equity/total capital.
- X_7 = size, measured by the firms' total assets.

VALUATION IMPLICATIONS OF FINANCIAL STATEMENT ANALYSIS

Inter Corporate Investments

Usually accounting for inter corporate investments is determined by the intention of the management to hold the securities and the extent of degree of control. Cost or market value method is used where the investment is held for less than 20% or where the firm holds the non-controlling interest. Equity or proportionate consolidation method is used where the firm holds significant investments, that is more than 20% but less than 50% and consolidation method is used where the firm has control in the investee firm, that is more than 50%.

In the case of equity method, the investment will be reported on the investor's balance sheet as another asset at adjusted cost and the company reports higher income. As a result the net profit margin is higher because sales are lower and net income is the same, ROA will be higher because net income is same and the assets reported are generally lower. The leverage ratio is lower because liabilities are lower and equity is the same.

Similarly in the case of consolidation method, the investment account is removed from the investors balance sheet and is replaced with the assets and liabilities of the investee company. As a result ROE, ROA, and net profit margin will get affected and is generally lower than in the case of equity method, whereas leverage ratio is higher because here the assets and liabilities are larger but the equity is same.

In the case of joint ventures usually equity method of accounting is used and the investor reports only the proportionate share of net income and net assets in the joint venture. But in order to provide better information to users of financial statements proportionate consolidation method can be used for the accounting of joint ventures. Here the proportion of investment is replaced with the proportion of each asset and liability owned. The investor company also include the proportion of revenue and expense in its income statement. As a result of the above many financial ratios will change. A proportionate consolidation is in between equity method and consolidation method.

Business Combinations

The purchase method and pooling of interest method are the two accounting methods used for the mergers and acquisitions. Under the purchase method the assets reported on the balance sheet after the merger are higher because the assets are written up to market value. This results in the increase in depreciation that results in the reduction of profit or net income. Similarly the equity after acquisition is also higher because the book value is replaced by the amount of purchase price. As a result of the above many financial ratios will change. That is the profit margin ratio is lower because the net income is lower and sales are same, ROA is lower because net income is low and assets are higher and ROE is lower because net income is low and equity is higher.

In the case of pooling of interest method the two companies are combined using accounting book values that is to say the fair market value plays no role in the accounting under this method. The actual prices paid are suppressed from the balance sheet and income statement. As a result of the above many financial ratios will change. That is profit margin ratio, ROA, and ROE is higher when compared to the purchase method because the assets and equity are lower when compared to purchase method.

Multinational Operations

If a parent firm has a foreign subsidiary, the change in the exchange rate will result in change in the consolidated ratios. Foreign subsidiary's performance will have a greater impact on the consolidated data if there is appreciation in the local currency and it will have a diminishing impact on the consolidated data if there is depreciation in the local currency.

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Multinational Companies has generally broad number of products in its distribution area. So, there are so many factors that can effect the earning of the multinational companies. For companies who are selling goods in different countries may have different tax structure and any change in the tax structure of a single countries may effect the earning of the multinational. Not only tax there are lot of factors that effect the profit of the companies. Out of them one factor is Low profit margin ratio i.e., most of the multinationals have low profit margin ratio. Due to lower profit margin ratio profit is more sensitive to the cost. For example, suppose A and B are the two companies whose profit margin is 5% and 20% respectively i.e., operating expenses, tax and interest of the company is 95% and 80% of the turnover. In this case, 1% decrease in the cost of company will increase the profit by 19% in case of A and only 4% in case of B. Due to sensitiveness of cost on profit of the multinational companies, manager can influence profit by relatively small manipulation in the cost.

Ratio and Financial Analysis

Financial ratios are used by management to fine-tune the profitability, long-term and short-term liquidity of the business. These ratios allow management to compare key aspects of the business to industry standards. In effect, they provide benchmark information management can use to redirect the firm in order to improve profits.

Illustration 17

Following are the balance sheets as on 31st March 200⁵² and 200⁶³ of Hyderabad Metals Company, you are required to prepare a comparative balance sheet showing increase/decrease.

**Comparative Balance Sheet of Hyderabad Metals Company
as on 31st March, 200⁵² and 200⁶³**

Liabilities	31st March, 200 ⁵²	31st March, 200 ⁶³	Assets	31st March, 200 ⁵²	31st March, 200 ⁶³
Equity Share Capital	4,000	6,000	Current Assets:		
Capital Reserve	600	1,100	Debentures	2,090	1,900
General Reserve	2,220	2,090	Cash	1,180	100
Sinking Fund	400	500	Stock	1,600	1,300
Debentures	2,000	3,250	Others	320	130
Current Liabilities:			Investments	2,700	1,700
Sundry Creditors	2,550	1,170	Fixed assets:		
Others	70	100	Furniture	90	180
			Buildings	3,100	7,860
			Land	200	300
			Other Assets	560	740
	11,840	14,210		11,840	14,210

Solution

**Comparative Balance Sheet of Hyderabad Metals Company
as on 31st March, 200⁵² and 200⁶³**

Liabilities	31-3-200 ⁵²	31-3-200 ⁶³	Absolute Change 200 ⁵² -200 ⁶³	% Change in 200 ⁵² -200 ⁶³	Assets	31-3-200 ⁵²	31-3-200 ⁶³	Absolute Change 200 ⁵² -200 ⁶³	% Change in 200 ⁵² -200 ⁶³
Capital & Resources					Fixed Assets				
Equity Share Capital	4,000	6,000	+2,000	+50	Furniture	90	180	+90	+100
Capital Reserve	600	1,100	+500	+83.33	Building	3,100	7,860	+4,760	+153.55

Ratio and Financial Analysis

General Reserve	2,220	2090	-130	-5.86	Land	200	300	+100	+50.00
Sinking Fund	400	500	+100	+25	Other Assets	560	740	+180	+32.14
(1) Shareholder Fund	7,220	9,690	+2470	+34.21		3950	9,080	+5130	+129.87
Long term Loan					Current Assets				
(2) Debentures	2,000	3,250	1,250	+62.50	Debtors	2090	1,900	-190	-9.09
Current liabilities					Cash	1,180	100	-1080	-91.53
Sundry Creditors	2,550	1,170	-1,380	-54.12	Stock	1,600	1,300	-300	-18.75
Others	70	100	+30	+42.86	Others	320	130	-190	-59.38
					Investments	2,700	1,700	-1,000	-37.4
(3) Total Current Liabilities	2,620	1,270	1,350	-51.53	(2) Total Current Assets	7,890	5,130	-2,760	-34.98
Total Liabilities and Capital (1)+(2)+(3)	11,840	14,210	2,370	20.02	Total Assets (1)+(2)	11,840	14,210	+2,370	+20.02

Interpretation: On the observation of the comparative balance sheet it can be concluded that the long-term funds like share capital and debentures have been raised for acquiring more fixed assets for expanding business. Fixed assets have increased by 129.87% as compared to the last year. This is possible due to the decrease in current assets, issue of shares and debentures. It is a decision in the right direction because expansion of business is possible with increase in fixed assets. The debt equity ratio is on the lower side, (as will be clear from the following calculations), so there is still scope for arranging long-term loans for further expansion of the business provided profitable activities can be carried on.

	20041-052	20052-063
Debt equity ratio = $\frac{\text{Long-term debts}}{\text{Shareholders fund}}$	$\frac{2,000}{7,220} = 0.27:1$	$\frac{3,250}{9,690} = 0.34:1$

The desirable norm of this ratio is 2:1

Current ratio is also not satisfactory as shown below:

	20041-05	20052-063
Current ratio = $\frac{\text{Long-term debts}}{\text{Shareholders fund}}$	$\frac{7,890}{2,620}$	$\frac{5,130}{1,270}$

The standard norm of current ratio is 2:1. It shows that credit facilities available have not been properly utilized in both years. The current assets have decreased by 34.98% in 20041-052 still there is a scope for further reduction in current assets to set right current ratio. To conclude, business is expanding because investment in fixed assets has increased by 129.87% in 20041-052 as compared to 20052-063 and still further expansion is possible by arranging long-term loan provided profitable opportunities are available.

BREAK EVEN ANALYSIS

Break-even analysis is effective tool for predicting the effect of operating leverage on a firm. It tells the analyst the sensitivity of the firm's operating profit to changes in production levels.

The Break-Even Point

A break-even point is a point at which a firm earns no profit and does not bear any loss. It is a point at which the total sales are equal to total costs. In other words, contribution is sufficient to cover fixed cost only. At break-even point, the income of the firm is equal to the expenditure. Every unit produced after break-even point contributes to the profit of the organization. A break-even point is calculated with the help of the following formula:

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$$\begin{aligned} \text{Break-even Point (in units)} \\ = \frac{\text{Total Fixed Costs}}{\text{Selling price per unit} - \text{Variable cost per unit}} \end{aligned}$$

$$\text{Break-even Points (in Rupees)} = \frac{\text{Fixed Cost}}{\text{P/V Ratio}}$$

Break-even analysis is useful because it helps analyse the chances of a new venture succeeding. The concept is also closely related to operational gearing. The closer to break-even, the higher the operational gearing.

Margin of Safety

Margin of safety is the difference between the actual sales and the sales at the break-even point or, the excess of actual sales over the break-even sales. At BEP, the margin of safety is nil because the actual sales and the break-even sales are equal.

Margin of safety can also be expressed in percentage. The formula for calculating the margin of safety is,

$$\text{Margin of safety} = \text{Actual Sales} - \text{Break-even Sales}$$

$$\text{Margin of safety} = \frac{\text{Profit}}{\text{P/V Ratio}}$$

$$\text{Margin of Safety (in percentage)} = \frac{\text{Actual sales} - \text{Break Even Sales}}{\text{Actual Sales}} \times 100$$

Margin of safety measures the soundness of the business. If the margin of safety is high, it indicates the concern's strength and a low margin of safety indicates the weakness of the concern. So in order to earn more profits, efforts should be made by the management to increase the margin of safety. The following steps increase or improve the margin of safety:

- Increase the level of production or selling price or both.
- Reduce the fixed cost or variable cost or both.
- Substitute the existing unprofitable product with the profitable ones.
- Change the sales mix in order to increase the contribution.

USES OF BREAK-EVEN ANALYSIS

Prediction: Break-even Analysis is useful in predicting what sales volume has to be achieved in order to start earning a profit.

Margin of Safety: Break-even analysis can also be used to answer the question "How low can the sales fall before the firm will begin to incur losses?"

Scale of Operations: An important decision is to decide the scale of operations of a firm. In practical terms this would mean deciding upon the capacity of the firm to produce and sell its products.

Changes in Underlying Factors: Break-even analysis can also be used to study the effect of changes in underlying factors on the Break-even Point and Margin of Safety.

Illustration 18

The sales and profits during the two periods are given as follows:

Years	Sales (in Rs.)	Profits (in Rs.)
2004	20,00,000	2,00,000
2005	30,00,000	4,00,000

Calculate

- P/V Ratio,

- ii. Fixed Cost,
- iii. Break-even Point,
- iv. Sales to earn a profit of Rs.5,00,000,
- v. Profit when sales are Rs.40,00,000,
- vi. Margin of safety at a profit of Rs.4,50,000,
- vii. Variable cost in 2005.

Solution**i. P/V Ratio**

$$= \frac{\text{Change in Profits}}{\text{Change in Sales}} \times 100 = \frac{\text{Rs.4,00,000} - \text{Rs.2,00,000}}{\text{Rs.30,00,000} - \text{Rs.20,00,000}} \times 100$$

$$= \frac{\text{Rs.2,00,000}}{\text{Rs.10,00,000}} \times 100 = 20\%$$

ii. Fixed Expenses

Since the P/V Ratio is 20% then the Variable Cost will be 80% (i.e. 100 – 20) of sales.

Variable Cost = 80% of Rs.20,00,000 = Rs.16,00,000

We know that $S - V = F + P$

Therefore, Fixed Cost = Sales – Variable Cost – Profit
 $= \text{Rs.20,00,000} - \text{Rs.16,00,000} - \text{Rs.2,00,000}$
 $= \text{Rs.2,00,000}$

iii. Break-even Point

$$\text{Break-even Point} = \frac{\text{Fixed Expenses}}{\text{P/V Ratio}} = \frac{\text{Rs. 2,00,000}}{20\%} = \text{Rs. 10,00,000}$$

iv. Sales required to earn a profit of Rs.5,00,000

$$\text{Sales} = \frac{F + P}{\text{P/V Ratio}} = \frac{\text{Rs.2,00,000} + \text{Rs.5,00,000}}{20\%} = \frac{\text{Rs.7,00,000}}{20\%}$$

$$= \text{Rs.35,00,000}.$$

v. Profit when sales is Rs.40,00,000

$$\text{Contribution} = \text{Sales} \times \text{P/V Ratio}$$

$$= \text{Rs.40,00,000} \times 20\% = \text{Rs.8,00,000}$$

$$\text{Profit} = \text{Contribution} - \text{Fixed Cost}$$

$$= \text{Rs.8,00,000} - \text{Rs.2,00,000} = \text{Rs.6,00,000}$$

vi. Margin of Safety at a profit of Rs.4,50,000

$$\text{Sales} = \frac{F + P}{\text{P/V Ratio}} = \frac{\text{Rs.2,00,000} + \text{Rs.4,50,000}}{20\%} = \frac{\text{Rs.6,50,000}}{20\%}$$

$$= \text{Rs.32,50,000}$$

$$\text{Margin of Safety} = \text{Actual Sales} - \text{Break-even Sales}$$

$$= \text{Rs.32,50,000} - \text{Rs.10,00,000} = \text{Rs.22,50,000}$$

vii. Variable Cost in 2005

Since the P/V Ratio is 20% then the Variable Cost will be 80% (i.e. 100 – 20) of sales.

Thus, Total Variable Cost = 80% of Rs.30,00,000 = Rs.24,00,000.

PRO-FORMA FINANCIAL STATEMENTS

Proforma statements are projected financial statements embodying a set of assumptions about a company's future performance and funding requirements. By developing proforma statements, a comprehensive look at the likely future

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financial performance of a company can be obtained. These statements, comprising P&L statement and a balance sheet are extended into the future. The proforma operating statement (P&L statement) represents an “operational plan” for the business as a whole, while the proforma balance sheet reflects the anticipated cumulative impact of assumed future decisions on the financial condition of the business at a selected point of time. Both statements are prepared by taking the most readily available estimates of future activity and projecting, account by account, the assumed results and conditions. A third statement, a proforma funds flow statement, adds further insight by displaying the various funds movements expected during the forecast period.

Proforma Financial Statement: The preparation of proforma statements is explained with the example of a hypothetical manufacturing company called Genius Corporation. The company, selling two kinds of winter care products which have seasonal pattern, has a low point of sale occurring in May. The most recent results are available for first quarter of the year 1. These statements give the initial set of data to project the future statements. The proforma projection is to be made for the second quarter of the year 1, and the objective is to determine both the level of profit and the amount of additional funds required at the end of the second quarter.

Proforma Income Statement: The operating statement is usually prepared first because the amount of after-tax profit must be reflected in the balance sheet as a change in retained earnings. The starting point in the preparation of proforma operating statement, as shown in the first line of the Table 1, is the projection of the unit and rupee volume of sales. These can be estimated in a variety of ways from trend-line projections to detailed departmental sales forecasts by individual product.

Table 4

	Actual Quarter ended March 31, Year 1	Proforma Quarter ended June 30, Year 1	Assumptions
Units Sold	14,000	9,800	Second quarter has seasonally low sales; past data show 30% decline from first quarter
Net sales	1,40,000 100.0%	98,000 100.0%	No change in product mix and price
Cost of goods sold	22,960	16,366	20% of the cost of goods sold as before
Labor	25,256	18,002.6	22% of the cost of goods sold as before
Materials	4,592	44,188.2	54% of the cost of goods sold as before
Distribution	61,992	3,273.2	4% of the cost of goods sold as before
Overhead	1,14,800 82.0%	81,830 83.5%	Increase by 1.5
Total	25,200 18.0%	16,170 16.5%	Percentage points simulate operating inefficiencies
Gross profit margin			
Expenses			
Selling expenses	8,250	7,500	Assuming a drop of Rs.750 due to lower activity

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Gen & Admn.	4,450	3,600	Assuming a drop of Rs.850
Total	12,700	11,100	
Operating profit	12,500	5,070	
Interest	2,500	2,000	Based on outstanding debt
Depreciation	2,000	2,000	
PBT	7,000	1,070	
Tax @ 30%	2,100	321	
Net income	4,900	749	
Dividends	900	-0-	No payment of dividends
Retained earnings	4,000	749	Carried to balance sheet
Cash flow after dividends	6,000	2,749	Retained earnings + depreciation

In Table 4, the actual operating statement for the first quarter ended March 31 is shown as a base for the analysis. Company statistics from past years show that during the second quarter a decrease of 29 to 31 percent from first quarter is normal. By taking the mid-point of 30 percent, the unit sales figure is obtained by decreasing the first quarter unit sales by 30 percent. After calculating a 30 percent decrease in the unit volume, further assumption is that both prices and product mix will remain unchanged. The assumption can be relaxed to have more insights or to test the impact of “what if so and so is changed by some percentage” type of questions. Next is the estimation of cost of goods sold. For this, the **percent of sales method** is used. An assumption is made that the future relationship between various elements of costs to sales will be similar to their historical relationship. The actual first-quarter operating statement provides details on the main components (labor, materials, overheads and distribution) in cost of goods sold. As the second quarter is the company’s seasonal low point, it is assumed that some inefficiencies are likely to raise the overall cost of goods sold as operations slow down. Cost of goods sold and gross margin can be calculated directly without the detailed cost breakdown. Selling expense is shown as Rs.8,250. Given that the second quarter has lower sales activity, a small decrease of Rs.750 can be assumed. A reduction fully proportional to the 20 percent drop in volume would not be possible as some of the expenses are fixed in nature. Similar is the case with the general and administrative expenses. This method of estimating the value of various items on the basis of expected developments in the future period is called the **budgeted expense method**.

As a result of the assumptions, the second quarter operating profit falls by over Rs.5,000 and the profit after-tax drops to less than one-fifth of its former level. This is mostly due to the 30 percent drop in sales volume and the associated profit contribution loss. Interest is charged according to the provisions of the outstanding debt, and this information can be obtained from the company’s annual reports. The operating statement will be completed after we calculate the tax rates (assumed here at the rate of 30 percent). It can be observed that there is a significant decrease in the amount of net profits because of the slowdown in operations. One more assumption needs to be made about the dividends to arrive at the retained earnings for the period which have to be reflected in the proforma balance sheet. In Genius Corp’s case, it is assumed that no dividends will be declared in the second quarter due to low earnings. Preparation of proforma balance sheet is illustrated in Table 5. Again, specific assumptions have to be

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made about each item in the statement, working from the actual balance sheet and additional information we can obtain from the management. All the assumptions made are given in the table. The first account (share capital) is expected to increase by 500 as stock options are exercised. The retained earnings will increase by the net income of 750 as calculated in the proforma income statement. Totally, the amount of shareholder funds has increased by 1,250. Long-term debt is assumed to remain unchanged.

Table 5: Proforma Balance Sheet

(Rs. in crore)

	Actual March 31	Proforma June 30	Change	Assumptions
Liabilities:				
A. Share Capital	6,500	7,000	+500	Sale of stock under option
B. Reserves and Surplus Total (C + D)	4,500	5,250	+750	
C. Reserves	4,500	4,500	-0-	From P&L
D. P&L balance Carried forward	4,000	750	+750	
E. Total Shareholders Funds (A + B)	11,000	12,250	+1,250	
F. Total Debt	7,500	7,500	-0-	
G. Total Liabilities (E + F)	18,500	19,750	+1,250	
Assets:				
H. Gross Block (I + J)	24,000	23,000	-1,000	No change Sale
I. Land	3,000	3,000	-0-	
J. Plant & Machinery	21,000	20,000	-1,000	
K. Less: Accum. Depreciation	10,000	9,500	-500	Accumulated
L. Net Block (H-K)	11,000	10,500	-500	
M. Current assets, Loans and advances (N + O)	14,500	16,000	+ 1,500	Cash set at estimated Min. Balance
N. Inventories	10,500	12,500	+2,000	
O. Cash	4,000	3,500	-500	
Less: Current Liab. & Prov.				
P. Current Liabilities	5,000	4,000	-1,000	
Q. Provisions	2,000	2,000	-0-	
R. Net Current Assets (M - P - Q)	7,500	10,000	+2,500	
S. Total assets (L + R) Additional funds required (Total assets - Total liabilities.)	18,500	20,500	+2,000 +750	

On the assets side, first fixed assets are considered. In the present case, two types of fixed assets are taken. They are land and plant & machinery. Land remains unchanged and there is a reduction of Rs.1,000 in the plant & machinery account due to sale of machinery. Next is net current assets. Net current assets is obtained by deducting total current liabilities from total current assets. It is assumed that the demand for the products is going to increase from third quarter onwards. So, to meet the excess demand in the next quarter, products are already manufactured and kept in the inventory, though sales in the present quarter are reduced. Regarding cash, the assumption is that three months hence the company would need to keep only the minimum working balance in its bank accounts. An amount of Rs.500 was the minimum balance it has kept over the periods.

The assumption regarding current liabilities is that most of the current liabilities are accounts payable and are assumed to decline in response to lower activity in the second quarter.

Finally, when the results are added up, there would be a difference between assets and liabilities amounts. So, assets and liabilities are made equal with a balancing figure, which represents either funds needed or the excess funds of the company on the proforma balance sheet date. In the case of Genius Corp., the amount came to Rs.750. This figure is called plug figure and serves as a quick estimate of what amount of additional funds the company requires (as in the current example) or the additional funds at company's disposal.

SUMMARY OF IAS 33 EARNINGS PER SHARE

Introduction

IAS 33 *Earnings per Share* was issued in December 2003 and is applicable for annual periods beginning on or after 1 January 2005.

Objective and scope: IAS 33 prescribes principles for the determination and presentation of earnings per share, so as to improve performance comparisons between different reporting entities in the same reporting period and between different reporting periods for the same entity. It is applicable to entities whose ordinary shares or potential ordinary shares are publicly traded and by entities that are in the process of issuing ordinary shares or potential ordinary shares in public markets. If another entity chooses to disclose earnings per share information, such information is calculated and disclosed accordingly.

Requirement to Present EPS: An entity presents on the face of the income statement basic and diluted earnings per share for each class of ordinary shares that has a different right to share in profit for the period. An entity calculates basic and diluted earnings per share for profit or loss from continuing operations attributable to the ordinary equity holders of the parent entity. If an entity reports a discontinued operation, it also discloses basic and diluted earnings per share for the discontinued operation.

Basic Earnings per Share: Basic earnings per share is calculated by dividing profit or loss attributable to ordinary equity holders of the parent entity (the numerator) by the weighted average number of ordinary shares outstanding (the denominator) during the period.

The profit or loss attributable to the parent entity is adjusted for the after-tax amounts of preference dividends, differences arising on the settlement of preference shares, and other similar effects of preference shares classified as equity.

The weighted average number of ordinary shares outstanding during the period and for all periods presented is adjusted for events, other than the conversion of potential ordinary shares, that have changed the number of ordinary shares

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outstanding without a corresponding change in resources (e.g., a bonus issue, a share split).

Diluted Earnings per Share: Diluted earnings per share is calculated by adjusting the profit or loss attributable to ordinary equity holders of the parent entity, and the weighted average number of ordinary shares outstanding, for the effects of all dilutive potential ordinary shares. The profit or loss attributable to ordinary equity holders of the parent entity, as calculated for basic earnings per share, is adjusted for the after-tax effects of:

- Any dividends or other items related to dilutive potential ordinary shares deducted in arriving at profit or loss attributable to ordinary equity holders;
- Any interest recognized in the period related to dilutive potential ordinary shares; and
- Any other changes in income or expense that would result from the conversion of the dilutive potential ordinary shares.

Retrospective Adjustments: If the number of ordinary or potential ordinary shares outstanding increases as a result of a capitalization, bonus issue or share split, or decreases as a result of a reverse share split, the calculation of basic and diluted earnings per share for all periods presented shall be adjusted retrospectively.

Basic and diluted EPS are also adjusted for the effects of errors and adjustments resulting from changes in accounting policies, accounted for retrospectively.

Disclosure:

- The amounts used as the numerators in calculating basic and diluted EPS, and a reconciliation of those amounts to profit or loss attributable to the parent entity for the period.
- The weighted average number of ordinary shares used as the denominator in calculating basic and diluted EPS, and a reconciliation of these denominators to each other.
- Instruments (including contingently issuable shares) that could potentially dilute basic earnings per share in the future, but were not included in the calculation of diluted EPS because they are antidilutive for the period(s) presented.
- A description of those ordinary share transactions or potential ordinary share transactions that occur after the balance sheet date and that would have changed significantly the number of ordinary shares or potential ordinary shares outstanding at the end of the period if those transactions had occurred before the end of the reporting period. Examples include issues and redemptions of ordinary shares, warrants and options, conversions, and exercises.
- An entity is permitted to disclose amounts per share other than profit or loss from continuing operations, discontinued operations, and net profit or loss earnings per share. Guidance for calculating and presenting such amounts is included in:

Note: AS-20 is similar to IAS 33 except for the following:

IAS-33	AS-20
IAS 33 requires separate disclosure of basic and diluted EPS for continuing operations and discontinued operations.	AS 20 does not requires any such separate computation or disclosure.

Ratio and Financial Analysis

IAS 33 deals with computation of EPS in case of Share based payment transactions.	AS 20 does not contain any such provision.
IAS 33 prescribes treatment of written put options and forward purchase contracts in computing EPS.	AS 20 is silent on this aspect.
IAS 33 requires changes in accounting policy to be given retrospective effect for computing EPS, which means EPS to be adjusted for prior periods presented.	AS 20 does not prescribe such treatment.
IAS 23 does not require disclosure of EPS with and without extra-ordinary item.	AS 20 requires EPS/DPS with and without extra-ordinary items to be disclosed separately.
The treatment of application money held pending allotment is not dealt under IAS 33.	Application money held pending allotment should be included in the computation of diluted EPS Under AS 20.
IAS 33 requires disclosure of anti-dilutive instruments even though they are ignored for the purpose of computing dilutive EPS.	AS 20 does not mandate such disclosure.
Disclosure of normal face value of share is not required under IAS 33.	Disclosure of normal face value is required under AS 20.

SUMMARY

- The analysis of a ratio gives the relationship between two variables at a point of time and over a period of time. There are three kinds of ratios and they are liquidity ratios, profitability ratios, ownership ratios. Liquidity ratios measure the short-term liquidity of the firm with the help of ratios like current ratio, quick ratio and turnover ratios. Profitability ratios measure the operational efficiency of the firm. They give the details of how efficient the firm is in applying its resources to get the maximum returns. Ownership ratios help the present or future stockholder in assessing the value of his investment. Earning ratios, leverage ratios (capital structure and coverage ratios) and dividend ratios fall into the category of ownership ratios. Leverage ratios measure the long-term solvency of the firm. They are further divided into capital structure ratios and coverage ratios.
- Du Pont analysis divides a particular ratio into components and studies the effect of each and every component on the ratio. Comparative analysis gives an idea where a firm stands across the industry and studies its financial trends over a period of time. The final step in analysis is the interpretation of the data and measures assembled as a basis for decision and action. This is the most important and difficult of the steps, and requires application of a great deal of judgment, skill, and effort.
- Though there are limitations to financial statement analysis, it is the only means by which the financial realities of an enterprise can be reduced to a common denominator that can be quantified and mathematically manipulated and projected in a rational and disciplined way.

Chapter III

Quality of Earnings and Earnings Management

After reading this chapter, you will be conversant with:

- Cash Flow Statement
- Sustainable Cash Flows
- Free Cash Flows
- Mis-Classifications of Cash Flows
- Data Issues in Analyzing Financial Statements
- Correction of Errors
- Effect of Alternative Accounting Policies on Financial Statements
- Earnings Management
- Earnings Quality
- Evaluating Earnings Quality

Introduction

Every financial analyst and potential investor is interested in ascertaining the earnings potential of the firm in which he intends to invest. The earnings potential of the firm is disclosed in the financial statements. Hence, only through an analysis of the amounts given in financial statements, one can derive conclusions about the earnings potential of the firm.

An analysis of the financial statements requires an understanding of their preparation. The preparation of the financial statements (Profit and loss account and Balance sheet) are based on a number of assumptions or allocations which are prone to the subjective judgement of the firm and which in turn enable the firm to manage its earnings. To ascertain whether such practices have been resorted to, the analyst needs to gauge or measure the quality of earnings projected by the firm.

“Quality of earnings can be defined as the amount of earnings attributable to higher sales or lower costs rather than artificial profits created by accounting anomalies.”

In measuring or valuing the quality of earnings, one important technique to be employed by the financial analyst is the analysis of cash flows. An analysis of cash flows becomes imperative as the traditional financial statements are prepared on the accrual basis and hence are not an indicator of the liquidity of the firm. Cash flow analysis can be drawn from Cash flow statement.

CASH FLOW STATEMENT

The cash flow statement provides information regarding the cash inflows and outflows of an organization during a particular period. It provides a valuable analytical tool for the users of financial statements. The cash flow statement avoids many of the allocations and estimations and personal judgments that are needed for conventional income statement preparation and hence is more objective and understandable than the traditional financial statements.

The cash flow statements are important from the view of investors and creditors because they provide vital information regarding the company's ability to generate future positive cash flows, meet obligations and pay dividends, satisfy its external financing. In United States, SFAS 95 as amended by SFAS 102 and SFAS 104 established the standards for cash flow reporting.

Measurement of Cash Flows

Cash flows, however, exclude movements between items that comprise cash or cash equivalents (for example, liquidation of short term investments on maturity) because these components are part of the cash management of an enterprise rather than part of its operating, investing or financing activities. Cash management includes the investment of excess cash in cash equivalents.

The measurement and reporting of cash flows become meaningful when the cash flows are classified into:

- Cash flows from investing activities.
- Cash Flows from financing activities.
- Cash flows from operating activities.

FINANCIAL ACTIVITIES

These consist of inflows and outflows of cash resulting from transactions affecting a firm's capital structure. These refer to the transactions the firm engages in, to acquire and repay capital. These activities include obtaining resources from and returning resources to owners, obtaining resources from creditors and repaying the amounts borrowed. The basic inflows include issuing equity instruments, issuing bonds, mortgages, notes and other long- and short-term borrowings. Basic cash

Quality of Earnings and Earnings Management

outflows include payments of dividends, distribution to owners, repayments of borrowed amounts and payments to other creditors who have given long-term credit.

Box 1: Cash Inflows and Cash Outflows from Financing Activities at a Glance

Cash Inflows	Cash Outflows
<ul style="list-style-type: none">• Proceeds from issuing firm's own equity securities• Proceeds from borrowings	<ul style="list-style-type: none">• Repayment of debt• Repurchase of a firm's own shares• Payment of dividends

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INVESTING ACTIVITIES

These consist of inflows and outflows of cash resulting from the acquisition or disposal of long-lived assets and certain investments. These refer to the transactions the firm engages in which affect their investments in non-current assets. These activities include acquisition and disposition of long-term productive assets and securities that are not considered as cash or its equivalent. It also involves collecting loans and disposing debts, equity instruments, plant and equipment and other productive assets held or used in the production of goods and services by the enterprise. Acquiring and disposing of certain loans and debts that are acquired especially for resale are not considered as investing activities. The basic inflows under this head include receipts from collection of or sale of loans and of others' debt instruments, sale of equity instruments, sale of property, plant and equipment and other productive assets and the major outflows would be in the form of payment of loans and acquisition of debt or equity instruments of other entities and payments made to acquire property, plant and equipment and other productive assets.

Box 2: Cash Inflows and Outflows from Investing Activities at a Glance

Cash Inflows	Cash Outflows
<ul style="list-style-type: none">• Sale of long lived assets• sale of debt or equity securities of other entities• Returns from loans advanced	<ul style="list-style-type: none">• Acquisition of long lived assets• Purchase of debt or equity securities of other entities• loans advanced to others

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As per US GAAP, Investing activities include the acquisition and disposition of long term productive assets and securities held in available-for-sale or held-to-maturity portfolios that are not considered cash equivalents. Investing activities also include the lending of money and collection of loans. However, as per SFAS 102, as amended by SFAS 115, cash flows are classified as operating cash flows if originating from the purchase or selling of loans, debts or equity instruments acquired specifically for resale and carried at market value in a trading account.

OPERATING ACTIVITIES

These consist of inflows and outflows of cash resulting from transactions that affect a firm's net income. This is the residuary head which includes the transactions which are not classified as financing and investing activities and generally involved in producing and delivering goods or providing services and termed as operating activities. The major inflows under this head would include revenues from sale of goods and services including collection or sale of accounts and short-term and long-term notes arising from such sales, returns on loans, debt instruments of other entities and equity securities and all others not classified as

investing or financing activities. The major cash outflows would be in the form of payments for materials required for manufacturing activities and for purchase of inputs required for provision of other goods and services, payment to governments for taxes, duties, fines and other penalties, payment to lenders and others for interest and all other cash payments not classified as investing or financing activities.

Box 3: Cash Inflows and Cash Outflows from Operating Activities

Cash Inflows	Cash outflows
<ul style="list-style-type: none"> • Sales of goods • Revenue from services • Royalties, fees, commission • Interest and Dividend received • Other incomes 	<ul style="list-style-type: none"> • Payments for purchases of inventories • Payments for operating expenses • Payments to employees • Interest paid • Payments for future contracts • Payments for taxes

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Internationally, Companies outside US, prepare Cash flow Statements in accordance with IAS 7. In India, Cash Flow Statements are prepared in accordance with AS 3. Similar, to USGAAP, cash flows have been divided into cash flows from operating activities, cash flows from investing activities, cash flows from financing activities.

Operating activities are the principal revenue producing activities of the enterprise and other activities that are neither investing nor financial activities.

Investing activities are the acquisition and disposal of long-term assets and other investments not included in cash equivalents.

Financing activities are activities that result in change in the size and composition of the equity capital and borrowings of the enterprise.

ANALYSIS OF CASH FLOWS

When analyzing the cash flows of enterprises it should be understood that certain differences exist between the USGAAP and IAS.

The FASB has given certain items that might fit logically in more than one of the major categories of the Cash Flow Statement.

- Interest paid:** It could be presented as an operating activity despite the fact that dividend paid are presented as financing activity.
- Interest and dividend received:** This is considered as an operating activity despite its close association with other activities considered as investment activities.
- Gains and losses on asset and liability transactions:** These are considered as investing and financing activities in the cash flow statement, although the gain or loss is included in the computation of net profit or loss.
- Income taxes:** These are considered entirely as operating activities.

IASB requires certain items the following items to be treated as follows:

- Interest Paid:** Two alternative treatments are allowed, one which requires interest paid to be considered as operating cash flow because they enter into determination of net profit. Another allowable treatment is to treat interest paid as financing cash flows since they are cost of obtaining financial resources.
- Interest and dividend received:** In this case too, two alternative treatments exist, one which requires interest paid to be considered as operating cash flow

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because they enter into determination of net profit. Another to treat them as investing cash flows since they are returns on investment.

iii. **Gains and Losses on asset and liabilities transactions:** Similar to USGAAP, these are considered as investing and financing activities in the cash flow statement, although the gain or loss is included in the computation of net profit or loss.

iv. **Income Taxes:** Cash flows arising from taxes on income will be treated as operating activities unless they can be specifically identified as financing and investing activities.

INVESTING CASH FLOWS

As per Accounting Standard-3 and IAS, investing activities are activities related to acquisition and disposal of long-term assets and other investments (except those included in cash equivalents). An analysis of cash flows from investing activities is important as they indicate the extent to which expenditures have been made for resources which have the effect of generating future income and cash flows.

A few activities which are classified as Investing Activities are:

- Cash payments for acquisition of fixed assets including intangibles.
- Cash receipts from disposal of fixed assets.
- Cash payments to acquire shares, warrants or debt instruments of other enterprises or interest in joint ventures (excluding those held for trading or dealing purposes or which are cash equivalents).
- Cash receipts from disposal of shares, warrants and debt instruments of other enterprises and interest in joint ventures (excluding those held for trading or dealing purposes or which are cash equivalents).
- Cash advances and loans to other parties (excluding loans made by the financial institutions in the ordinary course of business in which case they are treated as operating cash flow).
- Cash receipts from repayments of advances and loans made to third parties (excluding loans made by financial institutions in ordinary course of business which is operating cash flow).
- Cash payments for futures, swaps, forward and option contracts (excluding contracts held for dealing or trading purposes which are classified as financing activities).
- Cash receipts for futures, swaps, forward and option contracts (excluding contracts held for dealing or trading purposes which are classified as financing activities).

When a contract is accounted for as a hedge of an identifiable position, the cash flows of the contract are classified in the same manner as the cash flows of the position being hedged.

Box 1: Cash Inflows and Outflows from Investing Activities at a Glance

As per US GAAP, Investing activities include the acquisition and disposition of long-term productive assets and securities held in available-for-sale or held-to-maturity portfolios that are not considered cash equivalents. Investing activities also include the lending of money and collection of loans. However, as per SFAS 102, as amended by SFAS 115, cash flows are classified as operating cash flows if originating from the purchase or selling of loans, debts or equity instruments acquired specifically for resale and carried at market value in a trading account.

FINANCING CASH FLOWS

These cash flows relate to financing of the company. These activities are basically related to the changes in capital and borrowing of the enterprise which affect flow

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of cash. They account for cash flows generated from issue of shares, issue of debentures, loans raised, redemption of debentures, repayment of loans etc. Redemption of shares and repayment of borrowings results in outflow of cash. Thus, inflows and outflows related to the amount of capital and borrowings of the enterprise are shown under this head and the net effect of these investing activities is determined. A disclosure of the cash from financing activities helps in predicting the claims of the providers of finance on the future cash flows of the company.

Box 2: Cash Inflows and Cash Outflows from Financing Activities at a Glance

OPERATING CASH FLOWS

Operating activities may be described as the principal revenue producing activities of the enterprise and other activities that are not investing or financing activities. These cash flows refer to cash generated from or used in the core business activities of the enterprise. The net cash flow from operating activities thus represent the cash surplus or deficit for the period that results from the items that normally make up the operating profit in the profit and loss account.

The cash flows from operating activities comprises of:

- Cash receipts from sales of goods and rendering of services.
- Cash receipts from royalties, fees, commission and other revenue.
- Cash payments to suppliers for goods and services.
- Cash payment to and on behalf of employees.
- Cash receipts and cash payments of an insurance enterprise for premiums and claims, annuities and other policy benefits.
- Cash payments or refunds of income taxes unless they can be specifically identified with financing and investing activities.
- Cash receipts and payments relating to future contracts, forward contracts, option contracts and swap contracts when the contracts are held for dealing or trading purposes.

Some transactions, such as the sale of an item or plant, may give rise to a gain or loss which is included in the determination of net profit or loss. However, the cash flows relating to such transactions are cash flows from investing activities.

An enterprise may hold securities and loans for dealing or trading purposes, in which case they are similar to inventory acquired specifically for resale. Therefore, cash flows arising from the purchase and sale of dealing or trading securities are classified as operating activities. Similarly, cash advances and loans made by financial enterprises are usually classified as operating activities since they relate to the main revenue producing activity of that enterprise.

Box 3: Cash inflows and Cash Outflows from Operating Activities

The FASB has given certain items that might fit logically in more than one of the major categories of the Cash Flow Statement.

Example of which are as under:

- i. **Interest paid:** It could be presented as an operating activity despite the fact that dividend paid are presented as financing activity.
- ii. **Interest and dividend received:** This is considered as an operating activity despite its close association with other activities considered as investment activities.
- iii. **Gains and losses on asset and liability transactions:** These are considered as investing and financing activities although the gain or loss is included in the net income.
- iv. **Income taxes:** These are considered entirely as operating activities though the gains and losses affecting them are presented as investing and financing activities.

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Operating Cash Flow and Net Income

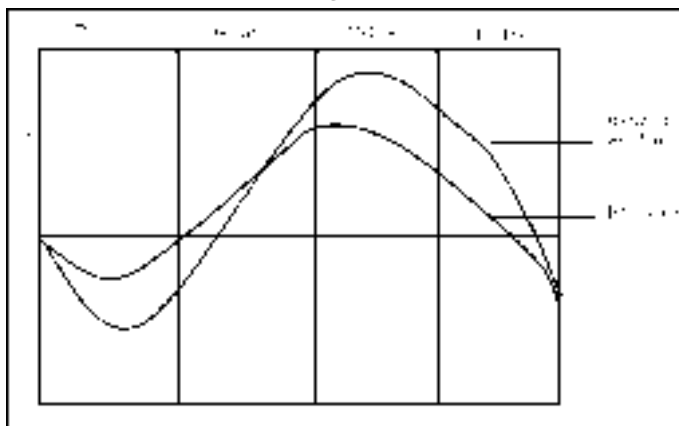
Operating cash flow represents the flow of cash from operating activities over a financial year while income represents the net earnings generated to the firm from its operations. The difference between the two occurs because of the use of accrual concept in determination of net income. The growth rates of operating cash flows and net income may more or less be stable in the long run but when viewed for a short period of time, they may represent a considerable divergence. This divergence can be attributed to the following reasons:

Seasonal fluctuations: Operating cash flows depend upon the seasonal fluctuations in demand for the products. For instance, in anticipation of a rainy season, a raincoat manufacturer may stock inventory. The increase in inventory ~~is a use of cash results in cash outflow and hence leading to decrease in net~~ operating cash flows ~~may reduce~~. Net income may be lower too but as the rainy season advents, it will show a sudden push upwards while the cash flows may take some time to increase as the debtors should be collected. This temporary period creates a divergence in the growth rates of net income and cash flows.

Business cycles: When there are changes in business cycles in an economy, the cash flows and net income may show divergence. For instance where an economy is in transition from recession to expansion, net income and cash flows improve as debts become collectible. But once again as expansion sets in, the firm, has to increase production which results in higher costs and lower revenues.

Product life cycle: The product life cycle stages also influence the growth rates of cash flows and net incomes. The following figure brings out the relationship between product life cycle and cash flows and net income through its different stages.

Figure 1



In the first stage of product life cycle referred to as Pioneer stage, the operating cash flows and net income will be negative as the operating expenses exceed the incomes. However, there will be a further fall in operating cash flows as the firm increases its accounts receivable. The net income recovers as the firm is able to generate sales.

During the growth phase of the product life cycle, revenues increase and expenses fall resulting in positive net incomes and cash flows. Initially the cash flows will grow at a lower pace than the net incomes but once the accounts receivables become collectible they exceed the net income figures.

Financial Statement Analysis

During the maturity stage also, the trend seen in the growth stage gets more stabilized. However towards the end of this stage we see a slow decline in net incomes as the firm recognizes non-cash expenses in the form of asset impairments.

In the last stage i.e., the stage of decline the net incomes once again become negative as also the cash flows. However, the cash flows decline at a slower pace initially until accounts receivables are realized and then follow the same trend as that of net income.

SUSTAINABLE CASH FLOWS

Operating cash flow is considered as the life blood of any business entity. In the words of Mulford and Comiskey, "Managers are well aware of the importance placed by analysts, investors and creditors on the operating cash flows figure. A boost in operating cash flows, even as total cash remains the same, communicates enhanced financial performance". Companies may thus resort to manipulating their operating cash flow figures to present a better picture.

Not only this, many a times a firm may report positive operating cash flows but its net income may be negative and vice versa.

A financial analyst cannot totally rely on the operating cash flow figure. It is for this purpose that an alternative operating cash flow calculation known as sustainable cash flows concept has emerged. Sustainable cash flows can be computed by deducting non recurring items from the cash flows. Thus sustainable cash flows can be defined as "cash flows devoid of non recurring items of revenue or gains and expenses or loss and which are most likely to be maintained in the future if the previous conditions persist."

FREE CASH FLOWS

Free cash flows are the discretionary cash flows that remain once the firm has replaced its productive capacity. Free cash flow is important to both investors and creditors. These are the cash flows that are available for distribution to all investors (stockholders and creditors) after paying current expenses, taxes and making the investments necessary for growth. They indicate the ability of the firm to meet ongoing financial and operational commitments and above all, its ability to finance growth.

The basic definition used by many analysts to compute free cash flows is cash from operations less the amount of capital expenditures required to maintain the firm's productive capacity. These expenditures may include growth oriented capital expenditures and acquisitions, debt reductions and stock holder payments.

Free cash flow = Operating cash flow – net capital expenditures

Where,

Net capital expenditures = Total capital expenditures – after tax proceeds from asset sales

The larger the firm's free cash flows, the healthier it is because it has more cash available for growth, debt payment and dividends.

Interpretation of Free Cash Flows

Free cash flows for investors: Free cash flows computation is helpful to the investors in ascertaining the cash flow that can be distributed to them as dividends. These cash flows are ascertained after deducting capital expenditures. While certain investors consider capital expenditures as the amounts which replace productive capacity, others consider them as amounts meant for expected growth. Sometimes, if free cash flows are computed for the purpose of equity shareholders, then preference dividends need to be deducted.

Free cash flows for creditors: Creditors are also interested in cash flows as this represent the amount available with the firm for repayments to creditors. To find out free cash flows for creditors, cash flows before interest is calculated.

MIS-CLASSIFICATION OF CASH FLOWS

To compute sustainable cash flows any misrepresentations of a firm's cash flows need to be adjusted. Mis-representations arise basically due to mis-classifications of cash flows into operating, financing and investing activities. Some of these misclassifications may occur within the purview of GAAP rules while others may not.

Sometimes misclassifications may be deliberately resorted to by the shareholders, creditors and employees. Such deliberate mis-classifications may be done by shareholders to inflate share prices while creditors may resort to such practices to boost borrowing capacity and employees for the purpose of securing higher incentive payments.

Let us analyze how these mis-classifications are resorted to by the companies:

Mis-classification of Investing Cash Flows and Operating Cash Flows

- a. **Cash held for a specific purpose:** Sometimes a firm either out of legal compulsion or necessity may earmark certain amount of cash to be applied for a specific purpose. The treatment of such cash in a cash flow statement poses a difficulty and leads to cases of mis-classification. Usually such cash is to be classified based on the nature of the purpose for which it is set aside. For instance, if there is a fire accident in a plant and the firm's creditors require the insurance claim amount to be set aside for plant replacement, then the amount needs to be classified as investing cash flow.
- b. **Assets held for sale and also held for use:** Usually in a cash flow statement, assets held for sale is shown as operating cash flows and assets held for use as investing cash flows. But sometimes an asset may be both held for sale and held for use. For instance, a flat sold by a rental agency on rent cum ownership agreement. The transaction though on rental basis amounts to sale of the asset and hence is to be treated as investing activity and not operating activity.
- c. **Capitalization of operating expenses:** Generally only expenses which derive long term future benefits need to be capitalized. But sometimes operating expenses also may be capitalized. This ambiguity arises in case of expenses such as preliminary expenses, interest expense during construction period, software development cost, exploration cost etc. For instance, in case of interest expense on asset being constructed for own use is capitalized where as the interest expense after completion of construction is treated as revenue expenditure. The capitalized interest cost can be classified as investing or operating cash flows depending upon the nature of the asset being constructed.
- d. **Investments:** Normally the investment in trading securities is treated as operating cash flow and investment in non trading securities is treated as investing cash flows. This classification is appropriate for financial institutions. But when we take the case of non financial institutions, all investments (whether they are trading or non trading) are basically investing activities only.
- e. **Accounts receivables:** The changes in accounts receivables are shown as operating cash flows while notes receivables which represent more long term accounts receivable accounts are also shown as operating cash flows under US GAAP. However, in some firms notes receivables are shown as investing activities. This ambiguity in classification of notes receivables may affect the operating cash flows amount.
- f. **Insurance settlements:** Though the purchase of fixed asset is classified as investing cash flows, any amount received from the insurance company as settlement for the fixed asset destroyed is shown as an operating activity. This approach unnecessarily boosts the operating cash flow.

- g. **Acquisitions:** The acquisition cost is taken as investing cash flows. Even though the firm may acquire inventory or accounts receivables, they are not reported in the operating cash flows. When this inventory is sold or debtors are collected, it is shown as an operating cash flow thereby creating a mismatch in the treatment of acquisition item in the cash flow statement.

Mis-classification of Financing and Operating Cash Flows

- a. **Stock options:** The amounts received from the exercise of stock options or warrants are shown as financing activities. A firm buys a call option on its own stock with the purpose of locking in the repurchase price of the firm's shares. At the same time, the firm may sell a put option on its stock. By selling the put, the firm decreases its cost of purchasing the call option. These transactions are shown as financing activities instead of classifying them as operating activities.
- b. **Loans procured from shareholders:** Loans taken from shareholders is shown as financing activity where as any payment made to a shareholder for any services rendered by him (such as consultation) is shown as operating cash flow.
- c. **Payment of dividends:** Though both interest paid and dividends paid are payments made to providers of capital, interest paid is shown as an operating activity while dividends paid is shown as financing activity.
- d. **Bank overdrafts:** Bank overdraft is a short term loan which is given by the banker to the firm as part of a pre arranged line of credit under circumstances when the firm is experiencing short term deficiency of funds. Some firms report bank overdraft as a part of accounts payable and shown it in operating activities, while the correct approach is to classify it as financing cash flows.
- e. **Advance payment by customers:** Any amounts received as advance payment by the customers for purchase of goods by them is to be shown as deferred revenue and taken as an operating cash flow. Increasing amount of deferred revenue may push up the operating profit though some of it may not be sustainable revenue.
- f. **Financing of Accounts receivables:** Firms can resort to financing their accounts receivables in two ways – either by borrowing against receivables or by selling or securitizing the accounts receivables. Borrowing against accounts receivables is shown as financing activity while selling them is shown as operating activity. The securitization of accounts receivables as operating cash flows amounts to inflating the operating cash flows in the present.

DATA ISSUES IN ANALYZING FINANCIAL STATEMENTS

Data issues in analyzing financial statements deal with issues that affect the quality of data presented in the financial statements. As already mentioned at the beginning of the chapter, Accounting involves the use of estimations and assumptions which are vulnerable to subjective judgement. For instance, under US GAAP, the firm is granted the flexibility of choosing from different alternative methods for some items such as cost flow assumptions used in accounting for inventories and cost of sales, methods of depreciation of long lived assets and methods of identifying operating segments. However, it has been made very clear that the choice of a method should result in better presentation and transparency in financial statements.

The alternative treatment of such items have been frequently used to manipulate the data in the financial statements. Such manipulation has had a considerable effect on the financial statements and earnings quality. The major areas where such manipulations are possible can be classified as:

- Treatment of Non-recurring income items.
- Income from continuing operations.

- Incomes, gains and losses from discontinued operations.
- Extraordinary items.
- Adjustments for changes in accounting policies.
- Changes in accounting estimates.

Treatment of Non-recurring Items

Items that are unusual or infrequent are presented in a separate section in the income statement above income from extraordinary items. Non-recurring incomes refer to incomes that are not normally arising from the usual operations of the firm. These are only rare or one time incomes and are in the nature of infrequent transaction. ~~Unusual examples include gains or losses from sale of assets or investments or restructuring of the business-restructuring charges. A restructuring charge includes charges incurred on sale or termination of a line of business, charges due to relocation of business activities, charges incurred on fundamental reorganization that affect the nature and focus of operations. The liability for a cost associated with exit or disposal activities is recognized and measured initially at fair value in the period in which the liability is incurred. As per US GAAP, these are shown as separate component of the income statement (APB-30). And included in income from continuing operations before income taxes.~~

Internationally the ~~treatment of non-recurring income is similar. Examples are gains or losses from sale of assets or investments or restructuring charges. These are normally reported as a sub-section of income from operating activities and on a pre-tax basis. A similar treatment is given under AS-5 (Net profit or loss for the period, prior period items and changes in Accounting Policies), and also IAS.~~ However, the actual treatment of these incomes may differ from one company to another.

Analyst's Interpretation: An analyst in interpreting the financial statements must identify nonrecurring items which are by their very nature infrequent. All the non-recurring items do not affect the operating cash flows since as per accrual method an item may be recognized even before the cash flowing from it is affected. For example, recognition of an impairment of asset. Non-recurring items can be identified on the examination of income statement, operating activities section of cash flow, footnotes and Management's discussion and analysis. Once a non-recurring item has been identified in the income statement, the analyst requires to determine if or when the operating cash flow actually occurs. This is referred to as cash flow tracking. An analyst needs to adjust GAAP net income for the effects of non-recurring cash flow items. The adjusted net income is referred to as pro-forma or sustainable earnings. Adjustments are also made for non-recurring transactions that affect operating cash flow.

Income from Continuing Operations

The income from continuing operations includes all revenues, expenses, gains and losses of the usual operating activities of the concern. These items are recurring in nature. The following items are included within the income from continuing operations:

- Sales or service revenues are charges to customers for the goods and/or services rendered during a period. This item also includes information about discounts, allowances and returns in order to determine net sales or net revenues.
- Cost of goods sold is the cost of inventory items sold during the period. In the case of a merchandising firm, net purchases (purchases less discounts, returns, and allowances plus freight-in) are added to beginning inventory to get cost of goods available for sale. From the cost of goods available for sale amount, the ending inventory is deducted to get cost of goods sold.
- Operating expenses are primary recurring costs associated with central operations (other than cost of goods sold) that are incurred in order to generate

Financial Statement Analysis

sales. Operating expenses are normally reported in the following two categories: (a) Selling expenses and (b) General and administrative expenses.

- iv. Gains and losses result from the peripheral transaction of the entity. If immaterial, they are usually combined and shown with the normal, recurring revenues and expenses.
- v. Other revenues and expenses are revenues and expenses not related to the central operations of the company.
- vi. Goodwill impairment losses are presented as a separate line item in the income from continuing operations section. SFAS 142 prohibits the amortization of goodwill and instead requires that goodwill be tested for impairment at least annually. If goodwill is found to be impaired, it is to be written down to fair value. The resultant loss is included in the operations section of the income statement. However, if a goodwill impairment loss is associated with a discontinued operation, the loss is included within the results of discontinued operations.
- vii. Exit or disposal activity costs are included in income from continuing operations before income taxes. Exit or disposal activities are restructurings and other activities that materially change the scope of business undertaken by an entity or the manner in which a business is conducted.
- viii. Income tax expense related to continuing operations is that portion of the total income tax expense applicable to continuing operations.

Box 4

Box-4

The major components of an income from continuing operations are as follows:

- a. Sales or revenues
- b. Cost of goods sold
- c. Operating expenses:
 - Selling expenses
 - General and administrative expenses
- d. Gains and losses
- e. Other revenue and expenses
- f. Unusual and infrequent items
- g. Income tax expenses relating to continuing operations.

To identify any alternative treatments in computing income from continuing operations, the analyst should look into the various expenses and incomes. A detailed study of the notes to accounts would also give the required information.

Discontinued Operations

The loss from Discontinued operations includes the loss or income of the component for the period and the gain or loss on its disposal. To qualify treatment as discontinued operations the asset must comprise a component of the entity with operations and cash flows that are clearly distinguished, operationally and for financial reporting purposes, from the rest of the entity.

Component of an entity for this purpose includes a reportable segment, an operating segment, a reporting unit, a subsidiary, an asset group. A reportable segment is a segment considered to be significant to an enterprise's operations; a segment that has passed one of three 10% tests as stated under SFAS 131 or has been identified as being reportable through other criteria. A operating segment, is a component of an enterprise that may earn revenues and incur expenses and about

Quality of Earnings and Earnings Management

which separate financial information is available and is evaluated regularly by the chief operating decision maker in deciding how to allocate resources and in assessing performance. A reporting unit, is an operating segment or one level below an operating segment.

Also, to be reported as discontinued operations, it requires that

- i. The operations and cash flows of the component have been eliminated from the ongoing operations of the entity as a result of the component have been eliminated from the ongoing operations of the entity as a result of the disposal.
- ii. The entity will not have any significant involvement in the operations of the component after disposal.

Most of the assets disposed as discontinued operations are long-lived assets. For a component to be classified as discontinued operations in the first, the following criteria is to be met as being 'held for sale'.

- a. Management commitment to a plan of disposal
- b. The asset is available for sale
- c. The enterprise has initiated an active effort to locate a buyer
- d. There is a probable sale.
- e. There is an active market for the sale of the asset at a fair price
- f. It is unlikely that the disposal plan will significantly change.

Long lived assets classified as 'held for sale' are reported as lower of carrying amounts or net fair value (fair value less cost to sell).

Where the component is classified as 'held for sale' is a particular period and in the same period the disposal actually occurs then the gain or loss on disposal of discontinued operations is the actual gain or loss.

Where the component is classified as 'held for sale' in a period prior to the period in which the actual disposal takes place then the amount of loss on disposal is an estimated loss resulting from the write-down of the group of assets to their estimated fair values. On the other hand estimated gains cannot be recognised. However, if the same 'held for sale' is held for several reporting periods, then a gain may be recognised to the extent of losses previously recognised for the same asset based on the information.

In the income statement presentation, the revenues, cost of goods sold and operating expenses including income taxes for the discontinued operations are removed from the revenues, cost of goods sold, and operating expenses of continuing operations and are netted into one figure.

would refer to those separate identifiable segments of the business which are being disposed of. The income statement should disclose the income (loss) from operations and the gain (loss) on disposal. The former is disclosed for the current year only if the decision to discontinue operations is made after the beginning of the financial year for which the financial statements are being prepared. The second segment would consist of income (loss) from operations during the phased out period and gain (loss) from disposal of segment assets. After the determination of the discontinued operations, the results of the discontinued segments must be segregated from the normal recurring operations. The maximum allocation cannot exceed the total of (a) interest on debt of the discontinued operation assumed by the buyer, and (b) an allocated share of other interest not attributable to any other operations. If a loss is estimated from the proposed sale or abandonment of a segment, the estimated loss should be provided for at the measurement date. When a gain is expected, it should be recognized on its realization which generally is the disposal date. The results of discontinued operations should be disclosed

separately as a component of income before extraordinary items and the cumulative effect of accounting changes. Special rules apply for situations in which disposal date occurs after the measurement date. The main problem would be that of estimating the unrealized gains (loss) on disposal for that period which is in the next year and comparing it with the actuals on disposal that has already been realized at the end of the preceding year when the financial statements are prepared. The following rules would be applicable in such situations:

- i. A realized loss on disposal may be increased by an estimated loss, or it may be reduced by an estimated gain (but only to zero).
- ii. A realized gain on disposal may be reduced by an estimated loss but cannot be increased due to an estimated gain.

In addition to the amounts that should be disclosed in the financial statements, the notes to financial statements for the period encompassing the measurement date should disclose the following:

- i. The identity of the business segment that has been or will be discontinued.
- ii. The expected disposal date.
- iii. The expected manner of disposal.
- iv. A description of the remaining assets and liabilities of the segment of the balance sheet.
- v. The income or loss from operations and any proceeds from the disposal of the segment during the period from the measurement date to the balance sheet date.

Accounting treatment for discontinued operations is dealt with under IAS 35. A summary of this statement is given under

Box 5: A Summary of IAS 35 – Discontinued Operations

Box 5

Objective of IAS – 35

The objective of IAS 35 is to establish principles for reporting information about discontinuing activities, thereby enhancing the ability of users of financial statements to make projections of an enterprise's cash flows, earnings generating capacity and financial position, by segregating information about discontinuing operations from information about continuing operations. The standard does not establish any recognition or measurement principles in relation to discontinuing operations. In particular IAS 35 provides guidance on how to apply IAS 36 (impairment of assets) and IAS 37 (provisions, contingent liabilities and contingent assets) to a discontinuing operation.

Discontinuing operation defined

A relatively large component of a business enterprise such as a business or geographical segment under IAS 14 (segment reporting) that the enterprise, pursuant to a single plan, either in disposing of substantially in its entirety or is terminating through abandonment or piece meal sale.

Disclosure under IAS 35

The following should be disclosed:

- A description of the discontinuing operation;
- The business or geographical segment in which it is reported in accordance with IAS 14;
- The date that the plan for discontinuance was announced;
- The timing of expected completion, if known or determinable;
- The carrying amounts of the total assets and the total liabilities to be

disposed of;

- The amounts of revenue, expenses and pre-tax operating profit or loss attributable to the discontinuing operation; and related income tax expense;
- The amount of gain or loss recognized on the disposal of assets or settlement of liabilities attributable to the discontinuing operation and related income tax expense;
- The net cash flows attributable to the operating, investing and financing activities of the discontinuing operations;
- The net selling prices received or expected from the sale of those net assets for which the enterprise has entered into one or more binding sale agreements, and the expected timing thereof, and the carrying amounts of those net assets.

How to Disclose?

The disclosures may be, but need not be shown on the face of the financial statements. Only the gain or loss on actual disposal of assets and settlement of liabilities must be on the face of the income statement. IAS 35 does not prescribe a particular format for the disclosures. Among the acceptable ways are:

- a. Separate columns in the financial statements for continuing and discontinuing operations.
- b. One column but separate sections (with sub totals) for continuing and discontinuing operations within that single column.
- c. One or more separate line items for discontinuing operations on the face of the financial statements with detailed disclosures about discontinuing operations in the notes.

Analyst's Interpretation: An analyst needs to be extremely careful about income from discontinuing operations as these represent incomes which are no longer available. Hence, they should be separated from income from operations to identify the sustainable income. This separation should be done from the date of the decision to dispose off or discontinue operations in that division.

Extraordinary Items

Both the following criteria should be met in order to consider an item as an extraordinary item under US GAAP. APB 30, of US GAAP defines these criteria as follows:

Unusual Nature

The underlying event or transaction should possess a high degree of abnormality and be of a type clearly unrelated to, or only incidentally related to, the ordinary and typical activities of the entity, taking into account the environment in which the entity operates.

Special characteristics of the entity include the following:

- i. Type and scope of operations.
- ii. Lines of business.
- iii. Operating policies.

Infrequency of Operations

The underlying event or transaction should be a type that would not reasonably be expected to recur in the foreseeable future, taking into account the environment in which the entity operates.

In addition accounting pronouncements have specifically mentioned that the following items should be disclosed as extraordinary:

- i. Material gains and losses from extinguishment of debt.
- ii. Profit or loss from the disposal of a significant part of assets or a separable segment of previously separate companies, provided the profit or loss is material and the disposal is within 2 years after a pooling of interest.
- iii. Write-off operating rights of motor carriers.
- iv. The investor's share of an investee's extraordinary item when the investor uses the equity method of accounting for the investee.
- v. Gains of a debtor related to a troubled debt restructuring.

Box 6:

Extraordinary Items as per IAS-8

IAS 8 defines extra ordinary items as "incomes or expenses that arise from events or transactions that are clearly distinct from the ordinary activities of the enterprise and therefore are not expected to recur frequently or regularly".

According to IASB virtually all items of income and expense arise in the course of the ordinary activities of the enterprise. Extraordinary items are thus rare. IAS 8 gives examples of only two extra ordinary items:

- The expropriation of assets.
- A natural disaster.

AS-5 which deals with extra-ordinary items in Indian context gives a similar definition as IAS 8 as far as the extra ordinary items are concerned but at the same time also points out that an event or transaction may be extra-ordinary for one enterprise but not so for an other enterprise. For instance, losses sustained as a result of an earthquake may qualify as an extraordinary item for many enterprises. However, claims from policy holders arising from an earth quake do not qualify as an extra-ordinary item for an insurance enterprise that insures against such risks.

Extraordinary items should be segregated from the results of ordinary operations and be shown net of taxes in a separate section of the income statements. The major difference between extraordinary items and non-recurring items is that extraordinary items are reported net of taxes after operating income whereas non-recurring items are reported as part of operating activities.

Analysts Interpretation: According to US GAAP, IAS and Indian Accounting Standards, there is a high degree of flexibility given to the firms in the classification of extra ordinary items. An analyst needs to be cautious to analyze the treatment of these items in the financial statements. Even though unusual or infrequent items are shown as part of income from continuing operations, the analyst should find out whether they can be so included or not. Sometimes the management may not segregate these items but include them as part of operating

expenses. The analyst to find out such an anomaly should study carefully the Management Discussion and Analysis (MD&A) and the Notes to Accounts.

Changes in Accounting Policies

In accordance with APB 20 of US GAAP, changes in accounting policies / principles means a switch from one generally accepted accounting principle to another generally accepted accounting principle, including the methods of applying the principles. This does not include selection and adoption of an accounting principle to account for types of events occurring for the first time.

According to US GAAP there are three different ways in which the changes in the accounting principles can be reported according to the type of the change for which each should be used. These are:

- i. Retroactively.
- ii. Currently.
- iii. Prospectively.

In the case of retroactive changes, the treatment would require an adjustment to all the current and the prior period financial statements for the effect of the accounting change. The prior period financial statements presented currently are to be restated on the basis which is consistent with the newly adopted accounting principle. In the case of the current treatment it would be requiring the reporting of the cumulative effect of the accounting change in the current year's income statement as special item. The prior period's accounting statements are not required to be restated. In the case of the prospective treatment, the accounting changes do not require that the prior period financial statements are to be restated as also does not require the computing or reporting of the accounting change's cumulative effect in the current period financial statements. Only the current and the future period's financial report data would be reflecting the accounting change.

As per Indian Accounting Standard-5, changes in accounting policies which have a material effect on the financial statements should be disclosed. The impact of, and the adjustments resulting from, such change, if material, should be shown in the financial statements of the period in which such change is made, to reflect the effect of such change. Where the effect of such change is not ascertainable, wholly or in part, the fact should be disclosed.

Changes in Accounting Estimates

The preparation of financial statements requires frequent use of estimates for such items as asset service lives, salvage values, lease residuals, asset impairments, collectibility of accounts receivable, warranty costs, pension costs etc. Future conditions and events that effect these estimates cannot be estimated with accuracy. Therefore, changes in estimates is inevitable as new information and more experience is obtained. US GAAP requires that changes in estimates be handled currently and prospectively. "The effect of the change in accounting estimate is accounted for in (i) the period of change if the change affects that period only or (ii) the period of change and future periods if the change affects both".

The Board concluded that a change in accounting estimate that is affected by a change in accounting principle be reported as a change in accounting estimate.

However, the change should be clearly indistinguishable to be combined. The AS-5 also has a similar treatment regarding changes in accounting estimates.

Box 7: Summary of IAS-8 (Revised) on Accounting for Changes in Accounting Policies and Estimates

Changes in Accounting Estimates

- ~~23~~ As a result of the uncertainties inherent in business activities, many financial statement items cannot be measured with precision but can only be estimated. The estimation process involves judgments based on the latest information available. Estimates may be required, for example, of bad debts, inventory obsolescence or the useful lives or expected pattern of consumption of economic benefits of depreciable assets. The use of reasonable estimates is an essential part of the preparation of financial statements and does not undermine their reliability.
- ~~24~~ An estimate may have to be revised if changes occur regarding the circumstances on which the estimate was based or as a result of new information, more experience or subsequent developments. By its nature, the revision of the estimate does not bring the adjustment within the definitions of an extraordinary item or a fundamental error.
- ~~25~~ Sometimes, it is difficult to distinguish between a change in accounting policy and a change in an accounting estimate. In such cases, the change is treated as a change in an accounting estimate, with appropriate disclosure.
- ~~26~~ The effect of a change in an accounting estimate should be included in the determination of net profit or loss in:
 - a. The period of the change, if the change affects the period only; or
 - b. The period of the change and future periods, if the change affects both.
- ~~27~~ A change in an accounting estimate may affect the current period only or both the current period and future periods. For example, a change in the estimate of the amount of bad debts affects only the current period and, therefore, is recognized immediately. However, a change in the estimated useful life or the expected pattern of consumption of economic benefits of a depreciable asset affects the depreciation expense in the current period and in each period during the remaining useful life of the asset. In both cases, the effect of the change relating to the current period is recognized as income or expense in the current period. The effect, if any, on future periods is recognized in future periods.
- ~~28~~ The effect of a change in an accounting estimate should be included in the same income statement classification as was used previously for the estimate.
- ~~29~~ To ensure the comparability of financial statements of different periods, the effect of a change in an accounting estimate for estimates which were previously included in the profit or loss from ordinary activities is included in that component of net profit or loss. The effect of a change in an accounting estimate for an estimate which was previously included as an extraordinary item is reported as an extraordinary item.
- ~~30~~ The nature and amount of a change in an accounting estimate that has a material effect in the current period or which is expected to have a material effect in subsequent periods should be disclosed. If it is impracticable to quantify the amount, this fact should be disclosed.

Changes in Accounting Policies

- ~~41~~ Users need to be able to compare the financial statements of an enterprise over a period of time to identify trends in its financial position, performance and cash flows. Therefore, the same accounting policies are normally adopted in each period.
- ~~42~~ A change in accounting policy should be made only if required by statute, or by an accounting standard setting body, or if the change will result in a more appropriate presentation of events or transactions in the financial statements of the enterprise.

~~43~~ A more appropriate presentation of events or transactions in the financial statements occur when the new accounting policy results in more relevant or reliable information about the financial position, performance or cash flows of the enterprise.

~~44~~ The following are not changes in accounting policies:

- a. The adoption of an accounting policy for events or transactions that differ in substance from previously occurring events or transactions; and
- b. The adoption of a new accounting policy for events or transactions which did not occur previously or that were immaterial.

The initial adoption of a policy to carry assets at revalued amounts is a change in accounting policy but it is dealt with as a revaluation in accordance with International Accounting Standard IAS 16, Property, Plant and Equipment, or International Accounting Standard IAS 25, Accounting for Investments, as appropriate, rather than in accordance with this Standard. Therefore, paragraphs 49 to 57 of this Standard are not applicable to such changes in accounting policy.

~~45~~ A change in accounting policy is applied retrospectively or prospectively in accordance with the requirements of this Standard. Retrospective application results in the new accounting policy being applied to events and transactions as if the new accounting policy had always been in use. Therefore, the accounting policy is applied to events and transactions from the date of origin of such items. Prospective application means that the new accounting policy is applied to the events and transactions occurring after the date of the change. No adjustments relating to prior periods are made either to the opening balance of retained earnings or in reporting the net profit or loss for the current period because existing balances are not recalculated. However, the new accounting policy is applied to existing balances as from the date of the change. For example, an enterprise may decide to change its accounting policy for borrowing costs and capitalize those costs in conformity with the allowed alternative treatment in International Accounting Standard IAS 23, Borrowing Costs. Under prospective application, the new policy only applies to borrowing costs that are incurred after the date of the change in accounting policy.

Adoption of an International Accounting Standard

- **46A** A change in accounting policy which is made on the adoption of an International Accounting Standard should be accounted for in accordance with the specific transitional provisions, if any, in that International Accounting Standard. In the absence of any transitional provisions, the change in accounting policy should be applied in accordance with the benchmark treatment in paragraphs 49, 52 and 53 or the allowed alternative treatment in paragraph 54, 56 and 57.

47: The transitional provisions in an International Accounting Standard may require either a retrospective or a prospective application of a change in accounting policy.

- 48:** When an enterprise has not adopted a new International Accounting Standard which has been published by the International Accounting Standards Committee but which has not yet come into effect, the enterprise is encouraged to disclose the nature of the future change in accounting policy and an estimate of the effect of the change on its net profit or loss and financial position.

Other Changes in Accounting Policies-Benchmark Treatment

49: A change in accounting policy should be applied retrospectively unless the amount of any resulting adjustment that relates to prior periods is not reasonably determinable. Any resulting adjustment should be reported as an adjustment to the opening balance of retained earnings. Comparative information should be restated unless it is impracticable to do so.

50: The financial statements, including the comparative information for prior periods, are presented as if the new accounting policy had always been in use. Therefore, comparative information is restated in order to reflect the new accounting policy. The amount of the adjustment relating to periods prior to those included in the financial statements is adjusted against the opening balance of retained earnings of the earliest period presented. Any other information with respect to prior periods, such as historical summaries of financial data, is also restated.

51: The restatement of comparative information does not necessarily give rise to the amendment of financial statements which have been approved by shareholders or registered or filed with regulatory authorities. However, national laws may require the amendment of such financial statements.

52: The change in accounting policy should be applied prospectively when the amount of the adjustment to the opening balance of retained earnings required by paragraph 49 cannot be reasonably determined.

53: When a change in accounting policy has a material effect on the current period or any prior period presented, or may have a material effect in subsequent periods, an enterprise should disclose the following:

- The reasons for the change;
- The amount of the adjustment for the current period and for each period presented;
- The amount of the adjustment relating to periods prior to those included in the comparative information; and
- The fact that comparative information has been restated or that it is impracticable to do so.

Other Changes in Accounting Policies that Allow Alternative Treatment

54: A change in accounting policy should be applied retrospectively unless the amount of any resulting adjustment that relates to prior periods is not reasonably determinable. Any resulting adjustment should be included in the determination of the net profit or loss for the current period. Comparative information should be presented as reported in the financial statements of the prior period. Additional pro forma comparative information, prepared in accordance with paragraph 49, should be presented unless it is impracticable to do so.

- **55:** Adjustments resulting from a change in accounting policy are included in the determination of the net profit or loss for the period. However, additional comparative information is presented, often as separate columns, in order to show the net profit or loss and the financial position of the current period and any prior periods presented as if the new accounting policy had always been applied. It may be necessary to apply this accounting treatment in countries where the financial statements are required to include comparative information which agrees with the financial statements presented in prior periods.

56: The change in accounting policy should be applied prospectively when the amount to be included in net profit or loss for the current period required by paragraph 54 cannot be reasonably determined.

- **57:** When a change in accounting policy has a material effect on the current period or any prior period presented, or may have a material effect in subsequent periods, an enterprise should disclose the following:
 - a. The reasons for the change;
 - b. The amount of the adjustment recognized in net profit or loss in the current period;
 - c. The amount of the adjustment included in each period for which pro forma information is presented and the amount of the adjustment relating to periods prior to those included in the financial statements. If it is impracticable to present pro forma information, this fact should be disclosed.

CORRECTION OF ERRORS

An error in a previously issued financial statements may require a prior period adjustment by restating the financial statements. Prior period items are income or expenses which arise in the current period as a result of errors or omissions in the preparation of the financial statements of one or more prior periods. As per USGAAP, the cumulative effect of the error is reflected in the carrying value of assets and liabilities at the beginning of the first period presented, with an offsetting adjustment in the opening balance in retained earnings for that period. Financial statements for each period are then adjusted to reflect the correction of the period-specific effects of the error. Internationally, other than in US, they are referred to as Fundamental Errors.

Box 8: Summary of IAS-8 (Revised)

Provisions referring to Accounting for Fundamental Errors

Errors in the preparation of the financial statements of one or more prior periods may be discovered in the current period. Errors may occur as a result of mathematical mistakes, mistakes in applying accounting policies, misinterpretation of facts, fraud or oversights. The correction of these errors is normally included in the determination of net profit or loss for the current period. On rare occasions, an error has such a significant effect on the financial statements of one or more prior periods that those financial statements can no longer be considered to have been reliable at the date of their issue. These errors

are referred to as fundamental errors. An example of a fundamental error is the inclusion in the financial statements of a previous period of material amounts of work-in-progress and receivables in respect of fraudulent contracts which cannot be enforced. The correction of fundamental errors that relate to prior periods requires the restatement of the comparative information or the presentation of additional pro forma information.

The correction of fundamental errors can be distinguished from changes in accounting estimates. Accounting estimates by their nature are approximations that may need revision as additional information becomes known. For example, the gain or loss recognized on the outcome of a contingency which previously could not be estimated reliably does not constitute the correction of a fundamental error.

Benchmark Treatment

The amount of the correction of a fundamental error that relates to prior periods should be reported by adjusting the opening balance of retained earnings. Comparative information should be restated, unless it is impracticable to do so.

The financial statements, including the comparative information for prior periods are presented as if the fundamental error had been corrected in the period in which it was made. Therefore, the amount of the correction that relates to each period presented is included within the net profit or loss for that period. The amount of the correction relating to periods prior to those included in the comparative information in the financial statements is adjusted against the opening balance of retained earnings in the earliest period presented. Any other information reported with respect to prior periods, such as historical summaries of financial data, is also restated.

The restatement of comparative information does not necessarily give rise to the amendment of financial statements which have been approved by shareholders or registered or filed with regulatory authorities. However, national laws may require the amendment of such financial statements.

An enterprise should disclose the following:

- a. The nature of the fundamental error;
- b. The amount of the correction for the current period and for each prior period presented;
- c. The amount of the correction relating to periods prior to those included in the comparative information; and
- d. The fact that comparative information has been restated or that it is impracticable to do so.

Allowed Alternative Treatment

The amount of the correction of a fundamental error should be included in the determination of net profit or loss for the current period. Comparative information should be presented as reported in the financial statements of the prior period. Additional pro forma information, prepared in accordance with paragraph 34, should be presented unless it is impracticable to do so.

The correction of the fundamental error is included in the determination of the net profit or loss for the current period. However, additional information is presented, often as separate columns, to show the net profit or loss of the current period and any prior periods presented as if the fundamental error had been corrected in the period when it was made. It may be necessary to apply this accounting treatment in countries where the financial statements are required to include comparative information which agrees with the financial statements presented in prior periods.

An enterprise should disclose the following:

- a. The nature of the fundamental error;
- b. The amount of the correction recognized in net profit or loss for the

<p>current period; and</p> <p>e. The amount of the correction included in each period for which pro forma information is presented and the amount of the correction relating to periods prior to those included in the pro forma information. If it is impracticable to present pro forma information, this fact should be disclosed.</p> <p>Change in Reporting Entity</p> <p>A change in reporting entity refers to preparing financial statements for an entity different from the one reported in previous years. Examples of a change in reporting entity are</p> <ul style="list-style-type: none"> • Change in the subsidiaries making up consolidated financial statements • A business combination accounted for under the pooling-of-interests method • Presentation of consolidated or combined statements rather than individual company statements <p>A change in reporting entity requires the restatement of previous years' financial statements as if both of the previously separate companies were always combined. No more than five years are restated. The restatement is needed for comparative financial purposes and for meaningful historical trends. The impact of the change in reporting entity on income before extraordinary items, net income, and earnings per share is presented for all years.</p> <p>A change in the legal structure of a business is not considered a change in reporting entity. An example is a sole proprietorship becoming a corporation. Further, the purchase or sale of an investee is not a change in reporting entity.</p> <p>A footnote is required of the nature of and reason for the change in reporting entity in the year it is made.</p>	
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EFFECT OF ALTERNATIVE ACCOUNTING POLICIES ON FINANCIAL STATEMENTS

The items in ~~financial~~ financial statements for which companies can follow diverse accounting policies are as follows:

- Methods for determining the amount of depreciation and for estimation of useful life of assets.
- Treatment of expenditure during construction.
- Conversion or translation of foreign currency items.
- Valuation of inventories.
- Treatment of goodwill.
- Valuation of investments.
- Recognition of profits on long term contracts.
- Valuation of fixed assets.
- Treatment of contingent liabilities.
- Treatment of R&D costs.
- Recognition of unrealized revenues.
- Accounting for affiliates.
- Changes in accounting policies due to changes in accounting standards.

These alternative accounting policies influence the quality of data presented in the financial statements. An analyst should therefore carefully evaluate the impact of changes in accounting policies on the financial statements. This evaluation is also required to make the financial statements of different periods comparable. Once

the impact of the changes can be assessed, the financial statements need to be reworked to make the analysis more meaningful.

Many companies may not provide adequate information about the changes adopted by them. This is where the analyst needs to be watchful and pay particular attention to the possible impact these changes may have ~~on other~~ when using analytical tools such as ratio analysis, cash flow analysis etc. [for analysis of financial statements](#).

Let us take some of these changes listed above to assess the impact of these changes on the financial statements and on the quality of earnings.

Revenue Recognition

Recognition of revenues is based on the matching principle which states that the revenues of a period should be matched with the expenses of the relevant period to assess net income. There are two basic conditions to be satisfied for revenue recognition:

- i. **Completion of earnings process:** The first prerequisite is that the firm should have completed the provision of all the goods or services for which it is to be paid. The cost of these goods or services must be measurable. In situations where the costs may not be measurable, the recognition of revenue must be postponed until they become measurable.
- ii. **Assurance of payment:** The second prerequisite is that the firm should be reasonably assured of receiving the revenues.

There are basically five methods of revenue recognition:

The sales basis method: It is the most common of all the methods where in goods and services are rendered for cash or credit and the revenue is recognized after the delivery. In other words, revenue is not recognized until it is earned.

The percentage of completion method: This method is preferred for long term contracts where there is a contract and the contract costs and revenues can be reliably estimated. It recognizes revenues in the proportion of work completed.

The completed contract method: This method is also used for long term contracts in cases where the estimation of costs and revenues associated with the contract poses difficulty. Under this method, revenues and expenses are not recognized until the entire contract has been completed.

The installment sales method: It is similar to percentage of completion method in the sense that it too recognizes revenues in stages. It is used when there is no other way to estimate the likelihood of collecting sales proceeds, but the costs of the goods and services are known. Revenue and expenses are recognized based on the cash collected in each period.

The cost recovery method: This method is employed whenever costs of goods or services is unknown and there are also ambiguities in collecting the sale proceeds. Under this method, sales are recognized when cash is received, but no gross profit is recognized until the seller's cost of goods is fully recovered by the buyer's cash payments.

Analyst's interpretation: These different revenue recognition methods may result in different amounts of revenues and net income [reported](#). For instance recognition of revenue prior to the two conditions mentioned above may result in overstatement of revenue and current assets (accounts receivables) thereby resulting in an overstatement of retained earnings.

Similarly adopting either the percentage of completion method or completed contract method may have an effect on the net income, total assets and share holders equity. The same is depicted as follows:

Table 1: Impact of Different Methods of Revenue Recognition

Particulars	Percentage of completion method	Completed contract method
Net Income	Greater by the percentage of profit recognized	No income until the last year
Total assets	Greater by the percentage of profit recognized	Remain unchanged until the completion of the contract
Shareholders equity	Increases by the profit recognized	No change.

An analyst thus needs to look into the method of revenue recognition adopted by the company and the possible effect of such method on the revenues to assess earnings quality.

Inventory Valuation

Inventory may be valued on FIFO, LIFO or weighted average methods. A shift from one method of valuation to another significantly affects the reported income. Compared to FIFO method, LIFO method produces higher cost of goods sold figures and lower income values. Comparisons of these methods further provide the following conclusions:

Table 2

Lifo-LIFO Method	Fifo-FIFO Method
Higher cost of goods sold	Lower cost of goods sold
Lower taxes	Higher taxes
Lower net income	Higher net income
Lower inventory balances	Higher inventory balances
Lower working capital	Higher working capital

Depreciation

A firm may make three changes to the amount of depreciation:

- Change the method of depreciation.
- Change the depreciable lives of the asset.
- Change the salvage values of assets.
- Change in the method of depreciation:** The depreciation that is charged under the straight line method remains the same every year. Under the WDV method it reduces gradually. This gives rise to variations in the depreciation charge calculated as per the two different methods. When a change in the method of depreciation is made, depreciation should be recalculated in accordance with the new method from the date of the asset coming into use. The deficiency or surplus arising there from should be adjusted in the accounts in the year in which the method of depreciation is changed. In case the change results in a loss, the loss should be charged in the statement of profit and loss. In case the change in the method results in a surplus, it should be credited to profit and loss account. Such a change is to be considered as a change in accounting policy and its effect should be quantified and disclosed.

Table 3: Financial Statement impact of Depreciation Methods

Financial Statement Analysis

Particulars	Straight line	WDV Method
Depreciation expense	Lower	Higher
Net income	Higher	Lower
Assets	Higher	Lower
Equity	Higher	Lower

- ii. **Change in the depreciable lives of assets:** Generally speaking, a longer useful life for an asset means lesser depreciation charge every year which in turn leads to higher net income. A shorter estimated life of the asset will have the opposite effect. Changes in depreciable lives of assets are considered as changes in accounting estimates. As such past income need not be restated. However, current income will change and the future estimates also change.
- iii. **Changes in the salvage values of assets:** A higher estimate of a salvage value of an asset will result in decreased depreciation and increased net income, while a lower estimate of the salvage value will increase depreciation and decrease net income.

Analyst's Interpretation: The flexibility in the choice of estimated lives and salvage values may give firms the scope to manipulate their earnings. The analyst should look out for any excessively long depreciable life or excessively more salvage value. Companies can manipulate earnings in the following ways:

- Management can estimate a useful life longer than warranted and then write down the overstated assets in a restructuring program
- Management might also write down assets, taking an immediate charge against income and then record less depreciation in future years thereby increasing future net income
- The residual value may be grossly overstated thus leading to understatement of depreciation expense and overstatement of loss when the asset's life is expired.

Reserves

Treatment of reserves ~~account and~~ **theirs quantum** may also significantly affect the distributable profit of a firm. An analyst should identify any excess transfers to reserves, any creation of new reserves without proper justification and the use of reserve accounts to determine any manipulations in the maintenance of reserve accounts.

Stock Options

An employee stock option is a call option on a company's own stock issued as a ~~from-form~~ of non-cash compensation. Restrictions on the option attempt to align the holder's interest with those of the business's shareholders. If a company's stock rises, holders of options experience a direct financial benefit. This gives employees an incentive to behave in ways that will boost the company's stock price. ESOPs are mostly offered to management as part of their executive compensation package.

Valuation of Stock Options

The value of a stock option is the difference between the market value of a stock and the exercise price of the option. Under the US GAAP, the original FAS 123 encouraged the use of grant date fair value method of accounting for equity based

compensation. However, it provided financial institutions the opportunity to continue using the intrinsic value method provided by APB 25.

APB-25 recommends the intrinsic method for measuring stock option. Under this method the compensation cost is limited to the excess of the quoted market price of the stock over the option exercise price at the measurement date, which generally is the grant date. Most so called 'qualified' fixed options have exercise price at least equal to present market values, there does not arise any compensation costs to be recognized. A fair value approach is prescribed for employee stock options and similar equity instruments which takes into account, among other factors, the time value of options resulting in identification of compensation element under SFAS-123.

As per Revised SFAS 123, Share based payments to employees are measured based on fair value based method. The costs of services are measured at the grant date fair value of the equity instrument issued, or the fair value of the liability incurred. Employee service cost is based on fair value net of any amount the employee pays or is obligated to pay for the instrument.

APB-25 was applicable as long as the footnotes to the financial statements disclosed what the pro-forma impact on net income would have been had the preferable fair value method been utilized. Most institutions used this approach, as no compensation costs were recognized in the income statement.

The Revised SFAS 123 – FAS 123 (revised) does not require a specific valuation technique to determine the grant date fair value of employee stock options and other equity based compensation issued to employees. Estimate the value using option pricing models adjusted for the unique characteristics of the instruments. Valuation models that meet the FAS 123 revised criteria includes:

- Lattice models such as the binomial model.
- Closed ~~from form~~ models such as the Black Scholes model. The compensation cost recognized in the income statement for equity based awards will generally be recognized over the vesting period based on the grant date fair value of the award.

FAS 123 allows forfeitures to be accounted for either by estimating the number of forfeitures at the grant date or accounting for the effects of the forfeitures when they occurred. FAS 123 (Revised) removes this option and requires estimation of forfeitures at the date of grant with the possibility of subsequent revisions.

Analyst's Interpretation: Treatment of stock options also leads to misrepresentation of profit figure. Hence an analyst should carefully assess the treatment of stock options to find out if it is justified and if it is in tune with FAS 123 revised regulations.

EARNINGS MANAGEMENT

Earning Management is the outcome of the accounting anomalies arising out of flexibility in the implementation of accounting policies, estimates and procedures. Earnings Management can be defined as the "purposeful intervention by management in the earnings determination process, usually to satisfy selfish objectives." It often involves window dressing financial statements, especially the bottom line earnings number. Earnings management can be cosmetic, where managers manipulate accruals without any cash flow consequences. It can also be real, where managers take actions with cash flow consequences for purposes of managing earnings.

Revenue Manipulation

Financial Statement Analysis

Revenue manipulation is the most common type of earnings management. The sales transaction is the pillar for recognition of revenue in the business and it is this figure that is manipulated to inflate earnings. This is resorted to by any of the following practices:

- i. **Vendor Financing:** It occurs when a company loans money to a customer to purchase goods from the company. The result is an increase in sales revenue on the income statement and an increase in notes receivable on the balance sheet. The increase in revenue improves earnings and the related ratios that have operating income and net income in the computation.
- ii. **Trade loading or Channel Stuffing:** In this form of manipulation, sales are recorded even before they are earned by shipping inventory to customers before the customer really needs it. This is taken up usually at the end of the reporting period by borrowing sales of next accounting period into this period's sales and thereby inflating current sales.
- iii. **Overstatement of Value of Accounts Receivables:** Yet another form of manipulation is overstating the amount of accounts receivables or understating the allowance for uncollectible accounts. To overstate accounts receivables, the business increase the volume of credit sales by granting more generous credit terms or by selling to customers with lower credit quality. But such sales push up the cost of uncollectible accounts and if they are not recognized, it results in revenues and earnings being overstated.
- iv. **Not Recognizing Rebates or Discounts:** Not reducing the sales for the promised rebates is another technique to increase revenues. To move inventory at the close of a quarter or year, a business may generate sales by offering substantial rebate opportunities. But in the books revenues are recognized at full value of the sale, with no deduction for the associated rebate resulting in inflated revenues. Sometimes, a business may boost current period sales transactions by promising to provide enhanced future service or additional future products at discounted prices. If the cost of these future obligations is not recorded as a liability, then current period equity and earnings will be overstated.

Companies in service business also resort to managing revenues. Software support and maintenance contracts, engineering updates, equipment and maintenance contracts and others may indulge in a long term agreement between the service provider and customer. In order to increase revenue, a service provider may record as revenue the entire or a substantial portion of the contract in the first year. It is very difficult for the user of financial statements to identify this practice of managed revenues.

However, the informed consumer can identify earnings management techniques by carefully tracing accrual based earnings against operating cash flows and through industry awareness. It may be difficult to unearth a single event of earnings management but where a number of small amounts are manipulated; a regular follow up can identify them.

Expense Manipulation

In accordance with GAAP, an expense is recognized whenever an asset is used or liability is created. Like revenue recognition, there are many gray areas that open the door to earnings management. Some of them are discussed as follows:

- i. **Capitalizing Revenue Costs:** Whenever an asset is used up in a firm's operating activities, an expense must be recognized unless a new asset is created. In other words, there must be a future benefit that satisfies the criteria for recognition as an asset. Therefore, earnings can be manipulated by

capitalizing costs that should really be expensed. A good example is the costs incurred to develop and produce software. GAAP requires that costs incurred beyond the point of technological feasibility to be capitalized. But the determination of technological feasibility is subjective and lends itself to manipulation. In order to lower expenses, management can simply claim “technological feasibility” has been achieved.

- ii. **Accounting for Inventories:** Inventory valuation is also an area for expense manipulation. Inventory valuation techniques like FIFO, LIFO etc, are used in the business for determining the amount of inventory that has been used up and therefore recognized as cost of goods sold. The management can use these techniques in timing inventory purchases and changing cash flow assumptions in order to manipulate earnings. Earnings can also be manipulated in the allocation of joint costs.

Yet another technique for manipulating earnings using inventory accounting is to purchase a diverse range of inventory and offer it for sale at a high mark up. The firm makes big profits on the product that sells, and leaves the product that doesn't sell in inventory. The problem here, of course is inventory obsolescence. This type of earnings management is particularly prevalent in the specialty retail industry, where seasonal fashions are difficult to predict. By failing to write down the obsolete inventory on a timely basis, the firm can manipulate the recognition of expenses.

- iii. **Non-current Assets Depreciation:** In case of non-current assets, GAAP rules point out that these assets need to be depreciated, amortized or impaired over time. However, there are several laxities in determining the amount of depreciation. For example, if a company depreciates its fixed assets over a longer period of time than its competitors, then the company would look more profitable than its competitors.
- iv. **Understating Liabilities:** Expense manipulation may be resorted to by understating liabilities also. For example, let us consider the case of warranty liabilities. When a firm sells a product with a warranty, the expected future costs of the warranty should be recognized as an obligation of the company at the same time that the sales transaction is recognized. This will result in an increase in liabilities and a decrease in equity and earnings. By understating or ignoring the warranty liability, management can overstate earnings.
- v. **Employee Pension and Other Retirement Benefit Schemes:** In accordance with GAAP, the employee pension and other amounts related to retirement benefits need to be estimated, recognized as a liability and charged off as an expense in the same period that the employees provide the services that earn the benefits. However, there is a huge subjectivity involved in determining the amount of benefits, rate of return on benefits, etc. A change in these assumptions causes a wide variation in the reporting income.
- vi. **Cookie-Jar Accounting:** It involves making provisions when profits are higher than expected, and releasing them when times are difficult. The basic tactic is to create a provision by making a charge against profits, and carrying forward a credit in the balance sheet. In other words, the management manages to avoid recording certain expenses on the income statement, using an off balance sheet account to absorb the impact on earnings.

For example, a cookie jar can be created with bad debt expense account. Suppose the business follows the practice of charging 2% on credit sales for

bad debts provision. Managed earnings will occur if (a) when in periods of less revenue, the percentage is reduced to jump earnings upward, resulting in lower bad debt expense or (b) when in periods that management needs to reduce earnings, the percentage is increased. The cookie jar (provision account) thus floats up and down to accommodate the desired expense accrual. The user fails to understand the manipulation as the statements reveal only the net accounts receivables.

Cookie jar accounting in practice does not involve managing a single expense account but is simultaneously employed to a number of relatively small balance sheet accounts which are manipulated in the same direction for manipulating the overall figure of reported earnings.

- vii. **Big-Bath Accounting:** This is most frequently applied when a group takes over a new subsidiary but may also occur when there is a change of a chief executive. The idea is that the acquiring group, or the new chief executive, identifies over valued assets (and under valued liabilities) and makes a once and for all provision for there. This involves a major charge against profits but is explained as an exceptional year where a major clean up exercise (big bath) has been done. However, the advantage of this is future depreciation charges will be lower, or that excess provisions are available to boost future profits, but at the same time the current share price is often not affected.

EARNINGS QUALITY

In view of the various assumptions, alternative treatments prevalent in accounting, the scope for managing earnings by the companies to present a better view of things is always high. In such circumstances, it becomes imperative for the analyst to not accept the figures that are shown in the financial statements as it is but to make a thorough analysis of the methods adopted by the company in computing the figures. He needs to analyze the quality of the earnings projected by the company. To do this he needs to assess the earnings quality of the firm.

Earnings quality (or more precisely, accounting quality) means different things to different people. One definition of earnings quality refers to the extent of conservatism adopted by the company. A company with higher earnings quality is expected to have higher price earnings ratio than one with lower earnings quality. Another definition of earnings quality is in terms of accounting distortions according to which a company has high earnings quality if its financial statement information realistically and precisely depicts its business activities.

The presence of the following items is an indicator of earnings quality:

- Conservative revenue recognition methods.
- A high bad debt reserves relative to past accounts receivable losses.
- Use of accelerated depreciations methods and shorter useful lives of assets.
- Use of LIFO inventory accounting.
- Faster write off of purchased goodwill and other intangibles.
- Minimal capitalization of computer software costs.
- Expensing of start up costs of new business operations.
- Implementation of completed contract methods for works contracts.
- Use of conservative assumptions for employee benefit plans.
- Adequate provisions for contingent liabilities.
- Minimal use of off balance sheet techniques.

- Absence of non recurring gains.
- Absence of non cash expenses and revenues.
- Clear and adequate disclosures for financial statements figures.

EVALUATING EARNINGS QUALITY

Whatever its definition, evaluating earnings quality is an important task of any analyst.

Steps in evaluating earnings quality:

- Identify and assess key accounting policies:** An important step in evaluating earnings quality is identifying key accounting policies adopted by the company. The analyst has to assess whether the policies adopted are reasonable or aggressive, whether the policies adopted are consistent with the industry norms, what impact will the accounting policies have on reported numbers in financial statements, etc
- Evaluate extent of accounting flexibility:** It is important to evaluate the extent of flexibility available in preparing financial statements. The extent of accounting flexibility is greater in some industries than others. For example, the accounting for industries that have more intangible assets, greater volatility in business operations, a larger portion of its production costs incurred prior to production and unusual revenue recognition methods requires more judgements and estimates. Generally, earnings quality is lower in such industries than in industries where the accounting is more straight forward.
- Determine the reporting strategy:** Identify the reporting strategy adopted by the company. Is the company adopting aggressive reporting practices? Does the company have a clean audit report? Has there been a history of accounting problems? Does management have a reputation of integrity, or are they known to cut corners? It is also necessary to examine incentives for earnings management and look for consistent patterns indicative of it. Analysts need to evaluate the quality of a company's disclosures. While disclosures are not substitutes for good quality financial statements, forthcoming and detailed disclosures can mitigate weaknesses in financial statements.
- Identify and assess red flags:** One useful step in evaluating earnings quality is to beware of red flags. Red flags are items that alert analysts to potentially more serious problems. Some of the red flags are:
 - Poor financial performance.
 - Reported earnings consistently higher than operating cash flows.
 - Reported pre tax earnings consistently higher than taxable income.
 - Qualified audit report.
 - Auditor resignation or non-routine audit changes.
 - Unexplained or frequent changes in accounting policies.
 - Sudden increase in inventories in comparison to sales.
 - Use of mechanisms to circumvent accounting rules, such as operating leases and receivables securitization.
 - Frequent one time charges and big baths.

SUMMARY

- Investing activities are activities related to acquisition and disposal of long term assets and other investments (except those included in cash equivalents).

Financial Statement Analysis

An analysis of cash flows from investing activities is important as they indicate the extent to which expenditures have been made for resources which have the effect of generating future income and cash flows.

- Financing cash flows relate to financing of the company. These activities are basically related to the changes in capital and borrowing of the enterprise which affect flow of cash.
- Operating activities may be described as the principal revenue producing activities of the enterprise and other activities that are not investing or financing activities. These cash flows refer to cash generated from or used in the core business activities of the enterprise.
- Sustainable cash flows can be defined as “cash flows devoid of non recurring items of revenue or gains and expenses or loss and which are most likely to be maintained in the future if the previous conditions persist.”
- Free cash flows are the discretionary cash flows that remain once the firm has replaced its productive capacity. Free cash flow is important to both investors and creditors.
- Mis-representations arise basically due to mis-classifications of cash flows into operating, financing and investing activities. Some of these misclassifications may occur within the purview of GAAP rules while others may not.
- Data issues in analyzing financial statements deal with issues that affect the quality of data presented in the financial statements.
- The major areas where such manipulations are possible can be classified as:
(a) Treatment of Non-recurring income items (b) Income from continuing operations (c) Incomes, gains and losses from discontinued operations (d) Extra ordinary items (e) Adjustments for changes in accounting policies (f) Changes in accounting estimates.
- Earning Management is the outcome of the accounting anomalies arising out of flexibility in the implementation of accounting policies, estimates and procedures. Earnings Management can be defined as the “purposeful intervention by management in the earnings determination process, usually to satisfy selfish objectives.”
- Earnings quality (or more precisely, accounting quality) means different things to different people. One definition of earnings quality refers to the extent of conservatism adopted by the company. A company with higher earnings quality is expected to have higher price earnings ratio than one with lower earnings quality. Another definition of earnings quality is in terms of accounting distortions according to which a company has high earnings quality if its financial statement information realistically and precisely depicts its business activities.

Chapter IV

Analysis of Income Taxes

After reading this chapter, you will be conversant with:

- Temporary Differences
- Deferred Tax Liability
- Deferred Tax Asset
- Permanent Differences
- Temporary Differences vs Permanent Differences
- Valuation Allowance
- Implications of Valuation Allowance
- Loss Carryforwards – Tax Rates
- Factors Determining the Treatment of Deferred Tax as a Liability
- Effects of Tax Rate Changes
- Disclosures Relating to Deferred Tax Items and Effective Tax Rate Reconciliations

Introduction

Traditionally Income taxes has been provided for, by using tax payable method which required providing for income tax payable in a particular accounting period in the Profit and Loss Account. However, we have moved from 'Tax Payable' method of providing income taxes to 'Tax Effect' accounting method. Since the fundamental objectives of financial reporting and those of taxing authorities are not the same, the tax payable as per GAAP differs from tax payable as per tax rules. This may be due to the difference in the timing of recognition of income and expense or because certain expenses or income recognized for tax purpose and not recognized for GAAP purpose or vice versa. 'Tax Effect' accounting takes into account the tax consequences of amounts that will become taxable or deductible in future years as a result of transactions or events that already have occurred. This results in recognition of deferred tax asset or deferred tax liability.

The evolution of current income tax accounting can be attributed to three schools of thought. One extreme were those who recommended a 'no allocation' position, on the belief that only the amount of tax currently owed should be reported as periodic tax expense. The other extreme were those who recommended 'comprehensive allocation' who believed that periodical tax expense reported should be related to pretax accounting income irrespective of actual taxes payable. The midway proponents of 'partial allocation' recommended the need for deferred tax provision when actual future tax payments or benefits could be estimated.

The current practice of inter period income tax allocation which gives rise to deferred tax assets and liabilities as required by GAAP is based on the liabilities method using comprehensive allocation approach. The focus of the liabilities method is the balance sheet and deferred tax assets and deferred tax liabilities are computed using the balance sheet and deferred tax expense reported in the income statement is consequence of balance sheet calculations. As against the liabilities method is the deferral method which has an income statement focus where the calculation of deferred tax assets and liabilities is a consequence of calculation of deferred tax expense.

DEFINTIONS

Deductible temporary differences: Temporary differences that result in future tax deductions; these give rise to deferred tax assets.

Deferred tax asset: The deferred tax consequences of temporary differences that will result in net tax deductions in future years.

Deferred tax liability: The deferred tax consequences of temporary differences that will result in net taxable amounts in future years.

Gains and losses included in comprehensive income but excluded from net income: Certain items which, under GAAP, are events occurring currently but which are reported directly in equity, such as changes in market values of non-current portfolios of marketable securities.

Interperiod tax allocation: The process of apportioning income tax expense among reporting periods without regard to the timing of the actual cash payments for taxes. The objective is to reflect fully the tax consequences of all economic events reported in current or prior financial statements and, in particular, to report the expected tax effects of the reversals of temporary differences existing at the reporting date.

Intraperiod tax allocation: The process of apportioning income tax expense applicable to a given period between income before extraordinary items and those items required to be shown net of tax such as extraordinary items and prior period adjustments.

Operating loss carry back or carry forward: The excess of tax deduction over taxable income. To the extent that this results in a carry forward, the tax effect thereof is included in the entity's deferred tax asset.

Permanent differences: Differences between pre-tax accounting income and taxable income as a result of the treatment accorded certain transactions by the income tax regulations which differ from the accounting treatment. Permanent differences will not reverse in subsequent periods.

Pre-tax accounting income: Income or loss for the accounting period as determined in accordance with GAAP without regard to the income tax expense for the period.

Taxable income: The difference between the revenue and expenses as defined by the Internal Revenue Code for a taxable period without regard to the special deductions. (for example net operating loss or contribution carrybacks and carry forwards).

Taxable temporary differences: Temporary differences that result in future taxable amounts; these give rise to deferred tax liabilities.

Tax credits: Reductions in the tax liability as a result of certain expenditures accorded special treatment under the Internal Revenue Code. Examples of such credits are – the Investment Tax Credit, investment in certain depreciable property; the Jobs Credit, payment of wages to targeted groups; the Research and Development Credit, an increase in qualifying R&D expenditures; and others.

Tax planning strategy: A representation by management of a planned transaction or series of transactions that would affect the particular future years in which temporary differences will result in taxable or deductible amounts.

Temporary differences: In general, differences between tax and financial reporting bases of assets and liabilities that will result in taxable or deductible amounts in future periods. Temporary differences include “timing differences” as defined by prior GAAP as well as certain other differences, such as those arising from business combinations. Some temporary differences cannot be associated with particular assets or liabilities, but nonetheless do result from events that received financial statement recognition and will have tax effects in future periods.

Timing differences: The difference between the treatment of expenditures on the tax return and for financial reporting.

Unrecognized tax benefits: Deferred tax benefits against which a valuation allowance had been provided as of the date of the financial statements.

Valuation allowance: The contra asset which is to be reflected to the extent that it is “more-likely-than-not” that the deferred tax asset will not be realized.

SFAS-109 superseding SFAS-96 (herewith referred to as USGAAP) embraces the balance sheet oriented asset-liability method where all deferred tax assets arising from deductible temporary differences or from operating losses or tax credit carry forwards are given full recognition. However, some deferred tax assets are recognized only to the extent that it could be demonstrated that the related reversal of deductible items would be offset by other reversal of taxable items for tax purposes.

The effect of the Asset-Liability method on financial statements can be summed up as follows:

- i. This method is centered around the recognition and measurement of deferred tax assets and liabilities.
- ii. The deferred income tax expense is determined residually.
- iii. When tax rate changes occur, the deferred tax assets and liabilities are revised to represent more accurately the amounts of the assets and the liabilities to be realized or settled.

- iv. For operating losses and other carry forwards, deferred tax assets are recognized. If evidence indicates that it is more likely than not that the deferred tax assets will not be realized, then deferred tax assets are subjected to reduction by a valuation allowance.
- v. These disclosures in the financial statements result in the presentation of significant information in the notes to the financial statements.

The objective of accounting for income taxes in terms of elements of Balance sheet (consistent with Asset-Liability method) as in par 6 of FAS-109 is:

- i. To recognize the amount of taxes currently payable or refundable.
- ii. To recognize the deferred tax assets and liabilities for the future tax consequences of events that have been recognized in the financial statements or in tax returns.

USGAAP emphasizes to assess the possible existence of impairment by 'more-likely-than-not' criterion which results, when necessary, in the provision of a reserve or allowance account to offset some or the entire deferred tax asset.

It lays emphasis on four basic principles which are important for the proper understanding of the liability method and the procedure developed for accounting for income taxes in terms of elements of Balance sheet:

- i. Recognition of a tax liability or asset to determine the amount of taxes currently payable or refundable.
- ii. Recognition of deferred tax liability or asset for the estimated future tax effects of temporary differences or carry forwards.
- iii. Measurement of current and deferred tax assets and liabilities based on the provisions of enacted tax laws.
- iv. Reduce the amount of deferred tax assets by a valuation allowance if sufficient evidence exists.

However, exceptions exist in respect of specific areas such as accounting for interim period income taxes, leveraged leases, goodwill amortization and for foreign currency translations.

TEMPORARY DIFFERENCES

'Timing Differences' are the differences between taxable income and accounting income for a period that originate in one period and are capable of reversal in one or more subsequent periods. Timing differences arise because the period in which some items of revenue and expenses are included in taxable income do not coincide with the period in which such items of revenue and expenses are included or considered in arriving at accounting income. This term was income statement oriented and resulted from alternative depreciation methods, alternative methods of recognition of revenue from construction contracts etc. This basis was used earlier to account for income taxes. For example, machinery purchased for scientific research related to business is fully allowed as deduction in the first year for tax purposes whereas the same would be charged to the statement of profit and loss as depreciation over its useful life. The total depreciation charged on the machinery for accounting purposes and the amount allowed as deduction for tax purposes will ultimately be the same, but periods over which the depreciation is charged and the deduction is allowed will differ. Another example of timing difference is a situation where, for the purpose of computing taxable income, tax laws allow depreciation on the basis of the written down value method, whereas for accounting purposes, straight line method is used.

The concept of 'temporary differences' which is more comprehensive than timing differences, was introduced consistent with the balance sheet orientation of GAAP. Temporary difference refers to the events that result in differences in the tax bases of assets and liabilities and their reported amounts in the Financial Statements which arise on account of the following reasons:

- i. Taxability of Revenues or Gains after or before they are recognized in an accounting income. For example Receivables from installment sales and subscriptions received in advance.
- ii. Expenses that are deductible for tax purposes but are recognized before or after in an accounting income. For example A product warranty liability and depreciation expense.

Deferred taxes are to be provided for all temporary differences but not for permanent differences like organizational costs.

The following are certain temporary differences which are also timing differences:

Revenues or gains reported for financial reporting purposes before being reported for tax purposes: Certain revenues such as Revenue accounted for by the installment method for tax purposes, but reflected in income currently; certain construction-related revenue recognized on a completed contract method for tax purposes, but on a percentage of completion basis for financial reporting; earnings from investees recognized by the equity method for accounting purposes but taxed only when latter distributed as dividends to the investor are taxable temporary differences, which gives rise to deferred tax liabilities.

Revenues and gains reported for tax purposes prior to reporting in the financial statements: Certain revenues received in advance, such as prepaid rental income and service contract revenue are deductible temporary differences in the terminology of SFAS-109 and give rise to deferred tax assets.

Expenses or losses which are deductible for tax purposes prior to recognition in the financial statements: Accelerated depreciation methods or shorter useful lives used for tax purposes, while straight-line depreciation or longer useful economic lives are used for financial reporting; certain pre-operating costs and certain capitalized interest costs which are currently tax deductible. These items are taxable temporary differences, and give rise to deferred tax liabilities.

Expenses which are reported in the financial statements prior to becoming deductible for tax purposes: Certain estimated expenses, such as warranty costs, as well as such contingent losses as accruals of litigation expenses, are not tax deductible until the obligation becomes fixed. These are deductible temporary differences, and accordingly give rise to deferred tax assets. In addition to these familiar and well-understood timing differences, temporary differences include a number of other categories which also involve differences between the tax and financial reporting bases of assets or liabilities. These are:

- ***Reductions in tax deductible asset bases arising in connection with tax credits:*** Under the provision of the 1982 Tax Act, taxpayers were permitted a choice of either full Accelerated Cost Recovery System depreciation coupled with a reduced investment tax credit, or a full investment tax credit coupled with reduced depreciation allowances. If the taxpayer chose the latter option, the asset basis was reduced for tax depreciation, but was still fully depreciable for financial reporting purposes. Accordingly, this election was accounted for as a taxable timing difference, and gave rise to a deferred tax liability. This particular accounting treatment was first prescribed by FASB Technical Bulletin 83-1, and was latter incorporated in SFAS-96. It has now been included in SFAS-109 as well.

- **Investment tax credits accounted for by the deferral method:** Under GAAP, Investment Tax Credits could be accounted for by either the “flow through” method (by far the most common method in practice), or by the “deferral” method. Under the latter method, the tax credit was reflected in income over the useful lives of the assets giving rise to the credit, although the benefit of the credit was fully received in the years the assets were placed in service. Thus, a deductible temporary difference existed, with which a deferred tax asset would be associated.

Examples of Taxable and Deductible Temporary Differences

Nature of Temporary Difference	Explanation	Deferred Tax
Taxable Differences Temporary		
Depreciable Assets	Use of Modified Accelerated Cost Recovery System (MACRS) for tax purposes and straight-line for accounting purposes makes the tax basis of the asset less than the accounting basis.	Liability, to be paid as MACRS deduction becomes less than straight- line depreciation.
Deductible Temporary Differences		
Warranty liability	Expense recognized on accrual basis for accounting purposes and on cash basis for tax purposes, resulting in a liability that is recognized for financial reporting purposes but has a zero basis for tax purposes.	Asset, to be recovered when deduction is recognized for tax purposes.
Accounts receivable allowance for doubtful accounts	Expense recognized on an accrual basis for accounting purposes and deferred for tax purposes.	Asset, to be recovered when uncollectible account is written off for tax purposes.

MEASUREMENT OF DEFERRED TAX ASSETS AND LIABILITIES

If book income exceeds taxable income, then tax expense exceeds tax payable, resulting in a deferred tax liability (Credit). The deferred tax liability may also be calculated by multiplying the temporary difference by the applicable tax rate. If book income is less than taxable income, then tax expense, is less than tax payable, causing a deferred tax asset (Debit). The deferred tax asset equals the temporary difference multiplied by the tax rate scheduled to be in effect when the difference reverses. The need to schedule the reversals would be relevant only in the context of phased-in tax rate changes and other situations in which the reporting entity must identify particular years of temporary difference reversals in order to calculate meaningfully their expected tax effects, the amount of valuation allowance needed.

Thus, the computation of deferred taxes is accomplished simply by applying the top marginal rate to all temporary differences outstanding as of the balance sheet date. It is applicable to both the taxable temporary differences (giving rise to deferred tax liabilities) as well as deductible temporary differences (giving rise to deferred tax assets). The deferred tax assets must be reviewed periodically for any

impairment and consequently need to be offset by valuation allowance account in case the projected tax benefits fail to satisfy the “more-likely-than-not” test.

For example, if the book income and taxable income are both Rs.400,000 and the depreciation expense for book purposes is Rs.40,000 using the straight-line method, but depreciation for tax purposes is Rs.60,000 using an accelerated depreciation method. With a 30% tax rate, the entry is,

Income tax expense (Rs.360,000 x 30%)	Dr.	Rs.1,08,000	
To Income tax payable (Rs.340,000 x 30%)			Rs.1,02,000
To Deferred tax liability (Rs.20,000 x 30%)			Rs.6,000

At the end of the life of the asset, the deferred tax liability of Rs.6,000 will be completely reversed.

Illustration 1

During 2005-06, Jai Company made a pre-tax profit of Rs.16,00,000 and taxable income of the company was Rs.14,00,000. On scrutiny it is found that the difference aroused due to accelerated depreciation for income tax purpose. If the effective interest rate for the company was 30% and tax payment made by the company on estimate was Rs.2,00,000 then calculate the amount that company should report as current income tax expense and the amount to be reported as deferred tax asset or liability.

Solution

The amount of income tax expense must be reported in two components – the amount currently payable (current portion) and the tax effects of temporary differences (deferred portion). The amount of current portion can be arrived after multiplying taxable income by the current enacted tax rate (Rs.14,00,000 x 30%) = Rs.4,20,000. The deferred portion is (Rs.2,00,000 x 30% = Rs.60,000). Thus the estimated tax payment of Rs.2,00,000 decreases taxes payable and do not affect the amount of tax expenses.

Since the book profit of Rs.16,00,000 exceeds the taxable profit of Rs.14,00,000, it results in deferred tax liability. Hence the journal entry is

		Rs.	Rs.
Income Tax expense (Rs.16,00,000 x 30%)	Dr.	4,80,000	
To Income tax payable (Rs.14,00,000 x 30%)			4,20,000
To Deferred Tax liability (Rs.2,00,000 x 30%)			60,000

Illustration 2

Following is the reconciliation of the pre-tax financial statement to income statement of Suraj Company in its first year of operation in 31st March 2006.

	Rs.
Pre-tax financial income	3,20,000
Non-taxable interest received on municipal securities (10,000)	
Long-term loss accrual in excess of deductible amount	20,000
Depreciation in excess of financial statement amount (50,000)	
Taxable income	2,80,000

- If the company is in the 40% tax bracket then in its 2006 income statement what amount should Suraj report as income tax expense current portion?
- What will be the deferred tax liability for the financial year ending 2005-06?

Solution

- Income tax expense must be reported in two components the amount currently payable (current portion) and the tax effects of temporary differences (deferred portion). For Suraj Company the current income tax amount will be arrived by multiplying the taxable income with enacted income tax rate i.e., Rs.2,80,000 x 40% = Rs.1,12,000.

- b. According to USGAAP netting of current deferred tax assets and liabilities and non-current deferred tax assets and liabilities is required. In the given problem tax free interest income of Rs.10,000 from municipal securities constitutes a permanent difference which does not result in future taxable or deductible amount. The future deductible amount of Rs.20,000 is related to a long-term asset property and it resulted from a loss accrual results in a long-term deferred tax asset of $\text{Rs.20,000} \times 40\% = \text{Rs.8,000}$. The future taxable amount of Rs.50,000 caused by depreciation results in a deferred tax liability of $\text{Rs.50,000} \times 40\% = \text{Rs.20,000}$. This is a long-term deferred tax liability as it relate to long-term asset. The net amount after deducting deferred tax amount i.e. $\text{Rs.}(20,000 - 8,000) = \text{Rs.12,000}$ is to be reported in the balance sheet.

Illustration 3

Asawa Company was formed on 4th April, 2004. The financial statement 2004-05 of Asawa Company revealed a pretax income of Rs.10,00,000 and taxable income of Rs.16,00,000. There was only one temporary difference in accrued product warranty and the expected schedule of payment is as follows:

	Rs.
2005-06	2,00,000
2006-07	1,00,000
2007-08	1,00,000
2008-09	2,00,000

The company is in the tax bracket of 35% for 2004-05 and 30% for 2005-06 to 2006-07 and 25% for 2007-08. If the company is not expecting any operating losses (book or tax) in future then what will be the deferred income tax asset in 2004-05 balance sheet?

Solution

A deferred tax asset is recognized for all deductible temporary differences. The computation for the deferred cost is shown below:

(Amount in Rs.)

	2005-06	2006-07	2007-08	2008-09	Total
Future deductible amounts	2,00,000	1,00,000	1,00,000	2,00,000	6,00,000
Tax rate	30%	30%	30%	25%	—
Deferred tax asset	60,000	30,000	30,000	50,000	1,70,000

Thus the deferred tax asset is Rs.6,00,000 and the total deferred tax asset at the end of 2004-05 is Rs.1,70,000.

Illustration 4

On 31st March 2004, Majboot Company 3 years construction, a construction company after partial completion of a contract reported a profit on percentage completion method at the end of first year. In the next year, which is 2nd year of the contract, the total estimated profit from the contract has been reduced from the amount estimated in first year and the company reported loss in 2004-05, which is equal to 50% of the previous year's profit. If the company is using the completed contract method for income tax purposes and currently working on only one contract then comment whether any deferred tax is to be reported in the balance sheet of the company in the 2nd year.

Solution

A deferred tax liability is recognized for temporary differences that will result in net taxable amount (taxable income exceeds book income) in future years. Majboot Company made a loss in the second year but the contract will be profitable over the 3 years and at the end of 3rd year the company will show the total profit in its tax return and partial profit in its income statement thus a deferred tax liability should be shown in the liability side of the balance sheet.

Computation

FAS-109 recommends the logical approach of considering the sources of income in the order of most objective to least objective and the following five steps are required to be adopted in the annual computation of deferred tax assets and liabilities:

- i. Identify the nature and amount of each of the temporary differences and remaining length of the carry forward period as of the reporting date. This involves the identification of the types and amount of the temporary differences and the nature and amount of the operating loss and tax credit forward and remaining length of the carry forward period.
- ii. Segregate the temporary differences into those which are taxable and those which are deductible. This step is necessary because a valuation allowance may be provided against the tax effects of the deductible temporary differences but not against the tax effects of the taxable temporary differences. Applicable tax rate is the rate expected as applicable to taxable income in the periods in which the deferred tax asset/liability is expected to be settled or realized based on enacted tax law. However, determining the applicable tax rate requires careful analysis and professional judgment that if the entity has been consistently profitable at higher levels and the graduated rate is not a significant factor, single flat rate of tax is desirable. But if the entity is experiencing intermittent tax losses or low level profitability which makes the graduated tax rate a significant factor, then usage of average or weighted graduated tax rate is desirable.
- iii. Accumulate information about the deductible temporary difference, particularly the net operating loss and credit carry forwards which have expiration dates or other types of limitations. Since deferred tax assets/liabilities are remeasured at the end of each accounting period, FAS-109 recommends the creation of deferred tax provision which accounts for (a) the change in the amount of temporary differences and (b) the change in the tax rates.
- iv. Measure the tax effect of aggregate taxable temporary differences by applying the appropriate expected tax rates (federal plus any state, local, and foreign rates which are applicable under the circumstances). Similarly, measure the tax effects of deductible temporary, including net operating loss carry forwards.
- v. Reduce the deferred tax assets by a valuation allowance if it is more likely than not that some or all of the deferred tax assets will not be realized i.e., more than 50%.

FAS-109 valuation allowance aspects require significant judgment on the part of accountants and auditors. It covers consideration of existing recognized deferred tax assets and future sources of taxable income, reversals of temporary differences, tax planning strategies and provision of sufficient objective verifiable evidence such as history of credit/loss carry forwards expiring before they are used, losses expected, unsettled cases, carry forward period, existing contracts, appreciated asset values etc.

Separate computations should be made for each tax jurisdiction as the entity's ability to absorb deferred tax benefits against tax liabilities is necessary in assessing the need for valuation allowance as the benefits in one tax jurisdiction does not reduce the taxes payable in another jurisdiction and the jurisdictions are independent of one another and the balance sheet presentation, offsetting of deferred tax assets and liabilities is only permissible within the jurisdictions.

Similarly, separate computations should be made for each taxpaying component of the business: If a parent company and its subsidiaries are consolidated for financial reporting purposes but file separate tax returns, the reporting entity comprises a number of components, and the tax benefits of any one will be unavailable to reduce the tax obligations of the others.

Illustration 5

Suraj Company reported a pre-tax financial income of Rs.5,00,000 and a taxable temporary difference of Rs.56,000 and a Rs.16,000 deductible temporary difference for the financial year ended 2006-07. If the company has no operating loss or tax credit carry forward and the company is in the 40% flat (i.e., not graduated) tax bracket then what will be the taxable income of company and pass necessary journal entries. (Assume that there were no deferred tax liabilities or assets in prior years.)

Solution

Particulars	Rs.	Rs.
Pre-tax financial income	5,00,000	
Taxable temporary differences	(56,000)	
Deductible temporary differences	16,000	
Taxable income	4,60,000	
Following journal entry is to be passed to record these transaction –		
Dr. Current income tax expense (Rs.4,60,000x 40%)	1,84,000	
Dr. Deferred tax asset (Rs.16,000 x 40%)	6,400	
Dr. Income tax expense-deferred Rs.(22,400 – 6,400)	16,000	
Cr. Deferred tax liability (Rs.56,000 x 40%)		22,400
Cr. Income taxes currently payable		1,84,000

Illustration 6

Continuing from the previous example if Suraj Company reported a financial income profit of Rs.9,00,000 and the cumulative taxable and deductible temporary differences are Rs.1,50,000 and Rs.72,000 respectively for the financial year 2006-07 and if the tax rate remains same then ascertain the deferred amounts and pass necessary journal entries.

Solution

Taxable income can be computed as follows:

	Rs.
Financial income	9,00,000
Add: deductible differences	72,000
Less: Taxable difference	1,50,000
	8,22,000

The current income tax expense and income taxes currently payable each are Rs.(8,22,000 x 40%) = Rs.3,28,800.

Computation for deferred amounts can be presented as follows:

Particulars	Deferred tax Liability (Rs.)	Deferred tax Asset (Rs.)	Income tax expense-Deferred (Rs.)
Required balance as 31st March 2002	60,000		
Rs.1,50,000 x 40%		28,800	
Rs.72,000 x 40%	22,400	6,400	
Balance as on 31st March 2001	37,600	22,400	15,200

Adjustment required:

The journal entry to be passed to record deferred amounts are:

	Rs.	Rs
Dr. Deferred tax asset	22,400	
Dr. Income tax expense-deferred	15,200	
Rs.(37,600 – 15,200)		
Cr Deferred tax liability		37,600

Interperiod Tax Allocation with Temporary Difference
Illustration 7

The pretax financial income of Lambda Ltd. is Rs.500,000 for year 2006. It has a Rs.200,000 temporary difference at the end of 2006 that will reverse and result in taxable amounts as follows:

Year	Taxable income
2007	Rs.40,000
2008	Rs.70,000
2009	Rs.90,000

There is no deferred tax at the beginning of 2006 and the tax rate for all the three subsequent years is 30%. Calculate the taxes payable for 2006, the deferred taxes for 2007, 2008 and 2009 and the tax expense for 2006.

Solution
Calculation of taxes payable for 2006:

Pretax financial income for 2006	Rs.500,000
Temporary difference at the end of 2006	Rs.200,000
Taxable income for 2006	Rs.300,000
Tax rate	30%
Tax payable for 2006	Rs.90,000

Computation of deferred tax liability:

Particulars	2007	2008	2009	Total
Future taxable amount	Rs.40,000	Rs.70,000	Rs.90,000	Rs.200,000
Tax rate	30%	30%	30%	30%
Deferred tax liability	Rs.12,000	Rs.21,000	Rs.27,000	Rs.60,000

Computation of tax expense for 2006:

Current tax expense for 2006	Rs.90,000
Deferred tax expense	Rs.60,000
Total tax expense for 2006	Rs.150,000

The journal entry to record tax expense is:

Income tax expense	Dr.	Rs. 150,000	
To Income tax payable			Rs.90,000
To Deferred tax liability			Rs.60,000

Intraperiod tax allocation occurs when tax expense is presented in different parts of the financial statements for the current year. The income statement shows the tax impact of income from continuing operations, of income from discontinued operations, of extraordinary items, and of the cumulative effect of a change in accounting principle. In the retained earnings statement, prior period adjustments are shown net of tax.

PERMANENT DIFFERENCES

The differences between taxable income and accounting income can be classified into permanent differences and temporary differences. Permanent differences are those differences between taxable income and accounting income which originate in one period and do not reverse subsequently. For instance, if for the purpose of computing taxable income, the tax laws allow only a part of an item of expenditure, the disallowed amount would result in a permanent difference.

These permanent differences are disregarded when determining the tax payable currently, the deferred tax effect, and the income tax expense. For example, interest received from investment in government securities or bonds is fully tax exempt under tax rules. Interest income from these investments appear as income in the Profit and Loss Account. However, the interest income is not considered for tax purposes. The result is the profit for accounting purpose is more than the profit computation for tax purpose. However, since this difference is a permanent difference and will not reversed in the future it is ignored for the computation of Deferred income tax asset or deferred liability.

Following is the list of permanent differences and have no deferred tax consequence under USGAAP:

- Interest received from investments in bonds issued by state and municipal governments (not taxable).
- Investment expenses incurred to obtain tax-exempt income (not tax deductible).
- Life insurance proceeds on the death of an insured executive (not taxable).
- Premiums paid for life insurance policies when the payer is the beneficiary (not tax deductible).
- Compensation expense pertaining to some employee stock option plans (not tax deductible).
- Expenses due to violations of the law (not tax deductible).
- Portion of dividends received from US corporations that is not taxable due to the dividends received deduction.
- Tax deduction for depletion of natural resources (percentage depletion) that permanently exceeds the income statement depletion expense (cost depletion).

Following are a few illustrations that cause permanent differences under Indian GAAP:

- Donations shown as expense in Profit and Loss Account but disallowed for tax purposes under section 80G of the Income Tax Act.
- Expense charged in Profit and Loss Account but disallowed under Income tax Act . Example, penalty in respect of infringement of law.
- Certain deductions allowed under income tax Act to encourage exports (foreign currency proceeds) but no such treatment in accounting books.
- Scientific research expense allowed in accounting records to the extent of 100%, the same being allowed under Income tax Act at 125%.

Note:

- i. Permanent differences are reflected in difference between the firm's effective tax rate (Income tax expense/pretax income) and the statutory tax rate (marginal rate in the jurisdiction in which the firm operates).
- ii. Income recognized and included for financial statement purpose and not for tax purpose results in the effective tax rate being lower than the statutory tax rate.
- iii. Expenses recognized for financial statement purpose and not for tax purpose results in effective tax rate being more than statutory tax rate.
- iv. The difference is tax laws in different locations or jurisdictions also cause a difference in effective tax rate with statutory tax rate.

Effective Tax Rate vs Statutory Tax Rate

Reported effective Tax Rate of a company is simple the ratio of income tax expense of the firm to pretax income of the firm.

$$\text{Reported Effective Tax rate} = \frac{\text{Income tax expense}}{\text{Pretax income}}$$

Whereas, the statutory tax rate of a firm is the marginal rate applicable to the firm in the jurisdiction in which it operates. Permanent differences result in reported effective rate being different from the statutory tax rate. For example, in the case of incomes' that is taken into account for financial statement purposes but are tax free, are not taken for tax purposes. In such a case, the effective tax rate is lower than the statutory tax rate. Similarly, in case of expenses for example, Income tax fines etc. which are deductible for financial accounting purposes but not deductible for tax purpose, these will result in effective tax rate being more than the statutory tax rate.

Since the effective tax rate uses pretax income and income tax expense of the firm as reflected in the financial statements, it is used to forecast the after tax cash flows of the firm. Hence it is used as an input to valuation models. The income expense which is the numerator in the effective tax rate has two components. Taxes payable is the tax liability on the balance sheet caused by taxable income and the income tax paid is the actual cash flow for income taxes which includes refunds from earlier years.

The differences between effective tax rate of a firm and the statutory rate of the firm may be because of the following:

- a. The difference between the two may be because of different tax rates resulting from operating in different tax jurisdictions.
- b. The difference may be from changes in tax rates and legislation.
- c. Due to the presence of unconsolidated domestic affiliates and foreign affiliates.
- d. Tax holidays in a few countries.

This measure of effective tax rate is considered a good method for analysis of cash flows since it is not affected by management's choice of accounting methods, since it takes into account the deferred tax asset or liabilities that are consequence of management's choice of method. The effective tax rate can also be used to analyze the earnings management if any. Hence a break up of the effective tax rate is utilized for this purpose.

$$\text{Effective tax rate measure (A)} = \frac{\text{Taxes payable}}{\text{Pretax income}}$$

$$\text{Effective tax rate measure (B)} = \frac{\text{Incometax paid}}{\text{Pretax income}}$$

An analysis of the above two effective rate measures helps to identify possibility of earnings management. Generally, a low rate of either of the two indicates the possibility of earnings management. A disclosure reconciling the difference between reported income tax expense and the amount based on the statutory income tax rate is required by USGAAP. An understanding of which will enable the analyst to estimate future earnings and cash flows better.

TEMPORARY DIFFERENCE VS PERMANENT DIFFERENCE

Differences exist between pre-tax accounting income and taxable income. This divergence between taxable income and accounting income arises due to two main reasons. Firstly, there are differences between items of revenue and expenses as appearing in the statement of profit and loss and the items which are considered as revenue, expenses or deductions for tax purposes i.e. differences in treatment accorded. Secondly, there are differences between the amount in respect of a particular item of revenue or expense as recognized in the statement of profit and loss and the corresponding amount which is recognized for the computation of taxable income i.e. No difference in treatment accorded but difference in timing of considering the item or the quantum of considering the item.

These differences which arise from deviation in treatment result in permanent differences do not reverse in subsequent periods are called permanent differences and those differences arising from timing of recognition and quantum of recognition, that reverse in subsequent periods are referred to as timing differences and when referred to from balance sheet point of view are referred to as temporary differences.

Temporary Differences	Permanent Differences
Temporary Differences are differences between the tax and financial reporting bases of assets and liabilities.	Permanent Differences are pretax accounting income and taxable income as a result of the treatment accorded to certain transactions by the income tax regulations differ from the accounting treatment.
These differences do not arise from deviation in treatment accorded for certain transactions for accounting purposes and for tax purposes.	The differences arise from deviation in treatment accorded for certain transactions for accounting purposes and for tax purposes.
These difference arise are temporary and will reverse in future periods.	These differences are permanent and will not reverse in future periods.
Temporary differences are classified into two. They may be taxable temporary differences or deductible temporary differences.	No such classification exists in permanent differences.
Taxable temporary differences will result in taxable amounts in future periods when the carrying amount of the assets or liability is recovered or settled. Hence they generate deferred tax liabilities.	Is not considered for deferred tax computation.
Deductible temporary differences result in deductible amounts in future periods. They generate deferred tax assets.	Is not considered for deferred tax computation.

Indefinite Reversal

At times there may be an uncertainty about whether some difference will reverse in future. In such case deferred tax should not be recognized unless there reversal is evidenced. For example, temporary difference applicable to an investment in a foreign subsidiary or foreign corporate joint venture. If income is earned but not distributed to the parent company in the form of dividends, such income will be considered as permanently invested and the difference in temporary income will never be reversed and no deferred tax asset or liability is recognized.

VALUATION ALLOWANCE

SFAS-109, emphasizes to assess the possible existence of an impairment of deferred tax asset by 'more-likely-than-not' criterion which results, when necessary, in the provision of a reserve or allowance account to offset some or all of the deferred tax asset.

'More likely than not' criterion represent a probability of just over 50% (a threshold for reflecting and impairment of deferred tax is much lower than for other assets).

The factors that suggest that a reserve is not necessary there being more than a 50% probability of future realization of a temporary difference presented as a deferred tax asset are:

- i. Evidence of sufficient future taxable income, exclusive of reversing temporary differences and carry forwards, to realize the benefit of the deferred tax asset.
- ii. Evidence of sufficient future taxable income arising from the reversals of existing taxable temporary differences (deferred tax liabilities) to realize the benefit of the tax asset.
- iii. Evidence of sufficient taxable income in prior year(s) available for realization of an operating loss carry back under existing statutory limitations.
- iv. Evidence of the existence of prudent, feasible tax planning strategies under management control, which, if implemented, would permit the realization of the tax asset.
- v. An excess of appreciated asset values over their tax bases, in an amount sufficient to realize the deferred tax asset.
- vi. A strong earnings history exclusive of the loss which created the deferred tax asset.

The factors that suggest that a reserve is necessary there being a 50% or less probability of future realization of a deferred tax asset:

- i. A cumulative recent history of losses.
- ii. A history of operating losses, or of tax operating loss or credit carry forwards which have expired unused.
- iii. Losses which are anticipated in the near future years, despite a history of profitable operations.

The valuation allowance reduces the deferred tax asset to its realizable value. The valuation allowance account should be evaluated periodically at each year-end to determine if any adjustments are required. For example, the valuation allowance account would be eliminated in full if positive evidence now exists indicating that the deferred tax asset is no longer impaired.

Computation of Valuation Allowance

Illustration 8

On 31st March 2006, the financial statement of Sreenil Company is showing a deductible temporary difference of Rs.1,20,000. Assume that the tax rate is flat 40%. Management of the company does not think that the future taxable income of the company will be sufficient to realize a tax benefit of more than Rs.30,000 i.e., 25% of the deductible temporary differences. Also assuming that there were no deferred tax assets in previous years and that prior years' taxable income was inconsequential compute the valuation allowance.

On 31st March 2006, Deferred tax asset in the amount of Rs.48,000 (Rs.1,20,000 x 40%). Valuation allowance of Rs.36,000 (40% of the difference arises due to the difference of deductible temporary differences of Rs.1,20,000 and the expected future taxable income to absorb a portion of the tax benefit of Rs.30,000).

On 31st March 2006, the company should pass the following journal entry:

	Rs.	Rs.
Dr. Deferred tax asset	48,000	
Cr. Valuation allowance		36,000
Cr. Income tax benefit deferred		12,000

Solution

The deferred income tax benefit of Rs.12,000 represents that portion of the deferred tax asset (25%) which is more-likely-than-not-to-be-realized.

Assume that in 2006-07, if Sreenil Company furnished the following actual results–

	Rs.
Pre-tax financial loss	(64,000)
Reversing deductible differences since 2005-06	(20,000)
Loss carry forward for tax purposes	(84,000)

A deferred tax of Rs.73,600 i.e., 40% of Rs.1,84,000 i.e. the sum of carry forward of loss and the amount of deductible temporary differences since 2005-06 not reversing in 2006-07 (assume Rs.1,00,000) is recognized on 31st March 2007. If the management projected that not more than Rs.50,000 of the tax asset will not be realized then valuation allowance of the similar amount is required which results an increase of (50,000 – 36,000). Rs.14,000 in the same account.

On 31st March 2007, the following journal entry is to be passed–

	Rs.	Rs.
Dr. Deferred tax asset	25,600	
Cr. Valuation allowance		14,000
Cr. Income tax benefit-deferred		11,600

The deferred tax asset is debited to increase its balance to the required amount of Rs.25,600 and Rs.11,600 in income tax benefit deferred account represents the balancing figure.

For example, Chandra Ltd. has Rs.20,00,000 as non-current deferred tax asset and the company feels that it is more likely than not that Rs.10,00,000 of this deferred tax asset will not be realized. Income tax expense was increased or decreased each time when this asset was recognized in current and prior period. In that case the company should pass the following entry–

	Rs.	Rs.
Dr. Income tax expense	10,00,000	
Cr. Allowance to reduce deferred tax asset to expected realizable value		10,00,000

These information reflect in the balance sheet in the following way–

	Rs.
Other assets (non-current)	
Deferred tax asset	20,00,000
Less: Allowance to reduce deferred tax asset to expected realizable value	(10,00,000)
	10,00,000

The allowance account is to be increased/decreased each year on the evidence available at that time which ultimately reflects on the upward/downward of income tax expense. In the next year, if the deemed net realizable value is Rs.12,00,000 at the end of the year, then the following entry is to be passed–

	Rs.	Rs.
Dr. Allowance to reduce deferred tax asset to expected realizable value	2,00,000	
Cr. Deferred income tax expense		2,00,000

IMPLICATIONS OF VALUATION ALLOWANCE

Valuation allowance is a contra asset account created against deferred tax assets based on 'more likely than not' criteria. Where it is more likely than not the deferred tax asset or a portion of the deferred tax asset will not be realized, valuation allowance is created to reduce the deferred tax asset. The rationale behind the valuation allowance is the company must have future taxable income to benefit from deferred tax asset.

A valuation allowance has the effect of reducing the income from continuing operations. An increase in valuation allowances brings down the income, and vice versa a decrease in valuation allowance helps to increase income from continuing operations as well as generate cash flows. This tool can be used by management to manage or manipulate earnings. Hence, an auditor in course of audit should review the company's sufficiency of valuation allowance. And whether there is likely hood that the deferred tax assets would be realized. The analysts need to scrutinize changes in valuation allowance to determine whether changes are justified and whether there is any earnings management. Since this item is susceptible to management discretion, a need arises to evaluate the quality of earnings. A few firms are conservative, offsetting most or all deferred tax assets with valuation allowance, while others are optimistic and do not create and feel the valuation allowance is necessary.

LOSS CARRYFORWARDS

Operating losses arise when the tax deductions are in excess of taxable revenues. These operating losses can be utilized in two ways. The tax losses can be carried back and applied to prior years and refunds claimed from previously paid taxes. This is referred to carry back of losses the impact of which is recognised in the loss period since it is measurable and recoverable. Tax losses may also be carried forward in the future periods to future periods. These are referred to as tax loss carryforwards. Since the tax loss carryforwards depends on future taxable income, the expected benefits are referred to as deferred tax assets.

A loss carryforward benefit is to be recognized if there exists more than a 50% probability of future realization. This implies that a net deferred tax asset may be recorded for the tax benefit and no valuation allowance is required. In other words, the tax benefit of a loss carryforward is recognized as a deferred tax asset if the loss is to be carried forward to offset future amounts of taxable income. The tax benefit is measured at the tax rate(s) scheduled to be in effect for the carryforward period. When the net deferred tax asset is recorded, income tax expense is reduced. If however, there is a 50% or less probability of future realization, a net deferred tax asset is not recorded (the valuation allowance equals the gross deferred tax asset, resulting in a zero balance in the net deferred tax asset). This implies that the tax effect of the operating loss carryforward cannot be recognized until the year realized (the year in which the tax liability is reduced). In other words, the amount of the gross deferred tax asset is reduced by a valuation allowance if it is more likely than not that some or all of the benefit of the loss carryforward will not be realized (that is, sufficient taxable income will not be earned in the carryforward period). When the tax benefit of a loss carryforward is recognized when realized in a later year, it is classified in the same way as the income enabling recognition (typically reducing tax expense).

Illustration 9

The financial income and loss is as follows:

Year	Income (Loss) (in Rs.)	Tax rate (%)	Tax expense (in Rs.)
2004	400,000	40	160,000
2005	600,000	40	240,000
2006	200,000	30	60,000
2007	(400,000)	30	
2008	(1,000,000)	30	
2009	300,000	30	90,000
2010	240,000	30	72,000

Assuming that taxable income and loss is the same as financial income and loss, Journalise for loss carrybackwards and Loss carryforwards.

The journal entries to record income tax expense and the net operating loss carrybacks and carryforwards at Dec. 31 year-end are as follows:

Date	Particulars	Dr. Amount	Cr. Amount
Dec 31, 2004	Income tax expense Dr To Income tax payable	Rs.160,000	Rs.160,000
Dec 31, 2005	Income tax expense Dr. To Income tax payable	Rs.240,000	Rs.240,000
Dec 31, 2006	Income tax expense Dr. To Income tax payable	Rs.60,000	Rs.60,000

Financial Statement Analysis

Date	Particulars	Dr. Amount	Cr. Amount
Dec 31, 2007	Income tax refund receivable Dr. To Benefit due to loss carryback [Rs.400,000 x 40%]	Rs.160,000	Rs.160,000
Dec 31, 2008	i Income tax refund receivable Dr. To Benefit due to loss carryback [Rs.600,000 x 40% + Rs.200,000 x 30%]	Rs.300,000	Rs.300,000
	ii. Deferred tax asset Dr. To Benefit due to loss carryforward [(Rs.1,000,000 – Rs.600,000 – Rs.200,000) x 30%]	Rs.60,000	Rs.60,000
Dec 31, 2009	Income tax expense Dr. To Income tax payable To Deferred tax asset	Rs.90,000	Rs.30,000 Rs.60,000
Dec 31, 2010	Income tax expense Dr. To Income tax payable	Rs.72,000	Rs.72,000

TAX RATES

Deferred taxes are recorded at the amounts of settlement when the Temporary differences reverse.

The balance sheet oriented measurement approach requires the revaluation of the deferred tax asset and liability balances at each year end with regard to the changes in tax rates or other provisions of the tax law (e.g., deductibility of items) by the enactment, where the effects of such changes must be reflected in the year-end deferred tax accounts. Offsetting adjustments are made to the current period's tax provision such that the current tax provision will reflect the tax effect of current transactions. The revision of previously provided tax effects for transactions which are yet to reverse is done so that the assets and liabilities will be properly valued on the balance sheet. It would be more meaningful to report the effects of such changes in the period when the changes are enacted into law thus providing the most reliable measure of the impact of such changes consistent with the informational needs of financial statement users. For example, on December 31, 2006, a new tax law increases the tax rate from 30% to 35%. The effective date of the increase is January 1, 2008. If the temporary difference is expected to reverse in 2008, the company should calculate the deferred tax liability at December 31, 2006 at the newly enacted tax rate of 35%.

It would be unusual for any company to have only a single temporary difference in any given accounting period. Generally, there are more than one temporary difference. It is necessary to categorize all temporary differences into (a) future taxable amounts or (b) future deductible amounts. The total of the future taxable amounts is multiplied by the future tax rate to determine the appropriate balance for the deferred tax liability, and the total of the future deductible amounts is multiplied by the future tax rate to determine the appropriate balance for the deferred tax asset.

Illustration 10

At the end of 2006 a new tax law reduces the tax rate from 36% to 30% starting in 2008. In 2006, the business had a deferred profit of Rs.400,000 and showed a deferred tax liability of Rs.144,000. The gross profit is to be reflected equally in 2007, 2008, 2009, and 2010. Thus, the deferred tax liability at yearend 2006 of \$18,000 is derived as follows:

Particulars	2007	2008	2009	2010	Total
Reversals	Rs.100,000	Rs.100,000	Rs.100,000	Rs.100,000	Rs.400,000
Tax rate	.36	.30	.30	.30	
Deferred tax liability	Rs.36,000	Rs.30,000	Rs.30,000	Rs.30,000	Rs.126,000

The required journal entry in 2006 is

Deferred tax liability	Dr. Rs.18,000
To Income tax expense	Rs.18,000
(Rs. 144,000 – Rs.126,000)	

Effects of Tax Rate Changes

The deferred tax liability or asset is meant to reflect the amount to be paid or recovered in the future. Hence when legislation changes that amount, the deferred tax liability or asset also should change. The effect of the change is reflected in operating income in the year of the enactment of the change in the tax law or rate.

Change in tax rates not only impacts the current period taxes payable and income tax expense, but also all balance sheet deferred tax assets and liabilities under the liabilities method. For example, an increase in the tax rate increases both deferred tax assets and deferred tax liabilities. Similarly, a decrease in tax rate decreases both deferred tax assets and liabilities.

On the other hand and increase in tax rate leading to increase in deferred tax liabilities increases the income tax expense and the increase in deferred tax assets leads to decrease in income tax expense. Similarly, a decrease in tax rate decreases the deferred tax liability which in turn decreases income tax expense and decrease in deferred tax assets leads to increase in income tax expense.

The revised tax rates by the enactment affect not only the un reversed effects of items originally reported as operating activities in the income statement but also un reversed effects of items first presented such as discontinued operations, extraordinary items, or in other income statement captions. Further, the tax expense includes the tax change impact on the accumulated balance of deferred tax benefits or obligations arising through charges or credits to other comprehensive income under USGAAP. For example, if an entity has unrealized gains on holding 'available-for-sale' securities at a time when relevant income tax rates (presumably, the capital gains rates) are lowered, the reduction in the tax obligation associated with these unrealized gains will reduce current period tax expense associated with continuing operations, despite the fact that the tax provision was originally reported in an additional equity account (and included in other comprehensive income, not earnings).

In the case of tax changes during an interim reporting period, its effects are to be reported in the period in which enactment occurs where such effects are to be reported under continuing operations irrespective of the source of the temporary differences being impacted. For example, if in the first fiscal quarter of a year an entity accrued a loss relating to discontinued operations, which is not tax deductible until realized, the tax effect would be shown in the discontinued operations section of the income statement for that quarter. If tax rates are changed in the third quarter of the same year, the deferred tax benefit recognized in connection with the discontinued operations would need to be adjusted upward or downward, based on the newly enacted tax rate schedule. The income statement effect of this adjustment would be included in the tax provision pertaining to income from continuing operations in the third quarter.

Illustration 11

Sind Company furnished the following information about its temporary differences from its first year of operations:

	Treatment in the Book to Tax Reconciliation	
i.	Long-term contracts:	
	Year 1 Book Contract (current year): income contract > tax income	Rs.600 subtraction
	Year 2 Book contract income < tax income	Rs.600 addition
ii.	Accumulated depreciation:	
	Year 1 (current year) Book depreciation < tax depreciation	Rs.2,000 subtraction
	Year 2 Book depreciation < tax depreciation	Rs.1,000 subtraction
	Year 3 Book depreciation > tax depreciation	Rs.1,200 addition
	Year 4 Book depreciation > tax depreciation	Rs.800 additions
	Year 7	Rs.1,000 addition
iii.	Estimated expense liability:	
	Year 1 (current year) : book est. exp/loss > tax deduction	Rs.400 addition
	Year 7 book exp/loss < tax deduction	Rs.400 subtraction
iv.	Rent revenue:	
	Year 1 (current year) book est. exp/loss > tax deduction	Rs.1,000 addition
	Year 4 Book revenue > tax revenue	Rs.400 subtraction
	Year 7 Book revenue > tax revenue	Rs.600 subtraction
v.	Tax rates 40%	
vi.	Current year	
vii.	Years 2-4: 35%	
viii.	Years 5-7: 30%	

The following schedule combines the (1) pre-tax accounting income to taxable income reconciliation and (2) the future taxable (deductible) amounts schedule. The taxable amounts are added/deducted to financial (book) income in the book to tax reconciliation schedule in future years in which they increase/decrease taxable income. Taxable income and deferred tax liability (asset) balances for year 1 (the current year) would be determined in the table.

Particulars	Future Years					Deferred tax liability (asset)
	Current year Year 1	Year 2 taxable (deductible)	Year 3 taxable (deductible)	Year 4 taxable (deductible)	Year 7 taxable (deductible)	
i. Tax rate	40%	35%	35%	35%	30%	
ii. Pre-tax accounting income	Rs.1,200					
iii. Temporary differences LT contracts	(600)	600				Rs.210 current
Accumulate depreciation	(2,000)	(1,000)*	1,200*	800	1,000	Rs.650 Non-current
Estimated expense Liability	400				(400)	Rs.120 Non-current
Rent revenue	1,000			(400)	(600)	Rs.(320) Non-current
Taxable income	2,000					
Income tax payable	Rs.(2,000 x 40%) = 800					

* in year 2 there is excess of tax depreciation as there was in year 1.

Income tax expense can be calculated as follows:

Income tax = income tax payable ± change in deferred taxes (net)

According to SFAS-109, deferred tax assets and liabilities are classified as current or long-term based on the related asset or liability, rather than on the expected timing of the future deductible or taxable amounts. A deferred tax asset or liability which is not related with any asset or liability for financial report purpose, it will be classified based on the expected reversal date.

Solution

Temporary difference	Deferred tax asset or liability	Related account	Classification
LT contracts	Rs.600 x 35% = Rs.210 liability	Const-in-progress	Current
Depreciation	[(1,000) + 1,200 + 800] x 35% + Rs.1,000 x 30% = Rs.650	Accumulated depreciation	Non-current
Est. expense	Rs.400 x 30% = Rs.120	Estimated liability	Non-current
Rent revenue	Rs.400 x 35% + Rs.600 x 30% = Rs.320 asset	Unearned rent	Non-current

The following journal entry is required:

	Rs.	Rs.
Dr. Income tax expense current	800	
Cr. Income tax payable		800

a. Rs.2,000 taxable income x 40% = Rs.800

	Rs.	Rs.
Dr. Income tax expense deferred (e)	420	
Dr. Deferred tax asset non-current	440	
Cr. Deferred tax liability current (c)		210
Cr. Deferred tax liability non-current (d)		650

- b. $\text{Rs.}400 \times 30\% + \text{Rs.}400 \times 35\% + \text{Rs.}600 \times 30\% = \text{Rs.}440$ needed ending balance; $\text{Rs.}440$ ending balance – $\text{Rs.}0$. Beginning balance = $\text{Rs.}440$ increase needed in the account.

Deferred tax asset – non-current	
Beginning balance	0
(b) Increase	Rs.440
End balance	Rs. 440

- c. $\text{Rs.}600 \times 35\% = \text{Rs.}210$ ending balance; $\text{Rs.}210$ ending balance – $\text{Rs.}0$. Beginning balance = $\text{Rs.}210$ increase needed in the account.

Deferred tax liability – current	
Rs.0	beginning balance
Rs.210	Increase (c)
Rs.210	End balance

- d. $\text{Rs.}2,000 \times 35\% + (\text{Rs.}1,000) \times 35\% + \text{Rs.}1,000 \times 30\% = \text{Rs.}650$ ending balance; $\text{Rs.}650$ ending balance – $\text{Rs.}0$. Beginning balance = $\text{Rs.}6,650$ increase needed in the account.

Deferred tax liability – non-current	
0	beginning balance
650	Increase (d)
650	End balance

- e. $\text{Rs.}210$ increase in current deferred tax liability amount + $\text{Rs.}650$ increase in non-current deferred tax liability account – $\text{Rs.}440$ increase in non-current deferred tax asset account = $\text{Rs.}420$.

As it is the first year of operation of the firm, there is no opening balance in deferred tax account. Permanent differences (if any) will effect only the current year and the creation of a valuation allowance should be considered to reduce the deferred tax asset to its net realizable value.

Tax Effect of Status Changes

The effect of any change in tax status affecting a company requires an immediate adjustment to deferred tax liabilities (or assets) and to income tax expense. The effect of tax status changes should be reported in current tax expense as a part of the tax provision relating to continuing operations from the date when the change becomes effective. The change could be a change from or to taxable status (a 'C' corporation) to or from non-taxable status or flow through entity (a 'S' corporation) in case of which the stockholders become personally liable for taxes on the company's earnings irrespective of whether the earnings are distributed to them or not as in the case of partnership.

The new approach advocates the deferred taxes to be eliminated by reversal through current period tax expense and if an entity having a net deferred tax liability opts S corporation status, it has to report a tax benefit in its current provision. The effect is to assume a net tax benefit or obligation for unreversed temporary differences existing at the date the change becomes effective in case an S corporation opts to become a C corporation.

Such changes must be reflected in the current tax provision of the financial statements of an enterprise. It would be reported as a large tax expense in that period if an entity had at that date many taxable temporary differences unreversed. Conversely, if it had a large quantity of unreversed deductible temporary differences, a substantial deferred tax benefit (subject to the more-likely-than-not criterion) would need to be recorded, with a concomitant credit to the current period's tax provision in the income statement.

The financial statements has to provide full explanation regarding the nature of the events which has transpired in the footnote of the income tax returns.

The effective date would be the filing date for the election as S corporation and therefore, the effects would be reported in the current year income to become effective at the beginning of the company's next fiscal year in case an entity makes an election before the end of the current fiscal year. For example, an election filed in December, 1999 would be reported in the 1999 financial statements to become effective at the beginning of the company's next fiscal year, January 1, 2000 where no deferred tax assets or liabilities appear on the December 31, 1999 balance sheet, and the tax provision for the year ended would include effects of any reversals that had been previously recorded. The statement provides a non-ostentatious clause that notwithstanding the fact that a C corporation electing to become S corporation, will continue to report a deferred tax liability related to the built-in gains resulting in a future tax liability under defined circumstances.

If an entity's tax status changes from nontaxable to taxable, a deferred tax asset or liability should be recorded for any temporary differences at the time the status changes. On the other hand, if the status change is from taxable to nontaxable, any deferred tax asset or liability should be eliminated.

Tax Effect of Accounting Changes

The mandated accounting change does not necessarily affect the financial statement reporting but would affect the income tax reporting. It involves two different temporary differences of which one is catch-up adjustment and one-time which either immediately or over a prescribed time period impacts the tax basis of the asset or liability in question (net receivables or inventory), and which then reverses as these assets or liabilities are later realized or settled and are eliminated from the balance sheet. The second change is the ongoing differential which is the normal temporary difference in the amount of newly acquired assets or incurred liabilities being recognized for tax and accounting purposes; these differences also eventually reverse, when the inventory is ultimately depleted or the receivables are ultimately collected.

Illustration 12

The amount of gross receivables and bad debt of Anirvesh Corp. was Rs.20,00,000 and Rs.8,00,000 respectively as on 31st March 2002. The company enjoyed 40% tax bracket from 1st April 2002, the tax law is revised to eliminate deductions for accrued bad debts with existing allowances to be taken into income ratably over 4 years i.e., a "4 year spread".

Solution

The balance sheet for 1st April 2002 will show a deferred tax benefit of Rs.3,20,000 and a current tax liability of Rs.80,000 i.e., 1/4th of the tax obligation and a non-current tax liability of Rs.2,40,000 represents 3/4th of the future tax obligation. The amount of deferred tax benefit arrived as $\text{Rs.8,00,000} \times 40\% = \text{Rs.3,20,000}$ which represents the tax effect of future deductions to be taken when specific receivables are written off and bad debts are incurred for tax purpose.

Financial Statement Presentation

In the balance sheet, deferred tax assets are offset against deferred tax liabilities and shown as (1) net current or (2) net non-current. However, you cannot offset a current account against a non-current account.

Deferred tax assets or deferred tax liabilities classification depends on their related asset or liability they apply to. For example, a deferred tax liability due to depreciation on a fixed asset would be presented as non-current. A deferred tax asset related to accounts receivable would be classified as current. In case of deferred taxes not related to specific assets or liabilities, they are classified as current or non-current depending on the anticipated reversal dates of the temporary differences. Temporary differences reversing within one year are classified as current, and those reversing after one year are non-current. In some

cases, a given temporary difference may be a mix of current and non-current, such as a three-year warranty in which the first year is shown as a current account while years 2 and 3 are presented as a non-current account. Other examples are deferred tax assets related to a loss carry forward, and deferred tax liabilities arising when a long-term contract is accounted for by the percentage-of-completion method for financial reporting and by the completed contract method for tax purposes. Under the latter circumstances, the temporary difference becomes taxable when the contract is completed.

In case of existence of valuation allowance account which is reduced from gross deferred tax asset, it must be prorated between current and non-current relative to the classification of the gross deferred tax asset.

Income tax expense should be presented in the income statement as two components – namely, the tax currently payable (the liability) and the deferred portion (portion of the expense based on temporary differences). The total income tax expense provision is based on financial reporting income excluding permanent differences. The amount currently payable is the current year's taxable income multiplied by the current year's tax rate. The deferred portion is the amount of temporary difference multiplied with the tax rate, or the change in the deferred tax balance during the year (ending balance less beginning balance). The current tax provision is the income taxes for the year as reported on the tax return.

SFAS-109 recommends the following policies to be adopted for applying this requirement:

- i. The deferred tax asset/liability is classified as current or non-current depending on the related asset/liability. For example, temporary difference for depreciable assets is classified as non-current because the related asset, i.e. plant and machinery is non-current.
- ii. The classification is based on the expected timing of reversal if the deferred tax does not relate to any particular asset/liability. For example, organization costs incurred for accounting purposes expensed in the period of incurrence but deferred and deducted later for tax purposes, there is no related asset/liability.
- iii. All deferred tax assets and liabilities are offset and disclosed as a single amount when it is attributable to a particular tax paying component or jurisdiction. Conversely when they are attributable to different components of the enterprise offsetting is not permitted.

DISCLOSURE

General

FAS-109 requires the following disclosures to be made in the entity's balance sheet:

- i. Total deferred tax liabilities for taxable temporary differences and loss carry forwards.
- ii. Total deferred tax assets for deductible temporary differences and credit carry forwards.
- iii. Total valuation allowance recognized for deferred tax assets.
- iv. The net change during the year in the total valuation allowance.

Under FAS-109, disclosure is also required with regard to significant components of income tax expense attributable to continuing operations for each year presented in the Financial Statements or in the Notes to Financial Statements.

- i. Current tax expense or benefit.
- ii. Deferred tax expense or benefit.
- iii. Investment tax credit.

- iv. Government grants recognized as reductions in IT.
- v. Tax benefits of operating loss carry forwards.
- vi. Tax expense that results from allocating tax benefits:
 - a. Directly to contributed capital, or
 - b. To reduce goodwill or other non-current intangible assets.
- vii. Adjustments of the beginning balance of valuation allowance because of change in the realizability of deferred tax asset in the future.
- viii. Adjustments to a deferred tax liability or asset for tax rate, tax law, tax status changes.

Special

- a. Case where APB-23 exceptions of non-recognition of deferred taxes are applicable, the disclosures are:
 - i. Description of the types of temporary differences and events that would cause them to be taxable.
 - ii. The cumulative amount of each type of temporary difference.
 - iii. The amount of unrecognized deferred tax liability related to foreign subsidiaries and foreign corporate joint ventures that are essentially permanent in duration and others.
- b. Public and Non-Public Disclosures:
 - A distinction lies in the reporting aspects in respect of a Public company and a Non-Public Company.
 - In the case of Public companies, a description of each type of temporary differences and carry forwards and their approximation of tax effect is disclosed. A reconciliation in percentages or dollars is presented.
 - In the case of Non-Public companies, a description of types of temporary differences and carry forwards is presented. In addition a Statutory reconciliation in the form of description of major reconciling items is required.
- c. If an entity is a member of a group that files a consolidated tax return:
 - i. Total amount of current and deferred tax expense for each statement of earnings presented and the amount of any tax-related balances due to or from affiliates as of the date of financial position presented.
 - ii. The allocation of consolidated amount of current and deferred tax expense to members of the group and the nature and effect of any changes in the method of allocation during the year.

Special Items

DEFERRED TAXES AND INVESTMENTS

Where investments in the common stock of other companies is accounted for under the cost method, no temporary difference arises. However, where equity method is used to account for an investment in another company, a temporary difference arises. The investor recognizes its share of earnings in the profit of the investee for the purpose of financial reporting but recognizes dividends received from the investee for tax purposes. As a result, the investor's book income exceeds its tax income because profit is usually in excess of dividends. In consequence, a deferred tax liability will likely arise.

DEFERRED TAXES AND BUSINESS COMBINATION

When the purchase method of accounting for business combinations is adopted, the costs assigned to the acquired company's net assets may differ from the valuation of those net assets on the tax return. This may result in a temporary difference. Hence the result is either a deferred tax liability or deferred tax asset that is reported on the acquirer's consolidated financial statements.

Also goodwill may arise in a purchase combination, where the cost to the acquirer exceeds the fair market value of the acquired company's net assets. The period of amortization of goodwill for accounting purposes may be different from the period of amortization for tax purposes. This will give rise to a temporary difference. If negative goodwill arises because the acquirer's cost is less than the fair market value of the acquired company's net assets, non-current assets (except for long-term investments) are proportionately reduced. This will result in a temporary difference arising from the difference of depreciation expense for book and tax purposes. For example, in case of US companies the amortization of goodwill for tax purposes is over a mandatory 15-year amortization period, while for the books goodwill may be amortized over a period not exceeding 40 years.

Companies may have unrecognized tax benefits associated with operating losses or tax credits arising from a business combination accounted for under the purchase method. This may give rise to other similar tax advantages subsequent to the date of combination. In the absence of a provision in the tax law to the contrary, the tax benefits realized should be apportioned for book reporting between pre- and post-acquisition tax benefits.

In the case of pooling-of-interests method, if the combined company will be under the tax law to use an operating loss or tax credit carry forward, the deferred tax benefits should be recognized when prior years' financial statements are restated. If the benefits cannot be used under the tax law in the consolidated tax return, the tax benefits cannot be recognized in the restated financial statements.

QUASI REORGANIZATION

The tax benefits associated with deductible temporary differences and carry forwards on the date of a quasi-reorganization should typically be recorded as an increase in paid-in-capital if the tax benefits will occur in later years.

International Treatment of Income Taxes

Countries outside US follow International Accounting Standard to account and report for Income Taxes. The International accounting standards also uses the liability method to account for Income Taxes. International accounting for taxes differs from US accounting for taxes only in few respects. For example, Where the foreign operation's taxable profit or tax loss is determined in foreign currency, changes in exchange rate give rise to temporary differences. As per international standards, since such temporary differences relate to the foreign operation's own assets and liabilities, rather than to the reporting enterprise's investment in that foreign operation, the reporting enterprise recognizes the resulting deferred tax liability or asset. While in US, deferred taxes for temporary differences in respect of foreign currency non-monetary assets is prohibited to be recognized. Similarly, while temporary difference arising from inter-company transfer of inventory and other assets remaining within the consolidated group are considered for computation of deferred taxes by firms outside US, these are ignored under USGAAP.

Illustration 13

Allenby Distributors Ltd. is an electronic equipment manufacturing and distributing company. It began its full-fledged manufacturing and distribution operations in the year 2003. During the first year of its operations, Allenby Distributors Ltd. reported a pre-tax income of Rs.3,00,00,000. The above figure of pre-tax income includes the following items:

- i. Income from installment sales of Rs.10,00,000 in the year 2000 accounted for, is to be reported for tax purposes in the year 2004 amounting to Rs.6,00,000 and in the year 2005 amounting to Rs.4,00,000.
- ii. For an asset, having useful life of four years used in the manufacturing process, straight-line method of depreciation was adopted. However, for tax purposes it was found that the depreciation in the first two years was higher

when compared to the straight-line method and in the following two years the amount of depreciation was lower when compared to straight-line depreciation.

Year	Depreciation as per Income statement (amount in Rs.)	Depreciation as per tax return (amount in Rs.)	Difference (amount in Rs.)
2003	75,00,000	91,00,000	(16,00,000)
2004	75,00,000	1,13,00,000	(38,00,000)
2005	75,00,000	55,00,000	20,00,000
2006	75,00,000	41,00,000	34,00,000

- iii. Estimated warranty expenses accounted for are actually expected to be paid during the next two years. The estimated deductions are as follows:

Year	Income statement (amount in Rs.)	Tax return (amount in Rs.)	Difference (amount in Rs.)
2000	8,00,000		8,00,000
2001		4,00,000	(4,00,000)
2002		4,00,000	(4,00,000)

The pretax income for the year 2004 of Rs.300 lakhs includes a loss of Rs.2 lakh for having accrued a loss contingency. The loss is expected to be paid in the year 2006 when it will also be tax deductible.

The enacted tax rate is 40% and is expected to be the same for the next five years.

You are **required to** compute the income tax expenditure for the year 2003 and 2004, with the corresponding journal entries.

Solution

Particulars	Current year 2003	Future taxable (deductible) amounts (Rs.)			Future taxable amounts total (Rs.)	Future deductible amounts total (Rs.)
		2004	2005	2006		
Accounting income	300,00,000					
Temporary differences						
Installment sales	(10,00,000)	6,00,000	4,00,000		10,00,000	
Depreciation	(16,00,000)	(38,00,000)	20,00,000	34,00,000	16,00,000	
Warranty expenses	8,00,000	(4,00,000)	(4,00,000)			(8,00,000)
Taxable income	282,00,000				26,00,000	(8,00,000)
Enacted tax rates	40%				40%	40%
Tax payable currently	112,80,000					
Deferred tax liability					10,40,000	
Deferred tax asset						3,20,000

	Deferred tax liability (Rs.)	Deferred tax asset (Rs.)
Closing balances	10,40,000	3,20,000
Less: Opening balances	0	0
Change in balances	10,40,000	3,20,000

Financial Statement Analysis

Journal entry at the end of the year 2003

	Rs.	Rs.
Dr. Income tax expense (balance)	120,00,000	
Dr. Deferred tax asset	3,20,000	
Cr. Deferred tax liability		10,40,000
Cr. Income tax payable		112,80,000

Particulars	2003	Current year	Future taxable (deductible) amounts		Future taxable amounts total	Future deductible amounts total
		2004	2005	2006		
	(Rs.)	(Rs.)	(Rs.)	(Rs.)	(Rs.)	(Rs.)
Accounting income		300,00,000				
Temporary differences						
Installment sales	(10,00,000)	6,00,000	4,00,000		4,00,000	
Depreciation	(16,00,000)	(38,00,000)	20,00,000	34,00,000	54,00,000	
Warranty expenses	8,00,000	(4,00,000)	(4,00,000)			(400,000)
Estimated loss		2,00,000		(2,00,000)		(2,00,000)
Taxable income		266,00,000			58,00,000	(6,00,000)
Enacted tax rates		40%			40%	40%
Tax payable currently		106,40,000				
Deferred tax liability					23,20,000	
Deferred tax asset						2,40,000

	Deferred tax liability (Rs.)	Deferred tax asset (Rs.)
Closing balances	23,20,000	2,40,000
Less: Opening balances	(10,40,000)	(3,20,000)
Change in balances	12,80,000	(80,000)

Journal entry at the end of 2004

	(Rs.)	(Rs.)
Dr. Income tax expense (balance)	120,00,000	
Cr. Deferred tax asset		12,80,000
Cr. Deferred tax liability		80,000
Cr. Income tax payable		106,40,000

SUMMARY OF IAS

IAS 12 is based on Balance Sheet Approach. Temporary differences are differences between the taxable income and the accounting income for a period that arises as a result of some items of revenue or expenses included in the taxable income not coinciding with the period in which the same items of revenue or expense are included in the accounting income. More specifically, the differences between the carrying amount of an asset or liability in the balance sheet and its tax base are known as temporary differences.

The tax base of an asset or liability is the amount attributed to that asset or liability for tax purposes. The tax base of an asset is the amount that will be deductible for tax purposes against any taxable economic benefits that will flow to the enterprise when it recovers the carrying amount of the asset. If those economic benefits will

not be taxable, the tax base of the asset is equal to the carrying amount. Similarly, the tax base of a liability is its carrying amount less any amount that will be deductible for tax purposes in respect of that liability in future periods. In the case of any revenue received in advance, the tax base of the resulting liability is the carrying amount less any amount of the revenue that will not be taxable in future periods.

Temporary differences, which originate in one period and reverse in future periods, can be classified into two types:

- a. Taxable temporary differences, which are differences that will result in taxable amounts in determining taxable profit or tax loss of future periods when the carrying amount of the asset or liability is recovered or settled, and
- b. Deductible temporary differences, which are differences that will result in amounts that are deductible in determining taxable profit or tax loss of future periods when the carrying amount of the asset or liability is recovered or settled.

A deferred tax liability is recognized for all taxable temporary differences, unless the deferred tax liability arises from:

- a. Goodwill for which amortization is not deductible for tax purposes; or
- b. The initial recognition of an asset or liability in a transaction which is not a business combination, and at the time of the transaction affects neither accounting profit nor taxable profit/ tax loss.

A deferred tax liability is recognized for all taxable temporary differences associated with investments in subsidiaries, branches and associates, and interests in joint ventures, except to the extent that both of the following conditions namely; the parent, investor or venturer is able to control the timing of the reversal of the temporary difference, and it is probable that the temporary difference will not reverse in the foreseeable future, are satisfied. It is inherent in the recognition of an asset that its carrying amount will be recovered in the form of economic benefits that will flow to the enterprise in future periods. When the carrying amount of the asset exceeds its tax base, the taxable economic benefits will exceed the amount allowable as deduction for the purpose of tax. This difference is a taxable temporary difference leading to a formation of a deferred tax liability by virtue of an obligation to pay the resulting tax in future periods. As the enterprise recovers the carrying amount of the asset the taxable temporary difference will reverse leading to a taxable profit. The recognition of deferred tax liabilities in all situations, subject to the exceptions mentioned above, is because of a possibility of economic benefits flowing back to the enterprise in the form of tax payments.

A deferred tax asset is recognized for all deductible temporary differences to the extent that it is probable that taxable profit will be available against which the deductible temporary difference can be utilised, unless the deferred tax asset arises from:

- a. Negative goodwill which is treated as deferred income in accordance with IAS 22; or
- b. The initial recognition of an asset or liability in a transaction which is not a business combination, and at the time of the transaction, affects neither accounting profit nor taxable profit/tax loss.

A deferred tax asset is recognized for all deductible temporary differences arising from investments in subsidiaries, branches and associates, and interests in joint ventures, only to the extent it is probable that the temporary difference will reverse in the foreseeable future; and taxable profit will be available against which the temporary difference can be utilized. It is inherent in the recognition of a liability that the carrying amount will be settled in future periods through an outflow from the enterprise of resources representing economic benefits. This amount on the outflow of resources may be deductible in subsequent periods for the purpose of

determining the taxable profit that is different from the period in which the liability is recognized. The difference between the carrying amount of the liability and its tax base is a temporary difference, and accordingly the taxes that will be recovered in the future periods on the said liability being allowed for deduction at the time of payment shall result in a deferred tax asset. In the same way, if the carrying amount of an asset is less than its tax base, a deferred tax asset shall arise with regard to the taxes that are recoverable in future periods.

A deferred tax asset is recognized for the carry forward of unused tax losses and unused tax credits to the extent that it is probable that future taxable profit will be available against which the unused tax losses and unused tax credits can be utilised. The carrying amount of a deferred tax asset is reviewed at the balance sheet date, and is reduced to the extent that it is no longer probable that sufficient taxable profit will be available to allow the benefit of part or all of that deferred tax asset to be utilised. Any such reduction is reversed to the extent that it becomes probable that sufficient taxable profit will be available. The amount of a deferred tax asset and the nature of the evidence supporting its recognition, when the utilisation of the deferred tax asset is dependent on future taxable profits in excess of the profits arising from the reversal of existing taxable temporary differences, and when the enterprise has suffered a loss in either the current or preceding period in the tax jurisdiction to which the deferred tax asset relates, are to be disclosed in the financial statements.

Indian Scenario

Accounting for Income taxes in India follows Income Statement Approach. The Income statement Approach is based on the analysis of the difference between profit chargeable to tax as per Income tax Act and the profit chargeable to tax as per Profit and Loss Accounting. The former is termed taxable income and the later the Accounting income. These differences are classified into 'permanent differences' and 'timing differences'. Using the timing differences arising between the accounting income and the taxable income, deferred tax asset or liability is created. The deferred tax asset is subject to the concept of prudence.

Timing differences are the differences between taxable income differences between taxable income and accounting income for a period that originate in one period and reverse in one or more subsequent periods. Since permanent differences arising in one accounting period do not reverse subsequently, no deferred tax asset or liability is to be created. Deferred tax assets are recognized and carried forward only to the extent that there is a reasonable certainty that there will be sufficient future taxable income that will be available for the asset to be realized. This test is applied to all timing differences such as unabsorbed depreciation, carry forward losses etc.

Deferred tax assets and liabilities are to be measured using the tax rates and tax laws that have been enacted or substantively enacted by the balance sheet date. Current tax is measured at the amount to be paid to the taxation authorities using the applicable tax rate and tax laws.

Illustration 14

A company, ABC Ltd., prepares its accounts annually on 31st March. On 1st April, 2004, it purchases a machine at a cost of Rs.3,00,000. The machine has a useful life of three years and an expected scrap value of zero. Although it is eligible for a 100% first year depreciation allowance for tax purposes, the straight-line method is considered appropriate for accounting purposes. ABC Ltd. has profits before depreciation and taxes of Rs.4,00,000 each year and the corporate tax rate is 40 per cent each year.

Calculate the Deferred tax asset or liability. Also journalize the transactions.

Solution

The purchase of machine at a cost of Rs.3,00,000 in 20x4 gives rise to a tax saving of Rs.1,20,000. If the cost of the machine is spread over three years of its life for accounting purposes, the amount of the tax saving should also be spread over the same period as shown below:

For the year 2004-05, since the company adopts straight line method of depreciation, the Tax profit = Rs.4,00,000 – Rs.3,00,000 =Rs.1,00,000.

Accounting profit and computation for the next three years is as follows:

Particulars	2004-05	2005-06	2006-07
Profit before depreciation and taxes	4,00,000	4,00,000	4,00,000
Less: Depreciation for accounting purposes	1,00,000	1,00,000	1,00,000
Profit before taxes	3,00,000	3,00,000	3,00,000
Current Tax (based on taxable income) (A)			
(Rs.4,00,000 –Rs.3,00,000) x 40%	40,000		
(Rs.4,00,000 – 0) x 40%		1,60,000	1,60,000

In 2004, the amount of depreciation allowed for tax purposes exceeds the amount of depreciation charged for accounting purposes by Rs.2,00,000 and, therefore, taxable income is lower than the accounting income. This gives rise to a deferred tax liability of Rs.80,000. In 2005 and 2006, accounting income is lower than taxable income because the amount of depreciation charged for accounting purposes exceeds the amount of depreciation allowed for tax purposes by Rs.1,00,000 each year. Accordingly, deferred tax liability is reduced by Rs.40,000 each in both the years. As may be seen, tax expense is based on the accounting income of each period.

Computation of Timing Differences

	2004-05	2005-06	2006-07
Depreciation deductible for tax purposes	3,00,000	0	0
Depreciation deductible for accounting purposes	1,00,000	1,00,000	1,00,000
Timing Difference	2,00,000	–1,00,000	–1,00,000
Tax effect of timing difference	2,00,000 x 40%	–1,00,000 x 40%	–1,00,000 x 40%
Tax effect of timing differences originating during the year (B)	80,000		
Tax effect of timing differences reversing during the year		(40,000)	(40,000)
Tax expense (A) + (B)	1,20,000	1,20,000	1,20,000
Deferred tax liability	80,000	40,000	0

In 2004, the profit and loss account is debited and deferred tax liability account is credited with the amount of tax on the originating timing difference of Rs. 2,00,000 while in each of the following two years, deferred tax liability account is debited and profit and loss account is credited with the amount of tax on the reversing timing difference of Rs.1,00,000.

The following Journal entries will be passed:

Date	Particulars	Dr. Amount	Cr. Amount
Year 2004	Profit and Loss A/c Dr To Current tax A/c (Being the amount of taxes payable for the year 2004 provided for)	40,000	40,000
	Profit and Loss A/c Dr To Deferred tax A/c (Being the deferred tax liability created for originating timing difference of Rs. 2,00,000)	80,000	80,000
Year 2005	Profit and Loss A/c Dr. To Current tax A/c (Being the amount of taxes payable for the year 2005 provided for)	1,60,000	1,60,000
	Deferred tax A/c Dr To Profit and Loss A/c (Being the deferred tax liability adjusted for reversing timing difference of Rs. 1,00,000)	40,000	40,000
Year 2006	Profit and Loss A/c Dr. To Current tax A/c (Being the amount of taxes payable for the year 2006 provided for)	1,60,000	1,60,000
	Deferred tax A/c Dr. To Profit and Loss A/c (Being the deferred tax liability adjusted for reversing timing difference of Rs.1,00,000)	40,000	40,000

In year 2004, the balance of deferred tax account i.e., Rs.40,000 would be shown separately from the current tax payable for the year in terms of paragraph 30 of the Statement. In Year 2005, the balance of deferred tax account would be Rs.20,000 and be shown separately from the current tax payable for the year as in year 2004. In Year 2006, the balance of deferred tax liability account would be nil.

An enterprise is allowed to offset assets and liabilities representing current tax if it is (1) has a legally enforceable right to set off the recognized amounts; (2) intends to settle the asset and the liability on a net basis. The enterprise is also allowed to offset its deferred tax assets and liabilities if the enterprise has a legally enforceable right to set off assets and liabilities representing current tax and deferred tax assets and the deferred tax liabilities relate to taxes on income levied by the same governing tax laws.

SUMMARY

- Traditionally Income taxes has been provided for, by using tax payable method which required providing for income tax payable in a particular accounting period in the Profit and Loss Account. However, we have moved from tax payable method of providing income taxes to tax effect accounting method.

- Since the fundamental objectives of financial reporting and those of taxing authorities are not the same, the tax payable as per GAAP differs from tax payable as per tax rules. 'Timing Differences' are the differences between taxable income and accounting income for a period that originate in one period and are capable of reversal in one or more subsequent periods.
- The concept of 'temporary differences' which is more comprehensive than timing differences, was introduced consistent with the balance sheet orientation of GAAP. Temporary difference refers to the events that result in differences in the tax bases. Permanent differences are those differences between taxable income and accounting income which originate in one period and do not reverse subsequently.
- If book income exceeds taxable income, then tax expense exceeds tax payable, resulting in a deferred tax liability (credit). The deferred tax liability may also be calculated by multiplying the temporary difference by the applicable tax rate. If book income is less than taxable income, then tax expense, is less than tax payable, causing a deferred tax asset (Debit). The deferred tax asset equals the temporary difference multiplied by the tax rate scheduled to be in effect when the difference reverses.

Chapter V

Analysis of Financial Liabilities

After reading this chapter, you will be conversant with:

- Current Liabilities
- Long-term Debt
- Effect on Financial Statements of Different Debt Instruments
- Effect of Changing Market Interest Rates on Debt
- Retirement of Debt before Maturity
- Disclosures of Financial Liabilities
- International Accounting and Reporting Practices for Debt

Introduction

The valuation and analysis of a firm's liabilities are paramount to conducting an analysis of its liquidity and long-term solvency. Liabilities are defined as "probable future sacrifices of economic benefits arising out of present obligations of a particular entity to transfer assets or provide services to other entities in the future as a result of past transactions or events." Some obligations may arise out of operating activities involving purchase of goods or services with a promise of future payment. These obligations are referred to as current liabilities. Some other obligations may arise out of a firm's financing activities which involves current receipts of cash with promise of future repayment. Such liabilities are referred to as long-term debt. Both these forms of liabilities are presented on the balance sheet. In this chapter we shall deal with the analysis of liabilities, the nature of various debt instruments, the impact of market rate changes on reported and economic liabilities and the nature and effects of covenants imposed by creditors.

Meaning and Definitions of Important Terms

Amortization: The process of allocating an amount to expense over the periods benefited.

Bond: A written agreement whereby a borrower agrees to pay a sum of money at a designated future date plus periodic interest payments at the stated rate.

Bond Issue Costs: Costs related to issuing a bond (i.e., legal, accounting, underwriting fees, printing, and registration costs).

Bonds Outstanding Method: Accounting for serial bonds which assumes that the discount or premium applicable to each bond of the issue is the same dollar amount per bond per year.

Book Value Approach: Recording the stock issued from a bond conversion at the carrying value of the bonds converted.

Callable Bond: A bond in which the issuer reserves the right to call and retire the bond prior to its maturity.

Carrying Value: The face amount of a debt issue increased or decreased by the applicable unamortized premium or discount plus unamortized issue costs.

Collateral: Assets(s) pledged to settle the obligation to repay a loan.

Contingency: According to US GAAP, a contingency is defined as an existing condition, situation or a set of circumstances that involve uncertainty as to the possibility of a gain or a loss.

Convertible Debt: Debt which may be converted into common stock at the holder's option after specific criteria are met.

Covenant: A clause in a debt contract written for the protection of the lender which outlines the rights and actions of the parties involved when certain conditions occur (e.g., when the debtor's current ratio declines beyond a specified level).

Current liabilities are obligations or debts that are expected to be satisfied within the next twelve months.

Debenture: Long-term debt not secured by collateral.

Discount: Created when a debt instrument sells for less than face value and occurs when the stated rate on the instrument is less than the market rate at the time of issue.

Effective Interest Method: Amortizing the discount or premium to interest expense so as to result in a constant rate of interest when applied to the amount of debt outstanding at the beginning of any given period.

Effective Rate: See market rate.

Face Value: The stated amount or principal due on the maturity date.

Imputation: The process of interest rate approximation which is accomplished by examining the circumstances under which the note was issued.

Long-term Debt: Probable future sacrifices of economic benefits arising from present obligations that are not currently payable within one year or the operating cycle of the business, whichever is longer.

Market Rate: The current rate of interest available for obligation issued under the same terms and conditions.

Market Value Approach: Recording the stock issued from a bond conversion at the current market price of the bonds converted or the stock issued.

Maturity Date: The date on which the face value (principal) of the bond or note becomes due.

Maturity Value: See face value.

Premium: Created when a debt instrument sells for more than its face value and occurs when the stated rate on the instrument is greater than the market rate at the time of issue.

Principal: See face value.

Secured Debt: Debt which has collateral to satisfy the obligation (i.e., a mortgage on specific property) if not repaid.

Serial Bond: Debt whose face value matures in installments.

Stated Rate: The interest rate written on the face of the debt instrument.

Straight-line Method: The method of amortizing the premium or discount to interest expense such that there is an even allocation of interest expense over the life of the debt.

Zero-coupon bonds are the bonds which are purchased at discount and redeemed at par with no coupon payments at regular intervals.

CURRENT LIABILITIES

Current liabilities are defined as obligations or debts that are expected to be satisfied within the next twelve months. Current liabilities may comprise of the following liabilities.

- a. **Trade liabilities:** These liabilities arise out of purchases by the company on credit basis. These liabilities are a result of the supply of goods by the suppliers.
- b. **Advances from customers:** This liability arises whenever the customer makes an advance payment for goods or services which are to be delivered at a later date in future.
- c. **Short-term loans:** These represent borrowings from banks and other financial institutions for a short-term say one year or less.
- d. **Current portion of long-term debt:** It represents that portion of long-term debt which is repayable within the next twelve months.

Analysis of Current Liabilities

As per ARB-43, Current liabilities are those to be paid or liquidated from current assets or created from other current liabilities. Current liabilities are due on demand or within one year or the normal operating cycle of the business, whichever is greater.

Current liabilities may arise in the following situations:

- i. Where both the amounts and the payee are known.
- ii. Where the payee is known but the amount may have to be estimated.
- iii. Where the payee is unknown and the amount may reasonably be estimated.
- iv. Where the liability has been incurred as a result of loss contingency.

We can discuss each of these individually as under:

AMOUNT AND PAYEE KNOWN

Accounts Payable

These arise mainly from the acquisition of materials and supplies to be used in the production of goods or in conjunction with the providing of services. Payables arise as a result of transactions with the suppliers in the ordinary course of the business which are due in customary trade terms not to exceed 1 year and may be stated at their face value rather than at their present value that is required for the future cash flows.

Notes Payable

These are more formalized obligations that may arise from the acquisition of the material and supplies which are used in the operations or from the use of short-term credit to purchase the capital assets.

Dividends Payable

This would refer to the liability of the enterprise when the Board of Directors declare a cash dividend. Such declared dividend would be paid usually within a short period of time after the declaration date and may be classified as current liabilities.

Unearned Revenues or Advances

These would arise because of the customers prepayment for either the performance of services or the delivery of the product. They may be required by the selling enterprise as a condition of sale or may be made by the buyer by means of guaranteeing that the seller will perform the desired service or deliver the product. The unearned revenues and advances are to be classified as current liabilities at the balance sheet date and in case the services are to be performed or the products are to be delivered, within 1 year or the operating cycle, whichever is longer.

Illustration 1

Sahitya Inc., is preparing its financial statements for the year ended December 31, 2005. Accounts payable amounted to Rs.4,00,000 before any necessary year-end adjustment related to the following:

- At December 31, 2005 Sahitya has a Rs.50,000 debit balance in its accounts payable to Anish a supplier, resulting from a Rs.50,000 advance payment for goods to be manufactured to Sahitya's specifications.
- Cheques in the amount of Rs.2,00,000 were written to vendors and recorded on December 29, 2005. The cheques were mailed on January 5, 2006.

What amount should Sahitya report as accounts payable in its December 31, 2005 balance sheet?

Solution

Before adjustment, the balance in the Accounts Payable account is Rs.4,00,000. This amount is net of a Rs.50,000 debit balance in Sahitya's account payable to Anish resulting from a Rs.50,000 advance payment for goods to be manufactured to Sahitya's specifications. The Rs.50,000 should be reclassified as a current asset, as advance to Suppliers. The checks recorded on 29/12/05 incorrectly reduced the accounts payable balance by Rs.2,00,000. The Rs.2,00,000 reduction should not have been recorded until the cheques were mailed on 5/1/06. The 31/12/05 accounts payable must be increased by Rs.2,00,000. Therefore, the corrected 31/12/05 accounts payable is Rs.6,50,000.

Unadjusted AP	Rs.4,00,000
Reclassification of advance	50,000
Error correction	2,00,000
	Rs.6,50,000

Returnable Deposits

These are the deposits which may be received for covering the possible future damage to the property. A deposit may be required for the use of a reusable container. The refundable deposits are to be considered as current liabilities in case the firm intends to refund them during the current operating cycle or within one year whichever is longer.

Accrued Liabilities

These are the liabilities that originate as a result of the end of the period adjustment process as required by the accrual accounting. Common examples of these would be wages and salaries payable, interest payable, rent payable, and taxes payable.

Illustration 2

On March 1, 2003, Shekhar Co. borrowed Rs.20,000 and signed a 2-year note bearing interest at 15% compounded annually. Interest is payable in full at maturity on February 28, 2005. What amount should Shekhar report as a liability for accrued interest at December 31, 2004?

Solution

Accrued interest payable at 31/12/04 is interest expense which has been incurred by 31/12/04, but has not yet been paid by that date. The note was issued on 1/3/2003 and interest is payable in full at maturity on 28/2/05. Therefore, there is 1 year and 10 months of unpaid interest at 31/12/04 (1/3/2003 to 31/12/04). Interest for the first year is Rs.3,000 (Rs.20,000 x 15%). Since interest is compounded annually, the new principal amount for the second year includes the original principal (Rs.20,000) plus the first year's interest (Rs.3,000). Therefore, accrued interest for the 10 months ended 31/12/04 is Rs.2,875 $\left(23,000 \times 15\% \times \frac{10}{12} \right)$ and total accrued interest at 31/12/04 is Rs.5,875 (3,000 + 2,875).

Illustration 3

On September 1, 2003, Anirudh Co., borrowed on a Rs.13,50,000 note payable from Federal Bank. The note bears interest at 12% and is payable in 3 equal annual principal payments of Rs.4,50,000. On this date, the bank's prime rate was 11%. The first annual payment for interest and principal was made on September 1, 2004. At December 31, 2004, what amount should Anirudh report as accrued interest payable?

Solution

Accrued interest payable at 31/12/04 is interest expense which has been incurred by 31/12/04, but has not yet been paid by that date. Interest was last paid on 1/9/04; the accrued interest payable includes interest expense incurred from 1/9/04 through 31/12/04 (4 months). The original balance of the note payable was Rs.13,50,000 but the 1/9/04 principal payment of Rs.4,50,000 reduced this balance to Rs.9,00,000. Therefore, the interest payable at 31/12/04 is Rs.36,000 (Rs.9,00,000 x 12% x 12/4). The prime rate (11%) does not affect the computation because it is not the stated rate on this note.

Agency Liabilities

These would result as a result of legal obligations of the enterprise to act as the collection of the agent for the customer or the employee taxes which are owed to the several state, federal or local government units. Examples of these would include sales taxes, income taxes withheld from the employee pay checks and the employee FICA contributions. In addition to the agency liabilities, an employer may have a current obligation for the addition to agency liabilities, an employer may have a current obligation for the FUTA tax. Payroll taxes are not legal liabilities till the associated payroll are actually paid.

Current Maturing Portion of the Long-term Debt

This is to be shown as a current liability in case the obligation is to be liquidated using the assets which are to be classified as current. However, in case the currently maturing debt is to be liquidated using the non-current assets, then these obligations are to be classified as long-term liabilities.

Obligations that are due within a period of one year from the date of the balance sheet, even in cases where no liquidation is expected, are to be considered as current liabilities in case as on the balance sheet date any of the following happen:

- i. The debtor violates the agreements which calls for the liability to be called.
- ii. The debtor violates the agreement and as a result of which, if not cured within a specified grace period as mentioned in the agreement, would make the obligations callable.

Short-term Obligations Expected to be Refinanced

Short-term obligations that are expected to be refinanced are to be considered as non-current liabilities if certain conditions are met. SFAS-6 states that an enterprise may reclassify its current maturing debts as long-term debts provided that the enterprise intends to refinance the obligation on a long-term basis and its intent is supported by either of the following situations:

- i. **The Post Balance Sheet Issuance of a Long-term Obligation or Equity Securities:** After the date of the enterprise's balance sheet but before the balance sheet has been issued, long-term obligations or equity securities have been issued for the purpose of refinancing the short-term obligations on a long-term basis.
- ii. **Financing Agreement:** If before the date of the balance sheet the entity has entered into a financing agreement that clearly permits the enterprise to refinance the short-term obligation on a long-term basis on the terms that are readily determinable.

In case, the reclassification of the maturing debt is based on the existence of a refinancing agreement, then it would require the following:

- i. The agreement would not expire within one year of operating cycle of the balance sheet and is non-cancelable.
- ii. The replacement debt would not be callable except in the circumstances of violation of a provision of the agreement with which the compliance is objectively determinable or measurable.
- iii. The enterprise is not in violation of the terms of the agreement.
- iv. The lender or the investor is financially capable of honoring the agreement.

Illustration 4

Rose Inc. has Rs.6,00,000 of notes payable due June 15, 2006. Rose signed an agreement on December 1, 2005, to borrow up to Rs.6,00,000 to refinance the notes payable on a long-term basis with no payments due until 2005. The financing agreement stipulated that borrowings may not exceed 80 percent of the value of the collateral Rose was providing. At the date of issuance of the December 31, 2005 financial statements, the value of the collateral was Rs.7,00,000 and is not expected to fall below this amount during 2006. In Rose December 31, 2005 balance sheet. How will the obligation for these notes payable be classified?

Solution

All of the notes are due 15/6/06, and normally the entire amount would be classified as current. However, SFAS-6 states that a short-term obligation can be reclassified as long-term if the enterprise intends to refinance the obligation on a

long-term basis and the intent is supported by the ability to refinance. Rose demonstrated its ability by entering into a financing agreement before the statements are issued. SFAS-6 further states that the amount to be excluded from current liabilities cannot exceed the amount available for refinancing under the agreement. Rose expects to be able to refinance at least Rs.5,60,000 (80% x Rs.7,00,000) of the notes. Therefore, that amount can be classified as long-term, while the remaining Rs.40,000 must be classified as short-term.

Illustration 5

On December 31, 2005 Vaswani Inc., had a Rs.7,50,000 note payable outstanding, due July 31, 2006. Vaswani borrowed the money to finance construction of a new plant. Vaswani planned to refinance the note by issuing long-term bonds. Because Vaswani temporarily had excess cash, it prepaid Rs.2,50,000 of the note on January 12, 2006. In February, 2006, Vaswani completed a Rs.15,00,000 bond offering. Vaswani will use the bond offering proceeds to repay the note payable at its maturity and to pay construction costs during 2001. On March 3, 2006. Vaswani issued its 2005 financial statements. What amount of the note payable should Vaswani include in the current liabilities section of its December 31, 2005 balance sheet?

Solution

The notes payable (Rs.7,50,000) are due 31/7/06, and would normally be included in 31/12/05 current liabilities. However, SFAS-6 states that a short-term obligation can be reclassified as long-term if the enterprise intends to refinance the obligation on a long-term basis and the intent is supported by the ability to refinance. Vaswani demonstrated its ability to refinance by actually issuing Rs.15,00,000 of bonds in February, 2006 before the 31/12/05 financial statements were issued on 3/3/06. The bond proceeds will be used to retire the note at maturity. SFAS-6 also states that the amount excluded from current liabilities cannot exceed the amount actually refinanced. Since Vaswani prepaid Rs.2,50,000 of the note on 12/1/06 with excess cash, that amount must be included in 31/12/05 current liabilities. Only the remaining Rs.5,00,000 can be excluded from current liabilities.

PAYEE KNOWN BUT AMOUNT MAY HAVE TO BE ESTIMATED**Taxes Payable**

This would refer to all taxes including federal taxes, state taxes and local income taxes. As a result of the frequent changes in tax laws the amount of income tax that may be payable is to be estimated. The portion that is deemed as currently payable is to be classified as a current liability and the remaining amount is to be considered as a long-term liability.

Property Taxes payable would represent such amount of the unpaid portion of the entity's obligation to the state or other taxing authorities that would arise from the ownership of real property. A liability for property taxes arises when the fiscal year of the taxing authority and the fiscal year of the entity do not coincide. It also arises when the assessment or lien date and the actual payment date do not fall within the same fiscal year. US GAAP states that the most acceptable method of accounting for property taxes is the monthly accrual method of property tax expense during the fiscal period of the taxing authority for which the taxes are to be levied.

Bonus Payments

These may require estimation as at the end of the year, the amount accrued bonus may be affected by the income taxes that are currently payable. In case where the bonus is accrued on a monthly basis additional estimation is necessary for interim reporting purposes.

Illustration 6

Suraj Co., provides an incentive compensation plan under which its president receives a bonus equal to 10% of the corporation's income before income tax but after deduction of the bonus. If the tax rate is 40 percent and net income after bonus and income tax was Rs.4,80,000, what was the amount of the bonus?

Solution

If net income after bonus and income tax is Rs.4,80,000, income before taxes can be computed by dividing Rs.4,80,000 by 1 minus the tax rate.

$$\text{Income before taxes} = \frac{\text{Rs.4,80,000}}{1 - 0.40} = \text{Rs.8,00,000}$$

The bonus is equal to 10 percent of income before income tax but after the bonus. The Rs.8,00,000 computed above is income before tax but after all other expenses including the bonus. Therefore, the bonus must be Rs.80,000 (10% x Rs.8,00,000).

Compensated Absences

These would be referring to paid vacations, paid holidays, and paid leaves. It has been indicated in US GAAP that an employer must accrue a liability for employee's compensation for all future absences in case all the under mentioned conditions are met:

- i. The employee's right to receive the compensation for the future absences is attributable to the services that are already rendered.
- ii. The right vests or accumulates.
- iii. The payment of the compensation is probable.
- iv. The amount of the payment can be reasonably estimated.

In case the employer is required to compensate an employee for the unused vacation or holiday or sick days even in case such employee is terminated, the employee's right for such compensation is said to vest. The accrual of liability for the non-investing rights depends on the fact as to whether the unused rights expire at the end of the year in which it is earned or accumulate and are carried forward for the succeeding years.

In case the rights expire, a liability for the future absences is not to be accrued at the end of the year as the benefits to be paid in the subsequent years are not to be attributable to the employees services that are rendered in the prior years. In case, the unused rights accumulate and increase the benefits that are otherwise available for the subsequent years, a liability is to be accrued at the end of the year to the extent of the possibility which the employees will be paid in the subsequent years for such increased benefits that are attributable to the accumulated rights and the amount can be reasonably estimated.

As per US GAAP, there is an exception to the applicability of this statement to the employee for the sick days which are accumulated but are not vested. No accrued liability is required for the sick days which only accumulate. However, an accrual can be made. The board has laid down that these amounts are rarely material and the low reliability of the estimates of the future illness coupled with the high costs that are involved in developing these estimates are indications that the actual accrual is not necessary. The required accounting is to be determined by the employer's actual administration of the sick pay benefits. In case, the employer routinely lets the employees to take time off and allows that the time be charged as sick pay then an accrual is required to be made.

The pay for the employees leave of absence for the past services are to be considered as compensation subject to approval. Pay for the employee's leave of absence that would be providing future benefits and not attributable to any past service rendered would not be subject to approval. The SFAS-43 does not provide a guidance as to whether the accruals are to be based on the current pay rates or on the expected future rates of pay and does not provide any guidance as regarding

the discounting of the accrual amounts. The SFAS-112 makes use of the conditions that are mentioned under the above statement to accrue an obligation for the post employment benefits other than pensions in case, the employee's rights accumulate or vest, payment is probable, and the amount that can be reasonably estimated.

Illustration 7

Abhishek Corp., has an employee benefit plan for compensated absences that gives employees 10 paid vacation days and 10 paid sick days. Both vacation and sick days can be carried over indefinitely. Employees can elect to receive payment in lieu of vacation days; however, no payment is given for sick days not taken. At December 31, 2005, Abhishek's unadjusted balance of liability of compensated absences was Rs.21,000. Abhishek estimated that there were 150 vacation days and 75 sick days available at December 31, 2000. Abhishek estimated that there were 150 vacation days and 75 sick days available at December 31, 2005. Abhishek's employees earn an average of Rs.100 per day. In its December 31, 2005 balance sheet what amount of liability for compensated absences is Abhishek required to report?

Solution

SFAS-43 states that accrual of a liability for future vacation pay is required if all the conditions below are met.

- i. Obligation arises from employee services already performed.
- ii. Obligation arises from rights that vest or accumulate.
- iii. Payment is probable.
- iv. Amount can be reasonably estimated.

The criteria are met for the vacation pay ($150 \times \text{Rs.}100 = \text{Rs.}15,000$), so Abhishek required to report a Rs.15,000 liability. The same criteria apply to accrual of a liability for future sick pay, except that if sick pay benefits accumulate but do not vest. Accrual is permitted but not required because its payment is contingent upon future employee sickness. Therefore, no liability is required for these sick pay benefits ($75 \times \text{Rs.}100 = \text{Rs.}7,500$). Note that the unadjusted balance of the liability account (Rs.21,000) does not affect the computation of the required 31.12.00 liability.

Illustration 8

Arvind Co., grants all employees 2 weeks of paid vacation for each full year of employment. Unused vacation time can be accumulated and carried forward to succeeding years and will be paid at the salaries in effect when vacations are taken or when employment is terminated. There was no employee turnover in 2005. Additional information relating to the year ended December 31, 2005, is as follows:

Liability for accumulated vacations at 31.12.04	Rs.35,000
Pre-2000 accrued vacations taken from 1.1.05 to 30.9.05 (the authorized period for vacations)	20,000
Vacations earned for work in 2005 (adjusted to current rates)	30,000

Arvind granted a 10 percent salary increase to all employees on October 1, 2005, its annual salary increase date. For the year ended December 31, 2005, Arvind should report vacation pay expense of?

Solution

Per SFAS-43, an employer is required to accrue a liability for employees' rights to receive compensation for future absences, such as vacations, when certain conditions are met. The statement does not, however, specify how such liabilities are to be measured. Since vacation time is paid by Arvind Co., at the salaries in

effect when vacations are taken or when employment is terminated, Arvind adjusts its vacation liability and expense to consists of vacations earned for work in 2000 (adjusted to current rates) of Rs.30,000 plus the amount necessary to adjust its pre-2005 vacation liability for the 10 percent salary increase. The amount of this adjustment is equal to 10% of the pre-existing liability balance at December 31, 2005 [Rs.35,000 – Rs.20,000 x 10 percent = Rs.1,500]. Therefore, total vacation pay expense for the period is equal to Rs.31,500 (Rs.30,000 + Rs.1,500).

PAYEE UNKNOWN AND THE AMOUNT MAY HAVE TO BE ESTIMATED

Product Warranties

These are provided for the repair or for the replacement of defective products that may be sold separately or may be included in the sale price of the product. In case, the warranty extends into the next period, a current liability for the estimated amount of warranty expense that is expected in the next period has to be recorded. If the warranty spans for more than the next period, then the estimated liability has to be segregated into its current and long-term portions.

Illustration 9

ABC Ltd. a manufacturer of electronic goods sells Rs.18,00,000 worth goods during the month of March 2007. Based on its past experience it reserves 2% of its revenue as estimated warranty expense. The entry made for the same is

Warranty expense	Dr.	36,000
To Reserve for warranty claims		36,000

In the month of April it incurs Rs.20,000 in respect of labor and Rs.9,000 towards material expenses to repair warranty claims. The journal entry to be made is

Reserve for warranty claims	Dr.	29,000
To Labor expense		20,000
To Material expense		9,000

On completion for initial one –year manufacturer's warranty period, it sells a two year extended warranty. In the month of say June 2007 it sells Rs.40,000 extended warranty, then the following journal entry is passed

Cash Account	Dr.	40,000
To Unearned warranty revenue		40,000

When the extended warranty servicing period begins, the company recognises the warranty revenue on straight line basis by debiting the unearned warranty revenue and crediting warranty revenue account.

CONTINGENCIES

According to US GAAP, a contingency is defined as an existing condition, situation or a set of circumstances that involve uncertainty as to the possibility of a gain or a loss. It would be ultimately resolved when one or more future events occur or fail to occur. It also defines the different levels of probability as to whether or not future events confirm the existence of a loss in the following manner:

- i. **Probable:** The future event or events are likely to occur.
- ii. **Reasonably Probable:** The chance of the future event or events occurring is more than remote but less than likely.
- iii. **Remote:** The chance of the future event or events occurring is slight.

A lot of professional judgment would be required in order to classify the likelihood of the future events that would be occurring. All the relevant information regarding the uncertain circumstances can be obtained and may be used to determine the

classification. The following two conditions are to be satisfied in order to consider that a loss has accrued:

- i. It is probable that an asset has been impaired or a liability has been at the date of the financial statements.
- ii. The amount of loss can be reasonably estimated.

According to International Accounting Standards Board, a liability should be classified as a current liability when it is,

- a. Expected to be settled in the normal course of the enterprise's operating cycle, or
- b. Due to be settled within twelve months of the balance sheet date.

A **loss contingency** is accrued if both of the following conditions are satisfied:

- i. At year-end, it is probable (likely to occur) that an asset was impaired or a liability was incurred.
- ii. The amount of loss may be reasonably estimated.

Examples of loss contingencies are pending or threatened lawsuits, warranties or defects, assessments and claims, expropriation of property by a foreign government, environmental remediation guarantees of indebtedness, and agreement to repurchase receivables that have been sold. The accrual is required because of the conservatism principle.

If a probable loss cannot be estimated, a footnote disclosure is to be made.

If there is a loss contingency at year-end but no asset impairment or liability incurrence exists (e.g., uninsured equipment), footnote disclosure should be made.

If there is a loss contingency occurring after year-end but before the audit report date, subsequent event disclosure should be made. An explanatory paragraph should be provided regarding the contingency.

If the loss amount is within a range, the accrual should be based on the best estimate within that range. If no amount within the range is better than any other amount, the minimum amount (not maximum amount) of the range should be accrued. There should be disclosure of the maximum loss. If later events indicate that the minimum loss initially accrued is insufficient, an additional loss must be accrued in the year this becomes evident. This accrual is treated as a change in estimate.

If there exists a reasonably possible loss (more than remote but less than likely), no accrual should be made. However, footnote disclosure is required. The disclosure includes the nature of the contingency and the estimated probable loss or range of loss. In the event an estimate of loss cannot be made, that fact should be stated.

A remote contingency (slight chance of occurring) is typically ignored with no disclosure required. Exceptions: Disclosure is made of agreements to repurchase receivables, indebtedness guarantees (direct or indirect), and standby letters of credit.

Illustration 10

In 2005, a personal injury lawsuit was brought against Rohan Co., Based on counsel's estimate, Rohan reported a Rs.50,000 liability in its December 31, 2005 Balance Sheet. In November, 2006, Rohan received a favorable judgment, requiring the plaintiff to reimburse Rohan for expenses of Rs.30,000. The Plaintiff has appealed the decision, and Rohan's counsel is unable to predict the outcome of the appeal. In its December 31, 2006 Balance Sheet, Rohan should report what amounts of asset and liability related to these legal actions?

Solution

At 31.12.06, Rohan's contingent liability of Rs.50,000 is no longer probable due to the favorable judgment and the inability to predict the outcome of the appeal. Therefore, no liability should be reported in the Balance Sheet. SFAC-5 states that gain contingencies are not reflected in the accounts until realized, so the Rs.30,000 asset is not reported in the 31st December, 2006 Balance Sheet, either.

Gain contingencies can never be booked because doing so violates conservatism. However, footnote disclosure should be made. The SFAS-5 is in line with the provisions of APB-50 which lay down that the gain contingencies cannot be recorded before they are realized but adequate disclosure of contingency is required to be made. Such disclosure should not contain misleading implications as to the likelihood of its realization.

Illustration 11

During January, 2006, Hiren Corp., won a litigation award for Rs.15,000 which was tripled to Rs.45,000 to include punitive damages. The defendant, who is financially stable, has appealed only the Rs.30,000 punitive damages. Hiren was awarded Rs.50,000 in an unrelated suit it filed, which is being appealed by the defendant. Counsel is unable to estimate the outcome of these appeals. In its 2006 financial statements, Hiren Corp., should report what amount of pre-tax gain?

Solution

SFAS-5 states that gain contingencies are not recognized in the income statement until realized. As only Rs.15,000 of the litigation awards has been resolved as of December 31, 2006. Hiren should report only Rs.15,000 as a gain in its 2006 financial statements.

ESTIMATE VS. CONTINGENCY

It would be a difficult task to differentiate between estimate and contingency as both would be involving a certain amount of contingency that would be resolved only on the happening of certain future events. However, an estimate would arise as result of uncertainty about the amount that would be requiring an acknowledged accounting recognition. The effect thereof is known but the amount involved is uncertain. Example as in the case of depreciation, it is an estimate but not a contingency as the actual fact of the physical depreciation is acknowledged although the amount is obtained by an assumed accounting method.

In case of a contingency, the amount is also uncertain, although that is not an essential characteristic. The collectibility of receivables is a contingency as both the amounts of loss and the identification of which customer will not pay in the future is unknown. Similar logic would hold for obligations related to product warranties. Both the amount and the customer are currently unknown.

Other contingencies are rarely recognized till the specific events confirming their existence occur. Every business risk as a result of fire, explosion, government expropriation or guarantees made in the ordinary course of the business. These are all the contingencies that arise as a result of the uncertainties that are surrounding the fact whether the future event confirming the loss will or will not take place. The risk of the asset expropriation exists, but is more likely in an unfriendly foreign country than in the United States.

The most difficult area of the contingencies is the litigation involved therein. The accountants may rely themselves in the assessment of the attorney's which concern with the likelihood of such events. Unless the attorney indicates that the risk of loss is remote or slight, or that the loss in case it occurs would be immaterial to the company, the accountant would add an explanatory paragraph regarding such contingencies. In cases of judgments that arise against the entity, or where in instances where the attorney gives a range of expected losses or other amounts, certain accruals of the loss contingencies for at least the minimum point of the range must be made. In most of the cases however, an estimate of the contingency is unknown and such contingencies are required to be disclosed only in the footnotes accompanying the financial statements.

LONG-TERM DEBT

Long-term liabilities represent obligations that will be met or settled over a period of more than one year. As per US GAAP Long-term debt is defined as the “future sacrifices of economic benefits to be repaid over a period of more than one year or, if longer, the operating cycle”. It is measured as the present value of the future payments using the market rate of interest which is either stated or implied in the transaction, at the date when the debt was incurred except where the valuation of long-term notes is done using the imputed rate of interest.

Long-term debt is inclusive of bonds payable, notes payable, lease obligations, pension and deferred compensation plan obligations, deferred income taxes, and unearned revenue and their accounting treatments respectively.

Bonds

The definition of Bonds can be summarized as under:

- i. It is a promise.
- ii. To pay certain sum of money plus periodic interest payment.
- iii. At a designated maturity date.

The Bonds are primarily used to borrow funds from the general public or institutional investors. Since a contract for a single amount (a Note) may be too large for any one lender to supply, funds are borrowed from general public which comprises a large number of fund providers. Division of the amount needed, into Rs.10,000 or Rs.1,000 facilitates the easy sale of bonds.

Most commonly, the issuance of bonds are done at a price other than face value. In such cases, the amount of cash exchanged is equivalent to the total of the present value of the interest and principal payments. The excess of cash proceeds over the face value is recorded as a premium, if the cash proceeds are greater than the face value and the excess of face value over the cash proceeds is recorded as discount, if the face value is greater than the cash proceeds.

The Journal entry for recording a bond issued a premium is as under:

Dr	Cash (Proceeds)	
		Cr
	Premium on Bonds Payable (Difference)	
Cr	Bonds Payable (Face Value)	

The Journal entry for recording a bond issued at a discount is as under:

Dr	Cash (Proceeds)	
		Cr
	Discount on Bonds Payable (Difference)	
Cr	Bonds Payable (Face value)	

As regards the premium, the following treatment is done.

- i. It is recognized or amortized over the life of the bond issue.
- ii. In the books of the issuer, the premium has the effect of reducing the interest expense as the premium is amortized.
- iii. The premium is added to the related liability when a Balance Sheet is prepared.

As regards the discount, the following treatment is done:

- i. “Discount on bonds payable” would be debited with the amount of discount in case of the issuance of bonds at discount.
- ii. The discount issuance has the effect of increasing the interest expense.
- iii. The amount of discount would be deducted from the related liability concerned in the Balance Sheet.

Notes

When a company borrows cash and signs a promissory note, the firm's liability is reported as Note payable. The essential characteristics are:

- i. It is used to represent debt issued to a single investor without any intention of break-up of such debt among many investors.
- ii. Its maturity lasts, usually, for 1 to 7 years, and tends to be shorter than that of a bond.

Similarities and Differences between Bonds and Notes

Bonds also result from a single agreement, but with an intention of break-up into various subunits, typically Rs.1,000 each, which can be issued to a variety of investors. Nevertheless, both the bonds and notes have common characteristics which can be traced to the written agreement stating the amount of the principal, the interest rate, the date on which the interest and the principal becomes due, and the restrictive covenants, if any, which must be met.

Among the various factors affecting the interest rate, prominent of them are the cost of money, the business risk factors, and the inflationary expectations associated with the business.

The differences between the present value of the interest, principal payments and the maturity or face value arise due to the differences between the stated rate on a note or bond and the market rate at the time of issuance. In case the market value is greater than the stated rate, the cash proceeds will be lesser than the face value of the debt due to discounting of the present value of total interest and principal payments back to the present yields at an amount which is less than the face value. This happens because the investor would rarely be willing to pay more than the present value. The bonds must be issued at a discount which should be amortized over the life of the bond to increase the recognized interest expense in a way such that the total amount of the expense represents the actual bond yield. The discount is measured as the difference between the issuance price (present value) and the face, or stated value of the bonds.

In case the stated rate exceeds the market rate, the bond will sell for more than its face value (at a premium) to bring the effective rate to the market rate and will have the effect of decreasing the total interest expense. However, the instrument will sell at its face value without any discount or premium, if the market and stated values are equal at the time of issuance. It should be noted that in the determination of the discount or premium or their amortization, the changes in the market rate subsequent to issuance are considered irrelevant.

EFFECT ON FINANCIAL STATEMENTS OF VARIOUS DEBT INSTRUMENTS

Bonds Issued at Par

Bond represents a liability to the company issuing the bonds.

When a bond is issued on Par, the following are its effects on the financial statements:

- **Effect on Balance Sheet:** When bonds are initially recorded as liabilities, they are recorded at the proceeds received at the time of issue of bond. In case the bond is issued at par then the proceeds received will match with face value and liability is shown at the face value only.
- **Effect on Income Statement:** In case of par value bonds the interest expense will be equal to the value of the bonds at the beginning of the period multiplied by the coupon rate of the bond.

The journal entry to be made is

Cash Account	Dr.	
		To Bonds Payable (with face value)

Such journal entry is passed when the bonds are issued on the day they are dated. However, at times there may be a delay in the issue of bonds after the day they have been dated. In such a case while the bond is issued, the buyer pays for the interest accrued on the bonds in addition to the price of the bond.

For example, the bonds were sold a two months after they were dated, then the entry would be

Dr. Cash Account	(with the price plus accrued interest)
Cr. Bonds Payable A/c	(with the face value of the bond)
Cr. Interest payable A/c	(with the interest accrued for two months)

The price of a bond issue at any particular time is not necessarily equal to its face amount. It may sell for more than face amount (at a premium) or less than face amount (at a discount), depending on how the stated interest rate (the rate specified by the company issuing the bond) compares with the prevailing market or effective rate of interest (for securities of similar risk and maturity). For instance, if the 12% bonds are competing in a market in which similar bonds are providing a 14% return, the bonds could be sold only at a price less than its face value, hence at a discount. On the other hand, if the market rate is only 10%, the 12% stated rate would seem relatively attractive and the bonds would sell at a premium over face amount.

Bonds Issued at a Premium

If the market rate of interest is less than the coupon rate (stated rate by the company issuing it), then the proceeds received will be more than the face value which is referred to as premium. This is because if the coupon rate is more than the market rate, people will pay more to obtain the benefit of the higher coupon payment and hence the bond sells at a premium. The impact of this on the financial statements will be as follows:

- **Effect on Balance Sheet:** Bonds that were originally sold at a premium will always be shown at a premium on the balance sheet. This premium will be amortized over the life time of the bond.
- **Effect on Income Statement:** In case of premium bonds, the interest expense will be less than the coupon rate. This is so because the interest expense will be reduced in the income statement by the amortized amount of the premium.

Illustration 12

The journal entry for issue of bonds at a premium is

Dr. Cash A/c	(with the proceeds from issue)
Cr. Bonds Payable Account	(with the face value)
Cr. Premium on bonds payable	(with difference)

The computation of premium is explained with an example.

On January 1, 2005, ABC Ltd. issued Rs.7,00,000 of 12% bonds, dated January 1. Interest of Rs.42,000 is payable semiannually on June 30 and December 31. The bonds mature in three years. The market yield for bonds of similar risk and maturity is 10%.

Calculation of the price of the bonds at present values is

Interest Rs.42,000 x 5.07569*	= Rs.2,13,179
Principal Rs.7,00,000 x 0.74622**	= Rs.5,22,354
Present value (price) of the bonds	= Rs.7,35,533

*Present value of an ordinary annuity of Re.1: n = 6, i = 5%.

**Present value of Re.1: n = 6, i = 5%.

Although the cash flows total Rs.9,52,000 (Rs.7,00,000 + Rs.42,000 x 6), the present value of those future cash flows as of January 1, 2005, is only Rs.7,35,533. This is due to the time value of money.

The journal entry to be recorded at the time of issue is as follows

Dr. Cash (price calculated above)	Rs.7,35,533
Cr. Bonds payable (face amount)	Rs.7,00,000
Cr. Premium on bonds payable (difference)	Rs.35,533

Interest Determination

Interest accrues on an outstanding debt at a constant percentage of the debt each period. Under the concept of accrual accounting, the periodic effective interest is not affected by the time at which the cash interest actually is paid. Interest accrued each period is recorded using the **effective interest method**. The effective interest on debt is the market rate of interest multiplied by the outstanding balance of the debt.

Illustration 13

In our above example, since the effective interest rate is 10%, interest recorded, as expense to the issuer for the first six-month interest period is Rs.36,777 arrived at as:

$$\text{Rs.7,35,533} \times [10\% \div 2] = \text{Rs.36,777}$$

(Outstanding balance x Effective rate = Effective interest)

The journal entry to record the interest accrued is

Dr. Interest Expense (market rate x outstanding balance)

Dr. Premium on bonds payable (difference)

 Cr. Cash (coupon rate x outstanding balance)

Hence in the above example, the journal entry to be passed on the first interest date is

Dr. Interest expense (market rate × outstanding balance)	Rs.36,777
Dr. Premium on bonds payable (difference)	Rs.5,223
Cr. Cash (stated rate × face amount)	Rs.42,000

Since the balance of the debt changes each period, the interest accrued also changes with each period. This requires the preparation of a schedule that reflects the changes in the debt over its term to maturity. This schedule is referred to as Amortisation schedule. The amortisation schedule for the above example is as follows:

(Amount in Rs.)

	Cash Interest (coupon rate x face value)	Effective interest (7% x outstanding balance)	Increase in balance (discount reduction)	Outstanding balance
				7,35,533
1	Rs.42,000	.5% x (7,35,533) = 36,777	5,223	7,30,310
2	Rs.42,000	5% x (7,30,310) = 36,516	5,484	7,24,826
3	Rs.42,000	5% x (7,24,826) = 36,241	5,759	7,19,067
4	Rs.42,000	5% x (7,19,067) = 35,953	6,047	7,13,020
5	Rs.42,000	.5% x (7,13,020) = 35,651	6,349	7,06,671
6	Rs.42,000	5% x (7,06,671) = 35,329*	6,671	7,00,000
	252,000	216,467	35,533	

*Rounded off

In the above example we note that debt declines each period. This is because the effective interest each period is less than the cash interest paid.

As against the Effective interest method of treatment of discount and premium is the Straight line method. A company allocates a discount or a premium equally to each period over the term to maturity. Hence, under this method, interest expense is equal to the cash interest paid plus the amortised portion of the discount or minus the amortised portion of the premium.

Bonds Issued at a Discount

The concept of issue of bonds at a discount arises if the market rate of interest is greater than the coupon rate specified by the company. In such a situation, the proceeds received will be less than the face value and the investors will pay less than the face value since the coupon rate is less. The impact on the financial statements as a result of this will be as follows:

- **Effect on Balance Sheet:** In case of bonds originally issued at a discount, they will be recorded in the balance sheet at a discount only. This discount will be amortized over the life of the bonds.
- **Effect on Income Statement:** In case of bonds issued at discount, the interest expense will be higher than the coupon rate as the amortization of discount amount adds to the interest expense. In other words, the interest expense will be coupon rate plus the discount amortization amount.

The journal entry for bonds issued at a discount is

Dr. Cash Account	(with the net proceeds from issue)
Dr. Discount on bonds payable	(with the discount amount)
Cr. Bonds Payable Account	(with the face value)

The computation of discount on bonds is explained using an example.

Illustration 14

On January 1, 2005, RR Industries issued Rs.7,00,000 of 12% bonds, dated January 1. Interest of Rs.42,000 is payable semiannually on June 30 and December 31. The bonds mature in three years. The market yield for bonds of similar risk and maturity is 14%.,

Computation of price of bond is as follows since the coupon rate is less than the market rate

Interest Rs.42,000 x 4.76654* = Rs.2,00,195

Principal Rs.7,00,000 x 0.66634** = Rs.4,66,438

Present value (price) of the bonds Rs.666,633

*Present value of an ordinary annuity of Re.1: $n = 6, i = 7\%$

**Present value of Re.1: $n = 6, i = 7\%$

Although the cash flows total Rs.9,52,000 (Rs.7,00,000 + Rs.42,000 x 6), the present value of those future cash flows as of January 1, 2005, is only Rs.6,66,633. This is due to the time value of money.

Hence the Journal entry is

Dr. Cash A/c	Rs.6,66,633	(price calculated as above)
Dr. Discount on bonds payable A/c	Rs.33,367	(difference)
Cr. Bonds Payable	Rs.7,00,000	(face value of the bond)

In our above example, since the effective interest rate is 14%, interest recorded, as expense to the issuer for the first six-month interest period is Rs.46,664: arrived at as

$$\text{Rs.6,66,633} \times [14\% \div 2] = \text{Rs.46,664}$$

(Outstanding balance x Effective rate = Effective interest)

The journal entry to record the interest accrued is

Dr. Interest Expense (market rate x outstanding balance)

Cr. Discount on bonds payable (difference)

Cr. Cash (coupon rate x outstanding balance)

Hence in the above example, the journal entry to be passed on the first interest date is

Dr. Interest expense (market rate × outstanding balance) Rs.46,664

Cr. Discount on bonds payable (difference) Rs.4,664

Cr. Cash (stated rate × face amount) Rs.42,000

Since the balance of the debt changes each period, the interest accrued also changes with each period. This requires the preparation of a schedule that reflects the changes in the debt over its term to maturity. This schedule is referred to as Amortisation schedule. The amortisation schedule for the above example is as follows:

(Amount in Rs.)

	Cash Interest (coupon rate x face value)	Effective interest (7% x outstanding balance)	Increase in balance (discount reduction)	Outstanding balance
				666,633
1	Rs.42,000	7% x (666,633) = 46,664	4,664	671,297
2	Rs.42,000	7% x (671,297) = 46,991	4,991	676,288
3	Rs.42,000	7% x (676,288) = 47,340	5,340	681,628
4	Rs.42,000	7% x (681,628) = 47,714	5,714	687,342
5	Rs.42,000	7% x (687,342) = 48,114	6,114	693,456
6	Rs.42,000	7% x (693,456) = 48,544*	6,544	700,000
	Rs.252,000	= 285,367	33,367	

*Rounded off

REPORTING OF INTEREST ACCRUED IN THE FINANCIAL STATEMENTS

When an accounting period ends between interest dates, it is necessary to record interest that has accrued since the last interest date. For instance, if the fiscal year of RR Industries end on October 31 and interest was last paid and recorded on June 30, four months' interest must be accrued in a year-end adjusting entry. Because interest is recorded for only a portion of a semiannual period, amounts recorded are simply the amounts shown in the amortization schedule times the appropriate fraction of the semiannual period (in this case 4/6).

The Journal Entry to be passed

Dr. Interest expense (4/6 x Rs.46,991) Rs.31,327

Dr. Discount on bonds payable (4/6 x Rs.4,991) Rs.3,327

Cr. Interest payable (4/6 x Rs.42,000) Rs.28,000

Two months later, when semiannual interest is paid next, the remainder of the semiannual interest is allocated to the first two months of the next accounting year – November and December:

The journal entry to be made

Dr. Interest expense (2/6 x Rs.46,991) Rs.15,664

Dr. Interest payable (from adjusting entry) Rs.28,000

Dr. Discount on bonds payable (2/6x 4,991) Rs.1,664

Cr. Cash (stated rate x face amount) Rs.42,000

Illustration 15

A Company issued a 3 year 5% annual coupon bond with a face value of Rs.2,00,000 on December 31, 2004. Calculate the book value of the bond at the end of the 2004, 2005 and 2006 and the interest expense for the years 2005, 2006 and 2007 assuming the bond was issued at a market rate of interest of

(i) 5%, (ii) 4% and (iii) 6%

Solution

i. **Bonds Issued at Par:** If the market rate of interest is 5% and the coupon rate is also 5%, the book value of the bond will be the face value of Rs.2,00,000 and the interest expense of each year will be equal to book value multiplied by the coupon rate ($\text{Rs.2,00,000} \times 5\% = \text{Rs.10,000}$).

ii. **Bonds Issued at a Premium:** If the market rate of interest (4%) is less than the coupon rate (5%), it is a case of issue of bonds at a premium. In such a case the book value and the interest expense is computed as follows:

Book value at the end of December 31, 2004:

Present value of annuity of Re.1 at 4% for 3 year = 2.775

Present value of interest expense for 3 years = $\text{Rs.10,000} \times 2.775 = \text{Rs.27,750}$

Present value of Re.1 at 4% for 3 years = 0.88900

Present value of Rs.2,00,000 to be paid at the end of 3 years

= $(2,00,000 \times 0.88900) = \text{Rs.1,77,800}$

Therefore the present value or book value of bond on December 31, 2004 will be Rs.2,05,550 ($\text{Rs.27,750} + \text{Rs.1,77,800}$)

The book value and interest expense for all the other years are computed as follows:

Year	Book value at the beginning (A)	Interest expense at 4% (B)	Coupon interest at 5% (C)	Book value at the end D = A + B - C
2005	2,05,550	8,222	10,000	2,03,772
2006	2,03,772	8,151	10,000	2,01,923
2007	2,01,923	8,077	10,000	2,00,000

The premium amortized at the end of the year 2005 will be Rs.1,778 ($\text{Rs.10,000} - \text{Rs.8,222}$)

The premium amortized at the end of the year 2006 will be Rs.1,849 ($\text{Rs.10,000} - \text{Rs.8,151}$)

The premium amortized at the end of the year 2007 will be Rs.1,923 ($\text{Rs.10,000} - \text{Rs.8,077}$)

iii. **Bonds Issued at Discount:** If the market rate of interest (6%) is higher than the coupon rate (5%) it is a case of bond issue at a discount. In such a case the book value and the interest expense is calculated as follows:

Book value as on December 31, 2004

Present value of annuity of Re.1 at 6% for 3 years = 2.67301

Present value of interest of Rs.10,000 = $\text{Rs.10,000} \times 2.67301 = \text{Rs.26,730}$

Present value of Re.1 at the end of 3 years at 6% = 0.83962

Present value of face value at the end of 3 year = $\text{Rs.2,00,000} \times 0.83962 = \text{Rs.1,67,924}$

Therefore, the present value or book value as on December 31, 2004 will be = Rs.1,94,654 ($\text{Rs.26,730} + \text{Rs.1,67,924}$)

The book values and interest rates for the other years are as follows:

Year	Book value at the beginning (A)	Interest expense at 6% (B)	Coupon interest at 5% (C)	Book value at the end $D = A + B - C$
2005	1,94,654	11,679	10,000	1,96,333
2006	1,96,333	11,780	10,000	1,98,113
2007	1,98,113	11,887	10,000	2,00,000

The discount amortized at the end of the year 2005 will be Rs.1,679 (Rs.10,000 – Rs.11,679).

The discount amortized at the end of the year 2006 will be Rs.1,780 (Rs.10,000 – Rs.11,780).

The discount amortized at the end of the year 2007 will be Rs.1,887 (Rs.10,000 – Rs.11,887).

Zero-Coupon Bonds

Zero-coupon bonds are defined as “a specialized kind of debt instruments where the interest payments are not made on a regular basis but instead are accumulated and paid on the maturity of the bond along with the principal.” In other words, these are the bonds which are purchased at discount and redeemed at par with no coupon payments at regular intervals. Hence they are also referred to as “pure discount instruments”.

Effect of Zero-Coupon Bonds on Financial Statements: The effect of zero-coupon bonds on financial statements is almost similar to the effect of discount bonds on financial statements. In the balance sheet, these bonds are shown at their discounted value and the discount amount will be amortized over the life of the bond. The interest expense will comprise purely of discount amortized amount. Let us further analyze this with the help of the following illustration:

Illustration 16

Company X issued Rs.20,00,000 worth zero-coupon bonds on December 31, 2004 maturing in three years. Assuming that the market rate of interest is 10%, compute the book value and the discount amortizations at the end of each year.

Solution

Present value of Re.1 at the end of three years @10% discount rate = 0.75132

Present value of Rs.20,00,000 at the end of three years = Rs.20,00,000 x 0.75132 = Rs.15,02,620

Therefore the book value at the end of December 31, 2004 is Rs.15,02,620

The book values and discount amortizations for the other years are computed as follows:

Year	Book value at the beginning (A)	Interest Expense at 10% (B)	Coupon interest (C)	Book value at the end $D = A + B - C$
2005	15,02,640	1,50,264	0	16,52,904
2006	16,52,904	1,65,290	0	18,18,194
2007	18,18,194	1,81,819	0	20,00,000

The interest expense also represents the discount amortization amount as there is no coupon interest.

Convertible Bonds

Very often, bonds are issued with the right to convert them into common stock of the company at the holder's option. Convertible debt is used for two reasons –

- i. Convertible debt allows a lesser number of shares to be issued (assuming conversion) than the amounts of funds if raised directly by the issuance of shares thus requiring less dilution, if a specific amount of funds are needed.
- ii. The conversion feature allows debt to be issued at a lower interest rate and with fewer restrictive covenants than if the debt was issued without it.

This dual nature of debt and equity, thus raises a question as to whether the equity element should receive separate recognition. The arguments in favor of separate treatment is based on the assumption that this equity element has economic value. Since the convertible feature tends to lower the rate of interest, a portion of the proceeds should be allocated to this equity feature. However, APB-14, para 7 of US GAAP argues that the debt and equity are inseparable and the instrument is either all debt or all equity. The feature of convertible debt typically includes:

- i. A conversion price 15-20% greater than the market value of the stock when the debt is issued;
- ii. Conversion features (price and number of shares) which protect against dilution from stock dividends, splits, etc., and
- iii. A callable feature at the issuer's option that is usually exercised once the conversion price is reached (thus forcing conversion or redemption).

However, a convertible debt also has got some disadvantages. If the stock price increases significantly after the debt is issued, the issuer would have been better off by simply issuing the stock. Additionally, if the price of the stock does not reach the conversion price, the debt will never be converted (a condition known as overhanging debt).

US GAAP requires no value to be apportioned to the conversion feature when recording the issue. The debt is treated as non-convertible debt. Upon conversion, the stock may be valued at either the book value or the market value of the bonds.

In case of the adoption of the *book value method*, the new stock is valued at the carrying value of the converted bonds. This method is widely used since no gain or loss is recognized upon conversion, and the conversion represents the transformation of contingent shareholders into shareholders. It does not represent the culmination of an earnings cycle. The primary weakness of this method is that the total value attributed to the equity security by the investors is not given accounting recognition.

The journal entry to be made is explained with the help of following illustration

Illustration 17

Assume that a Rs.2,000 bond with an unamortized discount of Rs.100 and a market value of Rs.1,940 is converted into 10 shares of Rs.20 par common stock whose market value is Rs.190 per share. Conversion using the book value method is recorded as follows:

Solution

	Rs.	Rs.
Dr Bonds payable	2,000	
Cr Discount on bonds payable (unamortized discount)		100
Cr Common stock (10 shares x par value)		200
Cr Additional paid-in capital (10 shares x Rs.170 premium)		1,700

The market value approach assumes the new stock issued is valued at its cost (i.e., the market price of the stock issued or the market price of the bonds converted, whichever is more easily determinable). A gain (loss) occurs when the market value of the stocks or bonds is less (greater) than the carrying value of the bond.

Another acceptable approach, *the market value method*, records the new shares at the market value of the shares themselves or of the bonds, whichever is more determinable. Because the market value most likely will differ from the book value of the bonds, a gain or loss on conversion will result.

The journal entry to be made is explained with the help of following illustration

Illustration 18

Assume the same data as the Illustration above. Record the entry for conversion of bonds into equity using market value method.

Solution

	Rs.	Rs.
Dr. Bonds payable	2,000	
Dr. Loss on redemption (ordinary)	40	
Cr. Discount on bonds payable		100
Cr. Common stock		200
Cr. Additional paid-in capital		1,740

The main difficulty faced for using market value approach is that the loss or gain raised from the conversion is not considered as ordinary because the conversion is initiated by the bondholder for which the loss is not qualified as an extinguishment of the debt. The weakness of this method is that the loss/gain raised by this method is affected only the bondholder as their equity will increase or decrease but the firm will not be affected by this transaction. For these reasons this method is not used widely. When convertible bond is retired, the same procedure is applied as in the case of non-convertible bonds and any difference arises between the carrying value and the acquisition price is to be reported as gain or loss. If the amount of gain or loss is material then it will be considered as extraordinary.

Issue of convertible debt is advantageous as it will reduce the borrowing costs by reducing the interest expense. The trade off is the value of the option to convert into common stock that is included in the security. However, issue of convertible or non convertible debt will not significantly affect the balance sheet.

Debt Issued with Stock Warrants

Warrants are certificates enabling the holder to purchase a stated number of shares of stock at a certain price within a certain time period. They are often issued with bonds to enhance the marketability of the bonds and to lower the bond's interest rate. When bonds with detachable warrants are issued, the purchase price must be allocated between the debt and the stock warrants based on relative market values. Since two separate instruments are involved, a market value must be determined for each. However, if one value cannot be determined, the market value of the other should be deducted from the total value to determine the unknown value.

Illustration 19

- A Rs.1,000 bond with a detachable warrant to buy 10 shares of Rs.10 par common stock at Rs.50 per share is issued for Rs.1,025.
- Immediately after the issuance the bonds trade at Rs.980 and the warrant at Rs.60.

- iii. The market value of the stock is Rs.54. The relative market value of the bonds is 94% (980/1,040) and the warrant is 6% (60/1,040). Thus, Rs.62 (6% x Rs.1,025) of the issuance price is assigned to the warrants. Record the journal entry to record the issuance.

Solution

	Rs.	Rs.
Dr. Cash	1,025	
Dr. Discount on bonds payable	37	
Cr. Bonds payable		1,000
Cr. Paid-in capital-warrants (or "stock options outstanding")		62

The discount is the difference between the purchase price assigned to the bond, Rs.963 (94% x Rs.1,025), and its face value, Rs.1,000. The debit itself is accounted for in the normal fashion.

The entry to record the subsequent future exercise of the warrant would be:

	Rs.	Rs.
Dr. Cash	500	
Dr. Paid-in capital-warrants	62	
Cr. Common stock		100
Cr. Paid-in capital (difference)		462

Assuming the warrants are not exercised, the journal entry is

	Rs.	Rs.
Dr. Paid-in capital-warrants	62	
Cr. Paid-in capital-expired warrants		62

Debt Covenants

Debt Covenants refer to certain restrictions imposed on the company issuing bonds by its bond holders. They are agreements between a company and its creditors that the company will operate within certain limits. Debt covenants are simply defined the conditions for borrowing. These conditions may be changed if the debt is subsequently restructured.

Smith and Warner (1979) characterized debt covenants as imposing restrictions on any one or all of the following activities:

- Payment of dividends including buyback of shares.
- Production and investment policies of the company such as mergers and acquisitions, sale and lease back, disposal of assets etc.
- Issuing of fresh debentures or bonds or incurring of other liabilities.
- The procedures of repayment of debt such as maintenance of sinking fund, priorities of claims on assets etc.

Some other covenants may pertain to maintenance of desired levels of ratios and financial statement items such as debt to equity ratio, current ratio, net working capital, leases capitalization etc. The covenants may contain clear cut instructions as to whether GAAP regulations are to be employed for computing the ratios or whether the ratios are to be computed without GAAP.

Breach of debt covenant is referred to as 'technical default' and allows the creditors to demand for immediate repayment. However, in actual practice, a

breach of covenants may result in re negotiation of terms and conditions. This re negotiation is done by the creditors with a new set of demands which will be advantageous to them. Some of the terms of re-negotiation agreement could be:

- Acceleration of principal repayments.
- Hike in interest rates.
- Demanding for specific lien on assets.
- Imposing increased restriction on the firm's investing, financing and dividend payment activities.

Hence debt covenants need to be analyzed carefully to understand the implications of the covenants on the firm's debt securities and the procedures relating to its debt management. The information regarding the what type of debt covenants are present in a debt agreement can be found out by a study of the debt agreement or the mortgage registration document filed with the Registrar of Mortgages. The debt or bond prospectus can also be a valuable source of this information.

Other Debt Instruments

There are various debt instruments which a firm can issue. The firm, when it intends to raise funds through external sources, should review all the pros and cons of the various types of debt instruments before selecting one. Each debt instrument enjoys its own advantages and disadvantages. For instance, we have already seen that issue of zero-coupon bonds results in lower interest cost to the firm.

Let us take the other debt instruments not described in the above pages and analyze their respective merits and demerits.

VARIABLE-RATE DEBT

Variable-Rate debt relates to debt issue which has a variable interest rate component. In other words, the interest rate is not fixed. The instruments carry an interest rate which is periodically adjusted to changes in market rates of interest. Because of this the book value of the debt is usually equal to face value i.e., this type of debt is usually issued at par.

The Variable-Rate debt exposes the firm's interest costs, cash flows and other related items to volatile changes in market rates. Such exposure or risk may be beneficial sometimes when the firm's operating cash flows are integrated with these changes in market interest rates.

Variable-Rate debt may be used by a firm for speculation purposes also. In such cases, if the management predicts a fall in future interest rates, it may replace the variable rate with the fixed rate when the fall occurs and the creditors are forced to get the lower interest rates.

Another advantage arises when the short-term interest rate are considerably lesser than the long-term rates. The company can then go in for a variable interest rate debt in the short-term and change the interest when it increases in long-term.

DEBT DENOMINATED IN FOREIGN CURRENCY

A firm can issue debt in foreign currency. Under such a debt scheme, the interest and principal payments are made in foreign currencies. This scheme is adopted because of twin advantages:

- If more favorable borrowing climate exists in the foreign market than the domestic market.
- The firm has cash flows which it likely to receive in foreign currency. Thus, offsetting foreign payment for loans through the cash flows received in the same currency can provide foreign exchange rate advantages or hedging of foreign exchange rates.

COMMODITY BONDS

Where bonds are issued and the interest and principal payments are attached to prices of certain commodities which the company produces, then such bonds are termed as commodity bonds. For instance, an oil company can issue bonds with the interest rate dependant on the oil prices. This is advantageous to the firms because as the oil prices increase, the firm will have more cash inflows and can thus bear the increase in interest expense. Similarly, when there is fall in oil prices, the interest rates will also thereby not leading to cash crunch.

PERPETUAL DEBT

These are conservative conventional bonds carrying fixed interest rate and repayable over a very long period of time such as 100 years. Because of the very long repayment period they are almost treated on par with the equity on the balance sheet. The perpetual debt carrying fixed interest rate can also become advantageous if they are issued during times of low interest rates. If the interest rates increase in future, the firm's outflow will be less.

EFFECT OF CHANGING INTEREST RATE ON MARKET VALUE OF DEBT

According to US GAAP, debt is usually shown in the balance sheet at the present value of future cash payments discounted at the market rate prevalent on the date of issuing. The changes in the market rate are thus likely to effect the market value of debt. If a company in the past has adopted a fixed rate debt and now the market value of the same debt increases then there will be an economic gain as a result of the increase in the rate. However, this economic gain is not shown in the balance sheet.

As a result of the foregoing implications, analysts prefer the computation of debt based on market value rather than the book value. The market value reflects the company's economic position in a much better way. For instance take two firms with the same book values of debt. But one firm acquired the debt when the market rates were lower and the other company acquired the debt at a time when the market rates increased. Debt to equity ratio based on book values of debt might be the same but in truth, the firm which issued at lower interest rates has better solvency position. Thus the firms that issue at lower interest rates tend to gain as the interest rate increases. This gain is reflected in a higher value of equity and lower value of debt.

Adjusting the book value of debt to the market value will result in a reduction in the value of debt that the company has to incur to retire the debt and thus will decrease the debt equity ratio. The opposite holds good if the market rate decreases. Under US GAAP disclosures about these fair values of outstanding debt based on year end and quarter end prices is needed. These disclosures are usually made in the notes to accounts. However, disclosures about market value of debt are not compulsory for non GAAP firms.

RETIREMENT OF DEBT PRIOR TO MATURITY

A firm while issuing debt instruments also fixes their maturity date. This maturity date may be chosen on the basis of such considerations as the cost and investment patterns. But later on, there may be a change in circumstances which induce the firm to refinance or retire the debt even before the date of maturity has arrived. Thus retirement of debt refers pre-closure of debt even before its actual maturity date. Some of the circumstances or situations that lead to retirement of debt include,

- Decreasing interest rates.
- Increased flows of cash from operations there by enabling repayment of debt even before maturity.
- Firms may generate cash through sale of assets or issue of fresh equity. These proceeds may be used by the firm to reduce its debt obligations.

Accounting Treatment

The Accounting treatment involves recognition of the loss or gain on retirement of debt as an extraordinary item. The loss or gain is computed by taking the difference between the reacquisition price and the net carrying amount or the book value of the debt.

Reacquisition Price

Reacquisition price is the total amount paid for the retirement including all the call premium and any other costs of reacquiring the portion of the debt being retired.

However, when retirement is achieved through the exchange of securities, the reacquisition price represents the total present value of the new securities being issued.

Net Carrying Amount

The net carrying amount represents the amount due at the maturity of the debt, after being adjusted for any unamortized premium or discount and any other costs of issuance whether legal, accounting, underwriter's fees, etc.

Gain or Loss on Retirement of Debt

Any gains or loss on the retirement of debt is to be recognized immediately in the year of retirement. If the effects of such gains or losses are material enough, they should be reported as extraordinary items net of related tax effects.

Debt retirements are usually conducted in cash although sometimes they may be in exchange for new debt or new issue of shares. Thus, retirement of debt can be either by,

- i. Cash purchase,
- ii. Exchange of stock for debt,
- iii. Exchange of debt for debt, or
- iv. Any other method.

Illustration 20

On 1st April 2002, More Company issued a 10% 10 year bond of Rs.4,00,000 at 98. The interest is payable on semi-annual basis. The company incurred Rs.28,000 as issue expense. On 1st April 2006, the entire lot of the bond is repurchased at Rs.102 for each bond of Rs.100 and retired. More Company is using straight line method to compute the transaction effect. Calculate the gain and loss on the repurchase for More Company.

Solution

The gain or loss on the repurchase is computed as follows:

Reacquisition price	Rs.	Rs.
[(102/100) x Rs.4,00,000]		4,08,000
Net carrying amount:		
Face value	4,00,000	
Unamortized discount [2% x 4,00,000 x (6/10)]	(4,800)	
Unamortized issue costs [28,000 x (6/10)]	(16,800)	
		3,78,400
Loss on bond repurchase		29,600.

The loss on bond repurchase (debt extinguishment) is treated as an extraordinary item.

Callable Bonds

A bond in which the issuer reserves the right to call and retire the bond prior to its maturity is called as callable bond. The issuer will have the option to buy back or call the bond from the creditors at predetermined prices.

The call price in most cases is fixed at a higher level than the face value. If the market interest rate increase beyond the call price it results in an economic profit to the firm though it may record an accounting loss.

Defeasance

Under defeasance, the firm sets aside risk-less securities which are sufficient to pay for all the remaining installments of principal and interest still outstanding on the debt. These cash flows pertaining to the risk free securities are maintained in a separate trust fund and the fund's use is restricted only to repayment of debt. As per US GAAP guidelines, the debt continues to be shown in the balance sheet and is closed only on repayment of the amount.

DISCLOSURES OF FINANCING LIABILITIES

Under US GAAP, the following disclosures relating to financial liabilities are done in the financial statements:

- The presentation on the balance sheet of the present value of future liability payments, discounted at the rate in effect at issuance.
- Interest expense for the period is disclosed either in the income statement or as a foot note.
- The cash interest expense is shown in the cash flow statement and a comparison of this figure with the interest expense in the income statement will help in bringing out the effect of zero-coupon bonds.
- For a publicly traded firm, filings with the SEC will detail all outstanding securities and their relevant terms.
- Details of financial liabilities in case of off balance sheet items such as leases, take-or-pay contracts, and other material financial obligations are shown as notes to financial statements.

INTERNATIONAL ACCOUNTING AND REPORTING PRACTICES FOR DEBT

International Accounting practices on financial liabilities coincide more or less with the US GAAP. Most of the accounting methodology and disclosures hold good for international accounting practices also except for some areas where there is diversity. These diversities between US GAAP and International Accounting practices are discussed below under the following headings:

Amortization of Bond Premium and Discount

Under US GAAP, discounts and premiums are amortized using the effective interest method. The effective interest method involves amortizing the discount or premium to interest expense so as to result in a constant rate of interest when applied to the amount of debt outstanding at the beginning of any given period. On the other hand the international practices vary. In some countries, amortization of premium or discount is done on straight line basis. In some other countries, neither the effective interest rate nor the straight line method is used. Instead the entire discount is written off in the very first of issue and in later years the interest expense will be equal to interest payments.

The differences in the three practices can be better understood by the following table relating to data presented in illustration 1(iii) (issue of bonds at a discount).

Years	US GAAP Effective interest method	International Accounting Practices	
		Straight line method	Immediate write off method
2005	11,679	11,782	15,346
2006	11,780	11,782	10,000
2007	11,887	11,782	10,000
	35,346	35,346	35,346

Classification of Balance Sheet Debt and Other Related Disclosures

Under US GAAP, detailed disclosures about the classification of debt are compulsory while in other countries detailed disclosures are not given only aggregate figures are provided. Such non-disclosures of details seriously hamper the estimation of future cash flows or financing requirements and thus the analysts job in analyzing financial liabilities becomes more difficult in case of Non-GAAP firms. Another frequently encountered difference is the classification of bank overdraft. While some firms treat bank overdraft as current liabilities, some other firms classify them as long-term debt.

The Relative Composition of Debt and Equity in Financing

A company's capital structure depends on its financial markets and economy and hence they differ from country to country. In some countries like Japan, companies have been mostly financed by bank debt rather than equity. Thus these firms have greater debt equity ratio. Not only this, the lending climate in Japan is conducive for short-term debt arrangements between companies. On the other hand firms in USA are more financed by a mix of debt and equity. Hence the debt equity ratio of these firm is considerable lower than the Japanese firms.

SUMMARY

- The valuation and analysis of a firm's liabilities are paramount to conducting an analysis of its liquidity and long-term solvency. Liabilities are defined as "probable future sacrifices of economic benefits arising out of present obligations of a particular entity to transfer assets or provide services to other entities in the future as a result of past transactions or events."
- Current liabilities are defined as obligations or debts that are expected to be satisfied within the next twelve months while Long-term liabilities represent obligations that will be met or settled over a period of more than one year.
- The Bonds are primarily used to borrow funds from the general public or institutional investors. Most commonly, the issuance of bonds are done at a price other than face value. In such cases, the amount of cash exchanged is equivalent to the total of the present value of the interest and principal payments. The excess of cash proceeds over the face value is recorded as a premium, if the cash proceeds are greater than the face value and the excess of face value over the cash proceeds is recorded as discount, if the face value is greater than the cash proceeds.
- Zero-coupon bonds are defined as "a specialized kind of debt instruments where the interest payments are not made on a regular basis but instead are accumulated and paid on the maturity of the bond along with the principal." In other words, these are the bonds which are purchased at discount and redeemed at par with no coupon payments at regular intervals. Hence they are also referred to as "pure discount instruments".
- Convertible bonds are bonds are issued with the right to convert them into common stock of the company at the holder's option.
- Debt Covenants refer to certain restrictions imposed on the company issuing bonds by its bond holders. They are agreements between a company and its creditors that the company will operate within certain limits. Debt covenants are simply defined the conditions for borrowing.
- The Accounting treatment for retirement of debt before maturity involves recognition of the loss or gain on retirement of debt as an extraordinary item. The loss or gain is computed by taking the difference between the reacquisition price and the net carrying amount or the book value of the debt.

Chapter VI

Analysis of Leases and Off-Balance-Sheet Assets and Liabilities

After reading this chapter, you will be conversant with:

- Incentives for Leasing
- Meaning and Definition of Important Terms and Classification of Lease
- Financial Reporting by Lessees and Lessor, Financial Reporting for Sale with Leasebacks
- Off-Balance-Sheet Items, Off-Balance-Sheet Arrangements and Disclosure Requirements
- Off-Balance-Sheet Financing and Special Situations

Introduction

The principal standard for lease accounting are IAS 17 *under IAS*, AS-19 *under Indian GAAP* and SFAS 13 *Accounting for Leases* Under US GAAP. Other than this, there is also specific US GAAP guidance for various categories of leases, mainly SFAS 98 *Accounting for Leases* for real estate transactions and SFAS 28 *Accounting for Sales with Leasebacks* for sale and leaseback transactions.

INCENTIVES FOR LEASING

Under USGAAP a Lease as “an agreement between the owner of the property (lessor) and the party contracting to use the property (lessee) that conveys the right to use the property” assets whether tangible or intangibles for a specified property. It is implicit from the definition of the lease that it does not include contracts for services, contracts for exploring or exploiting natural resources such as oil, gas, minerals, timber and licensing agreements for items such as films, patents, copyrights.

Leasing has grown as a popular mode of financing fixed assets. The various economic reasons for the adoption of lease transactions:

- i. Immediate cash outlay is not required by the lessee for leasing the asset as in the case of outright purchase of asset.
- ii. A purchase option allows the lessee to obtain the property at a bargain price at the expiration of the lease.
- iii. The lessee (borrower) is able to obtain 100% financing.
- iv. Flexibility of use for the tax benefits.
- v. The lessor receives the equivalent of interest as well as an asset with some remaining value at the end of the lease term.
- vi. Leases can be structured to allow manipulation of the tax benefits associated with the leased asset. They can be used to transfer the ownership of the leased asset, along with the risk associated with the ownership.

MEANING AND DEFINITION OF IMPORTANT TERMS

Fair value is the normal selling price for which the leased property could be sold between unrelated parties. It is the selling price less trade or volume discounts in case of manufacturer/dealer and cost less discounts in case of others. It may sometimes be lesser than selling price and cost price especially when there exists a time gap between the inception and acquisition of leased property.

Fair rental value is the similar rental value for similar property under similar lease, terms and conditions.

Bargain purchase/renewal option is lessee's option to purchase/renew the lease at sufficiently low price, which makes the exercise of the option relatively certain. A provision allowing the lessee the option of purchasing the leased property for an amount, exclusive of lease payments, which is sufficiently lower than the expected fair value of the property at the date the option becomes exercisable. Exercise of the option must appear reasonably assured at the inception of the lease. GAAP does not offer additional guidance defining “sufficiently lower”, in which many factors such as time value of money, usage, and technological changes influence whether the option fulfills the criteria for a bargain.

Inception of lease is the date of the lease agreement or the written commitment containing the principal provisions of the lease transaction signed by all the parties involved.

Estimated/unguaranteed residual value is the fair value of the leased property at the end of the lease period that is not guaranteed by either the lessee or any unrelated third party to the lessor and such amount should not exceed the amount estimated at the inception of the lease except for escalations.

Lessee's incremental borrowing rate is the rate of interest that the lessee would have had to pay at the inception of the lease to borrow the funds to purchase the leased property.

Non-cancelable lease term is a provision in the lease agreement that specifies that the lease may be cancelled only on some remote contingency, with the permission of the lessor, on signing of new lease agreement with the same lessor.

Contingent rentals are those that cannot be determined at the inception of the lease but depend upon future factors, events such as future sales, volumes, future price index, future interest rates, etc. which may result in either increase/decrease in rental payments but does not include escalation clause increases.

Penalty is an outside factor or provision that can impose on the lessee to disburse cash, incur or assume a liability, perform services, transfer an asset/rights, forgo an economic benefit, suffer an economic detriment.

Lease Term: A lease term includes fixed non-cancelable term of the lease plus the following:

1. Periods covered by bargain renewal options.
2. Periods for which failure to renew the lease imposes a penalty on the lessee in an amount such that renewal appears, at the inception of the lease, to be reasonably assured.
3. Periods covered by ordinary renewal options during which a guarantee by the lessee of the lessor's debt directly or indirectly related to the leased property is expected to be in effect or a loan from the lessee to the lessor directly or indirectly related to the leased property are expected to be outstanding.
4. Periods covered by ordinary renewal options preceding the date that a bargain purchase option is exercisable.
5. Periods representing renewals or extensions of the lease at the lessor's option.

However, the lease term shall not extend beyond the date a bargain purchase option becomes exercisable or beyond the useful life of the leased asset.

Minimum Lease Payments for the lessee as per SFAS-13 include the minimum rent, any guarantee the lessee is required/must make including the purchase price of the leased property, amount to make up the deficiency from the specified minimum, amount payable for failure to renew/extend the lease period. If the lease contains the bargain purchase option, minimum lease payment would include only the minimum rent over the lease term and the payment required to exercise the option. It specifically excludes from minimum lease rentals, a guarantee by the lessee to pay the lessor's debt, lessee's obligation to pay executory costs on leased property, contingent rentals.

Related Parties: Entities that are in a relationship where one party has the ability to exercise significant influence over the operating and financial policies of another party. This includes:

1. A parent company and its subsidiaries.
2. An owner company and its joint ventures and partnerships.
3. An investor and its investees.

The ability to exercise significant influence must be present before the parties can be considered as related. Significant influence may also be exercised through guarantees of indebtedness, extensions of credit, or through ownership of debt obligations, warrants, or other securities. If two or more entities are subject to the significant influence of a parent, owner, investor, or common officer or directors, then those entities are considered as related to each other.

Sales Recognition: Any method, that is described as a method to record a transaction involving real estate, other than the deposit method, or the methods to record transactions accounted for as financing, leasing or profit-sharing arrangements. Profit recognition methods commonly used to record transactions involving real estate include, but are not limited to, the full accrual method, the installment method, the cost recovery method, and the reduced profit method.

Lease Bonus: In order to obtain more favorable leasing terms (e.g., a lease term of 3 years instead of 5 years), the lessee may pay a non-refundable lease bonus (fee) to the lessor where such lease bonus fee would be treated as unearned rent by the lessor and would be amortized to rental revenue on a straight-line basis over the lease term. The lessee would treat the lease bonus fee as prepaid rent and would recognize it as rental expense over the lease term on a straight-line basis.

Security Deposits: Payment of the security deposits by the lessee to the lessor may be required by some lease agreements at the inception of the lease. Such security deposits may be either refundable or non-refundable. A refundable security deposit should be treated as a liability by the lessor and receivable by the lessee until such deposit is returned to the lessee. A non-refundable security deposit is recorded as unearned revenue by the lessor and as prepaid rent by the lessee until such deposit is considered earned by the lessor usually at the end of the lease term.

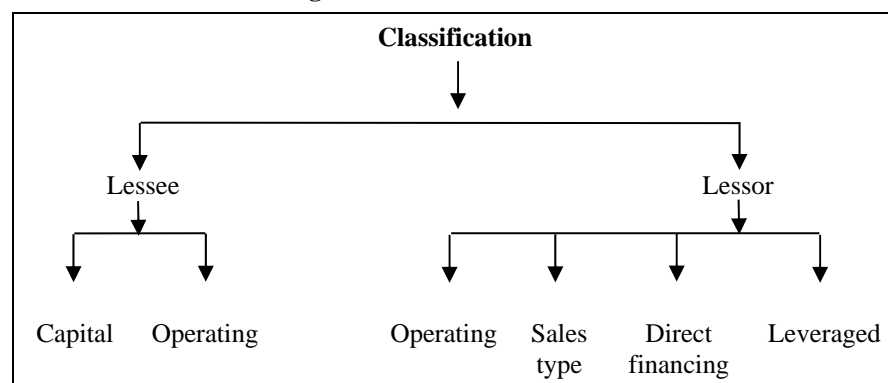
Leasehold Improvements: The lessee has a right to use the leasehold improvements made by him to the leasehold property by constructing the new buildings or improving existing structures (movable equipment or office furniture that is not attached to the leased property is not considered as a leasehold improvement) over the term of the lease. However, such improvements will revert to the lessor at the expiration of the lease. Such leasehold improvements are capitalized to "leasehold improvements", i.e. a property, plant and equipment account by the lessee and are amortized over the shorter of (1) the remaining lease term, or (2) the useful life of the improvement. However, if the lease contains an option to renew where the likelihood of such renewal is uncertain, the leasehold improvements should be written off over the life of the initial lease term or useful life of the improvement, whichever is shorter. In the case of improvements made in lieu of rent, they should be expensed in the period of incurrence.

CLASSIFICATION AND ACCOUNTING OF LEASES WITH RESPECT TO LESSEE AS OPERATING/CAPITAL LEASES

A lease is accounted for as either a rental agreement or a purchase/sale accompanied by debt financing. The choice of accounting method hinges on the nature of the leasing arrangement.

For accounting and reporting purposes, leases have been classified as operating and capital lease with respect to lessee and as operating, sales-type, direct financing, leveraged lease with respect to lessor.

Figure 1: Classification Chart



Promulgated GAAP read with SFAS-13 has established certain criteria for determining whether a lease is a capital lease or operating lease. Accordingly, a lessee should classify a lease transaction as a capital lease if it includes a non-cancelable lease term and if it meets any one of the following four criteria:

- i. There is a transfer of ownership of the leased property by the end of the lease period.
- ii. The lease contains a bargain purchase option.
- iii. The lease term is substantially (75% or more) equal to the estimated useful life of the leased property, and the beginning of the lease term does not fall within the last 25% of the original estimated economic life of the leased property.
- iv. The present value of the adjusted minimum lease payments excluding executory costs and profits is 90% or more than the fair value of the leased property to the lessor less any investment credit retained or to be realized by the lessor at the inception of the lease. This requirement cannot be used if the lease's inception is in the last 25% of the useful economic life of the leased asset. The interest rate, used to compute the present value, should be the incremental borrowing rate of the lessee unless the implicit rate is available and lower.

Leases that do not satisfy any of the previously discussed criteria must be accounted for as operating leases.

Let us discuss this criteria in more detail

The first criteria requires the determination as to when the risks and rewards of ownership have been transferred to the lessee. If legal title passes to the lessee during, or at the end of, the lease term, obviously ownership attributes are said to be transferred.

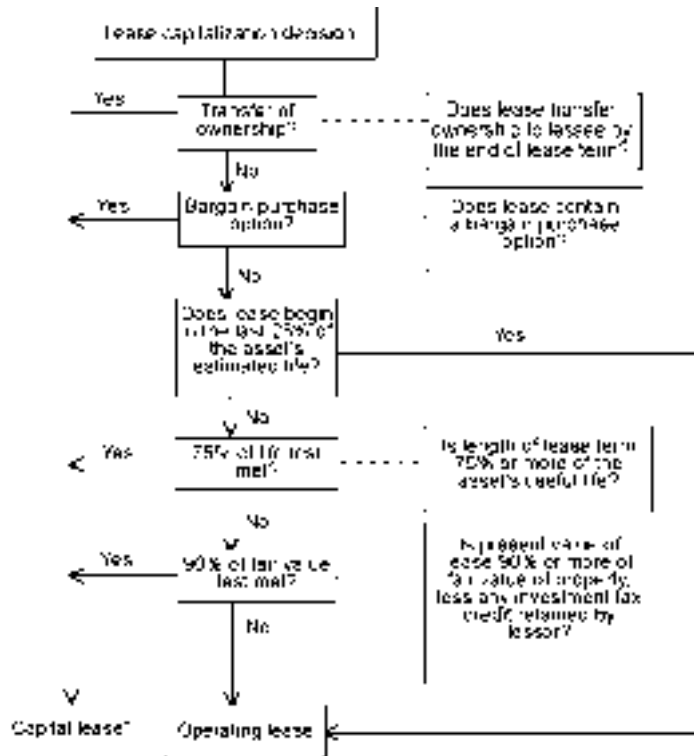
The logic of the second criteria is similar to the first criteria. A Bargain Purchase Option (BPO) is a provision in the lease contract that gives the lessee the option of purchasing the leased property at a bargain price. This is defined as a price sufficiently lower than the expected fair value of the property (when the option becomes exercisable) that the exercise of the option appears reasonably assured at the inception of the lease. Because exercise of the option appears reasonably assured, transfer of ownership is expected.

The third criteria believes that if most of its useful life, then most of the benefits and responsibilities of ownership are transferred to the lessee. Although a straight forward criteria of 75% or more of the expected economic life of the asset has been considered as appropriate threshold point for this purpose, its implementation is troublesome. First, the lease term may be uncertain or It may be renewable beyond its initial term or the lease may be cancelable after a designated non-cancelable period. When either is an issue, we ordinarily consider the lease term to be the non-cancelable term of the lease plus any periods covered by bargain renewal options. Another implementation issue is estimating the economic life of the leased property. Estimates of the economic life of leased property are subject to the same uncertainty limitations of most estimates.

The 90% recovery criterion often is the decisive one. Enterprises to avoid an asset and a liability may avoid the first three criteria. However, when the underlying motive for the lease agreement is that the lessee substantively acquires the asset, it is more difficult to avoid meeting the 90% recovery criterion without defeating that motive.

Decision Tree for Lessee's Classification of Lease

Figure 2: Classification of Lease as a Capital or Operating Lease



Lessor must determine that two additional criteria are met to account for the lease as a capital lease:

1. Collection of minimum lease payments is reasonably predictable.
2. No important uncertainties exist for unreimbursable costs to be incurred by the lessor.

ACCOUNTING AND FINANCIAL REPORTING OF LEASES BY LESSEE

Operating Lease

The statement requires the rental payments including contingent rentals to be charged to expense and accounted for as mere rental payments made or payable. In an operating lease rent payments are generally accounted for on a straight line basis regardless of whether the lease agreement calls for either an alternative payment schedule or a scheduled rent increase over the lease term. However, circumstances may arise when some other systematic and rational basis is more representative of the actual usage of the leased asset. In such an instance it will be necessary to create either a prepaid asset or a liability depending upon the structure of the payment schedule. In case where the lessor provides for smaller rentals during the early years and higher rentals during the ending years, recognition should be in proportion to the leased property with the increased rents recognized over the years. Since the substance of the lease is merely rental and there is no reason to expect that lessee will derive any future benefit from the leased property beyond the lease term, the leased asset is not recognized in the balance sheet.

In the case of an operating lease there is no recognition of the leased asset in the balance sheet since the substance of the lease is only that of a rental. The following journal entry is made for lease payment:

Dr. Lease payment	Rs.xxx	
Cr. Cash		Rs.xxx

Illustration 1

On 1st April 2005, Swerve Company entered into a 7 year lease contract for office equipment on a monthly lease payment basis. The expected economic life of the equipment is 10 years. The lease agreement does not contain any provision regarding transfer of title or bargain purchase option. The present value of the lease payment is more than 80% of the equipment's fair value. What should Swerve Company report as paid in its income statement as on 31st March, 2006?

Solution

A capital lease must satisfy one or more of the following criteria:

1. Transfers ownership to lessee.
2. Contains bargain purchase option.
3. Lease term is $\geq 75\%$ of the economic life of the leased asset.
4. Present value of minimum lease payments is $\geq 90\%$ of the FMV of the leased asset.

As the aforesaid lease contract does not fulfill any of these criteria, it must be recognized as an operating lease. Swerve would report rent expense equal to the total amount of lease payments paid or payable for the period pertaining to 1st April, 2005 to 31st March, 2006 in its 2005-06 income statement.

Illustration 2

Swapnil leased equipment from Suraj with 9 months of free rent under 5 year operating lease for a monthly rental of Rs.2,000. The lease term started from 1st April 2005 and the payment will start from 1st January 2006. In Swapnil's income statement for the year ended 31st March 2006, what should be the reporting amount of rent expense?

Solution

The rent on operating lease is to be amortized on the basis of straight line method unless any other suitable method is found. In the given case, Swapnil is required to pay Rs.2,000 for 5 years except the first 9 months i.e. $(60 - 9)$ months. Thus the total lease rental expense for Swapnil is $\text{Rs.}(51 \times 2,000) = \text{Rs.}1,02,000$. Applying the straight line method the rent expense for the year ending 31st March, 2006 will be $\text{Rs.}(1,02,000/5) = \text{Rs.}20,400$.

Capital Lease

The statement requires the lessee to record the capital lease as an asset with corresponding liability and the initial recording value is the present value of minimum rentals at the beginning of the period or the fair value of the leased property at the inception of the lease whichever is less.

Minimum lease payments include the rentals, guarantee of the residual value, any penalty for failure to renew the lease excluding executory costs and any amount required to be paid under bargain purchase option (if existed). Its present value is computed by using the incremental borrowing rate unless it is practicable for the lessee to determine the lessor's implicit rate. The statement requires the fair value to be determined after providing for any escalations as the fair value and minimum rentals are directly proportional to each other.

The lease term used in this present value computation is fixed, non-cancelable term of the lease plus the following:

- i. All periods covered by bargain renewal options.
- ii. All periods for which failure to renew imposes a penalty on the lessee.
- iii. All periods covered by ordinary renewal options during which the lessee guarantees the lessor's debt on the leased property.

- iv. All periods covered by ordinary renewals or extensions up to the date a Bargain Purchase Option (BPO) is exercisable.
- v. All periods representing renewals or extensions of the lease at the lessor's option.

The following entry is made on the books of the lessee at the inception of the lease which is classified as a Capital lease:

Dr. Leased asset – capital lease	Rs. xxx
Cr. Obligation under capital lease/lease payable	Rs. xxx

Illustration 3

Neha Leasing Company leased a machine to Srivastava Company for 10 years with an annual payment of Rs.10,000. The lease is classified as capital lease. As per the lease term, every payment has to be paid at the beginning of the year and the interest rate is 12%. The lease contains a Bargain Purchase Option of Rs.10,000 at the end of the lease term. Estimated value of the asset after 10 years is Rs.20,000. If Srivastava is enjoying an incremental borrowing rate of 14% and the present value of an annuity due of Re.1 at,

12% for 10 years is 6.328

14% for 10 years is 5.946

The present value of 1 at,

12% for 10 years is 0.322

14% for 10 years is 0.270

What amount should Srivastava record as lease liability at the beginning of the lease term?

Solution

In case of a capital lease, the lessee should record the minimum lease payment at its present value. The minimum lease payment includes the bargain purchase option amount if any and the rental payment. The rate applied to calculate the present value is the lessee's incremental borrowing rate or the lessor's implicit rate (if known) whichever is lower. Thus in the given case the present value of the bargain purchase option of Rs.10,000 and the annual lease payment of Rs.10,000 will be calculated by using the 12% implicit rate for the lessor. Srivastava should record Rs.66,500 as lease liability as well as lease asset.

Particulars	Rs.
PV of rentals (Rs.10,000 x 6.328)	63,280
PV of BPO (Rs.10,000 x 0.322)	3,220
PV at 12%	66,500

AMORTIZATION BY LESSEE

The amortization of the leased property depends upon how the lease qualified as a capital lease. If the lease provides for the transfer of ownership to the lessee, the leased property is amortized over the estimated useful life of the asset otherwise the leased asset is amortized over the lease term. The annual rent payments made during the lease term are to be allocated between a reduction in the obligation and interest expense in a manner such that the interest expense represents a constant periodic rate of interest on the remaining balance of the lease obligation.

The following journal entry is to be passed in the books of the lessee at the end of each year, Assuming payment is made on Dec 31, each year.

Dr. Interest expense (interest)	Rs.xxx
Dr. Liability (principal)	Rs.xxx
Cr. Cash (interest and principal)	Rs.xxx

There may be a guaranteed residual value in case where the lease provides for the reversal of the leased property from the lessee to the lessor. This indicates the amount, which the lessee guarantees to the lessor. The guaranteed residual amount is often used as a tool to reduce the periodic payment by substituting the lump sum amount at the end of the term which results from the guarantee.

If the FMV of the leased property at the end of the lease term is greater than or equal to the guaranteed residual amount, the lessee incurs no additional obligation. However, the lessee is required to make up the difference usually by cash payment if the FMV of the leased asset is less than guaranteed residual amount. In order to achieve a rational and systematic allocation of the expense through the periods and avoid a large loss (or expense) in the last period as a result of the guarantee, the amortization should be based on the estimated residual value.

DEPRECIATION BY LESSEE

The asset(s) recorded under a capital lease is depreciated in a manner consistent with lessee's normal depreciation policy for other owned assets. The period for amortization is either (a) the estimated economic life or (b) the lease term, depending on which criterion was used to classify the lease. If the criterion used to classify the lease as a capital lease was either criterion (1) (ownership of the property is transferred to the lessee by the end of the lease term) or criterion (2) (lease contains a bargain purchase option), the asset is amortized over its economic life. In all other cases, the asset is amortized over the lease term. Any residual value is deducted from the asset to determine the amortizable base.

The following journal entry is to be passed in the books of the lessee at the end of each year, Assuming payment is made on Dec 31, each year.

Dr. Depreciation	Rs.xxxx
Cr. Accumulated depreciation	Rs.xxxx

Let us examine the application of the criteria for classification and the Initial entry to be made with the following illustration.

Illustration 4

On 2nd January 2005, Hitesh Company leased an asset under a non-cancelable lease term for 20 years at an annual payment of Rs.1,00,000 from Saurab Company. The annual lease payment is payable on 31st December of each year. The title of the asset will be transferred to Hitesh Company after 20 years. The estimated useful life of the asset is for 25 years and the cost of the asset is Rs.7,50,000 in Saurab's book. The incremental borrowing rate for Hitesh is 12% whereas the implicit rate to the lessor is 10% which is known to Hitesh. Hitesh is following straight line method of depreciation.

The rounded present value factors of an ordinary annuity for 20 years are as follows:

12% for 20 years is 7.5

10% for 20 years is 8.5

Required: Prepare the necessary journal entries, without explanations, to be recorded by Hitesh for,

1. Entering into the lease on January 2, 2005.
2. Making the lease payment on December 31, 2005.
3. Expenses related to the lease for the year ended December 31, 2005.

Show supporting calculations for all entries.

Solution

1. This problem requires preparation of the lessee's journal entries for the first year of a lease. The lease is a capital lease because title passes to the lessee at the end of the lease and the lease term (20 years) is greater than 75% of the useful life (25 years).
2. In a capital lease, the lessee records a leased asset and a lease obligation at the present value of the minimum lease payments. The lessee's incremental borrowing rate (12%) should be used to determine the present value unless the lessor's implicit rate is lower and is known by the lessee. The lessor's 10% rate is lower and is known by the lessee, so it is used to compute the PV of Rs.8,50,000 ($\text{Rs.1,00,000} \times 8.5$).

	Rs.	Rs.
Dr. Leased Equipment	8,50,000	
Cr. Lease Payable		8,50,000

3. The first lease payment on December 31, 2005 consists of interest expense incurred during 2005 ($\text{Rs.8,50,000} \times 10\% = \text{Rs.85,000}$) and reduction of lease obligation (Rs.1,00,000 payment – Rs.85,000 interest = Rs.15,000). The Rs.1,00,000 credit to cash is offset by debits to interest expense (Rs.85,000) and lease obligation (Rs.15,000).

	Rs.	Rs.
Dr. Lease payable	15,000	
Dr. Interest	85,000	
Cr. Cash account		1,00,000

4. The only other expense related to this lease is depreciation of the leased asset. Leased assets are depreciated over the lease term (20 years) unless the lease transfers ownership (as this one does) or contains a bargain purchase option. If either of these is present, then the asset is depreciated over the estimated useful life of the asset (25 years). Depreciation expense is cost (Rs.8,50,000) divided by useful life ($\text{Rs.8,50,000} / 25 \text{ Years} = \text{Rs.34,000}$). If a salvage value had been given, it would be subtracted from cost before dividing by useful life.

	Rs.	Rs.
Dr. Depreciation expense	34,000	
Cr. Accumulated Depreciation		34,000

ACCOUNTING AND FINANCIAL REPORTING BY LESSOR

The four alternatives a lessor has in classifying a lease are as follows:

1. Operating,
2. Sales-type,
3. Direct financing, and
4. Leveraged.

The conditions surrounding the origination of the lease determine its classification in the books of the lessor. If the lessee meets any one of the four criteria specified above for lessees and both the qualifications set forth below, the lease is classified as either as sales-type lease, direct financing lease or leveraged lease depending upon the conditions present at the inception of the lease.

Additional Conditions:

- Collectibility of the minimum lease payments is reasonably predictable.
- No important uncertainties surround the amount of un-reimbursable costs yet to be incurred by the lessor under the lease.

If the lease transaction does not meet the criteria for classification as a sales-type lease, a direct financing lease or a leveraged lease as specified, it is to be classified in the books of the lessor in operating lease. This classification process must take place prior to considering the proper accounting treatment.

Operating Lease

Operating lease with respect to the lessor is less complex as far as the accounting treatment is concerned as the payments received by the lessor are recorded as rent revenues in the period in which the payment is received or becomes receivable. The lessor shall show the leased property on the balance sheet under the head "Investment in leased property". With or near the Fixed Assets of the lessor and depreciated in the same manner as the rest of the fixed assets. Initial direct leasing costs excluding any incentives made by the lessor to lessee are amortized over the lease term as the revenue is recognized on a straight line basis unless some other method is more representative. However, these are charged to expense if their effect is not materially different from what would have occurred if the above method had not been used. If the FMV is less than the cost at the inception of the lease, then the lessor must recognize the loss equal to that difference at the inception of the lease. Any incentives made by the lessor to the lessee are to be treated as reductions of rent and recognized on a straight line basis over the term of the lease. Additionally, if the lease term provides for a scheduled increase(s) in contemplation of the lessee's increased physical use of the leased property, the total amount of rental payments including the scheduled increase(s) shall be allocated to revenue over the lease term on a straight line basis. However, if the scheduled increase(s) is due to additional leased property, recognition should be proportional to the leased property with the increased rents recognized over the years that the lessee has control over the use of the additional leased property.

Illustration 5

A lease agreement was entered into by Zep Inc and Graf Co. effective from January, 1, 2005. Graf Co., agreed to grant Zep Inc., a 12-month of free rent under a 5-year operating lease. The lease provides for monthly rental payments to begin January 1, 2006. Zep made the first rental payment on December 30, 2005.

The amount of rental revenue to be reported by Graf Co., in its Calendar year 2005 income statement is,

- a. Zero.
- b. Cash received during 2005.
- c. One-fourth of the total cash to be received over the life of the lease.
- d. One-fifth of the total cash to be received over the life of the lease.

Solution

Rental revenue on operating leases should be recognized on a straight line basis unless another method more reasonably reflects the pattern of use given by the lessor. When the pattern of cash flows under the lease agreement is other than straight line, this will result in the recording of rent receivable or unearned rent. Therefore, even though Graf received only one monthly payment in 2005 (1/48 of the total rent to be received over the life of the lease), they would accrue as rent receivable and rent revenue an amount sufficient to increase the rent revenue account to a balance equal to one-fifth of the total cash to be received over the 5-year life of the lease. Thus option (d) is the correct choice.

Illustration 6

Suraj Co., leased a lathe machine to Sagar Textile Mills on January 1, 2000 for 5 year term with an annual rental fee of Rs.1,10,000. On 1st January 2000, Sagar Ltd., paid Rs.50,000 and Rs.15,000 as bonus and a refundable security deposit respectively. In Suraj's 2005 income statement, determine the amount of rental revenue.

Solution

The lessor should recognize rental revenue on a straight line basis in case of operating lease. Thus on 1st January 2005, the lease bonus of Rs.50,000 is to be recorded as unearned revenue and amortized as rental revenue over the 5 year lease term. In 2005 income statement the rental revenue should be Rs.1,20,000 [Rs.1,10,000 + (Rs.50,000/5)]. As security deposit is refundable at the end of the lease term it will be recorded as long-term liability and does not affect the rental revenue.

Illustration 7

Juliet Company leased office space from Romeo Co. for a five-year term beginning January 2, 2005. Under the requirements of the operating lease, rent for the first year would be Rs.9,000 and rent for the following year through year 5 (that is, year 2 through year 5) would be Rs.12,000 per year. Romeo Co. offered Juliet Company an inducement to enter the lease. The inducement consisted of waiving the rental payments for the first six months of the lease, making this period rent free for Juliet. In its December 31, 2005 income statement, what amount should Romeo report as rental income?

Solution

The following computation should be made. The total revenue over the life of the lease is as follows :

$\frac{1}{2} \times \text{Rs.}9,000 = \text{Rs.}4,500$ for the first year (since the first six months are rent free) plus
 $\text{Rs.}12,000 \times 4 \text{ years} = \text{Rs.}48,000$ (years 2 through 5)

Therefore, total rental revenue over the life of the lease = Rs.4,500
 + Rs.48,000 = Rs.52,500.

In its December 31, 2005 income statement,

Ron should record $\text{Rs.}52,500/5 \text{ years} = \text{Rs.}10,500$.

Summary of Accounting for Operating Lease in Financial Statement

The following table captures the Entries to be made in the books of the lessee and the Lessor when accounting for Operating Lease:

Table 1: Operating Lease FS Elements

	Lessor	Lessee
Balance Sheet	<ul style="list-style-type: none"> Leased asset (net of accumulated depreciation) Rent receivable Initial direct costs (net of accumulated amortization) Unearned rent (including lease bonus/fee and non-refundable security deposit) Deposit liability 	<ul style="list-style-type: none"> Prepaid rent (including lease bonus/fee and non-refundable security deposit) Leasehold improvements (net of accumulated amortization) Deposit receivable

	Lessor	Lessee
Income Statement	<ul style="list-style-type: none"> • Rent revenue (including amortization of lease bonus/fee and non-refundable security deposit) • Depreciation expense • Amortization of initial direct costs • Other maintenance expenses 	<ul style="list-style-type: none"> • Rent expense (including amortization of lease bonus/fee and non-refundable security deposit) • Amortization of leasehold improvements

Sales-Type Lease

Leases can serve as a marketing vehicle since leasing arrangements generate “sales” from potential customers who are unwilling or unable to buy the assets outright for cash. For example, Sujana Co. manufactures farm equipment for sale and also leases farm equipment through its wholly owned subsidiary.

A sales-type lease is a capital lease where the manufacturer or the dealer (lessor) recognizes profit or loss in addition to interest income. Here fair value must be different from cost of the asset. In a sale type lease a lessor uses leasing as a means for marketing products and earns a profit from two sources:

1. One component of the total return on the lease is called the manufacturer’s or dealer’s profit – the difference between the fair market value (cash sales price) of the asset and its cost to the manufacturer or dealer.
2. Another component of the lessor’s return is called financing profit – the difference between the total (undiscounted) minimum lease payments plus unguaranteed residual value and the fair market value of the leased asset.

At the date of the lease

Rs.

Dr.	Lease Receivable A/c (total payments equal to principal + interest)	xxx
Cr.	Sales A/c ((assumed selling price of leased item)	xxx
Cr.	Unearned Interest A/c (total interest)	xxx

Also,

Rs.

Dr.	Cost of Sales (cost of item)	xxx
Cr.	Inventory	xxx

It is necessary to determine the following amounts in accounting for sales-type lease:

- Gross investment,
- Fair value of leased asset, and
- Cost.

Gross investment of the lessor, which is also known as lease receivable is the minimum lease payments excluding executory costs plus the unguaranteed residual value. The unearned interest revenue which is the difference between the gross

investment and present value (computed using the lease term and implicit interest rate) of the two components of gross investment (minimum lease payments and unguaranteed residual value) represents the balance to be amortized using the Effective Interest method resulting in constant periodic ROI. Normal selling price less the residual amount retained, i.e. the adjusted selling price, which is equal to the PV of the minimum lease payments is to be used. The cost of goods sold is to be charged to income in the period of the sale is computed at historical cost. Thus, this lease generates two types of revenues –

- a. gross profit on the sale, and
- b. the interest earned on the lease receivable.

Illustration 8

Anirudh Inc., is a manufacturer of specialized equipment. The company is also maintaining a scheme of non-cancelable lease for its customers. This 5 year's lease agreement has a renewal option to extend the lease term for another 3 years for the same lease rental. The estimated economic life of the equipment is 10 years. The cost of the equipment to Anirudh Inc., is Rs.1,00,000 and the company pays Rs.2,500 as the cost associated with the inception of the lease. The fair market value of the equipment is Rs.1,50,000. The company expects a residual value of Rs.15,000 and Rs.10,000 at the end of 5 years and 8 years respectively. Anirudh Inc., expects a 12% return on investment from its lease scheme.

Additional Information:

- 0.40388 is the present value of an amount of Re.1 due in eight periods at a 12% interest rate.
- 4.96764 is the present value of an annuity of Re.1 for eight periods at a 12% interest rate.

Required:

- a. Calculate the annual payment receivable by the lessor.
- b. Classify the above lease agreement.

Solution

- a. *Calculation of the annual payment receivable by the lessor:*

Present Value (PV) of the minimum lease payments = selling price adjusted for the present value of the residual amount.

The present value is to be computed using the implicit interest rate and the lease term. Given the implicit rate as 12% and the lease term is 8 years (the fixed non-cancelable portion plus the renewal period).

Since PV of minimum lease payment = Normal selling price – PV of residual value

Given the normal selling price = Rs.1,50,000

PV of residual value = $0.40388 \times \text{Rs.}10,000 = \text{Rs.}4,038.80$

PV of minimum lease payments

$$= \text{Rs.}1,50,000 - \text{Rs.}4,038.80 = \text{Rs.}1,45,961.20$$

Therefore Minimum lease payments

$$= \text{Rs.}1,45,961.20 / 4.96764 = \text{Rs.}29,382.40$$

- b. *Determination of lease classification:*

Assume that there are no uncertainties regarding the lessor's costs, and the collectibility of the lease payments is reasonably assured.

In the given problem, the lease term is 8 years (the fixed non-cancelable portion plus the renewal period) while the estimated useful life of the asset is 10 years; thus, this lease qualifies as something other than an operating lease. Since it also meets the 90% of FMV criterion because the PV of the

minimum lease payments of Rs.1,45,961.20 is greater than 90% of the FMV which is Rs.1,35,000 ($0.90 \times \text{Rs.1,50,000}$).

This implies it is a capital lease and requires to be determined if this is a sales-type, direct financing or leveraged lease. Examination of the FMV or selling price of the equipment and the cost of the equipment. Since the two amounts are not equal it can be straight away classified as a sales-type lease.

Entries in the books of the lessor:

$$\begin{aligned} \text{Gross investment} &= \text{Total minimum lease payments} + \text{The unguaranteed residual value} \\ &= (\text{Rs.29,382.40} \times 8) + \text{Rs.10,000} = \text{Rs.2,45,059.20} \end{aligned}$$

Since the Cost of Goods Sold (COGS)

$$\begin{aligned} &= \text{Historical cost of the inventory} + \text{Any initial direct costs} \\ &\quad - \text{The PV of the unguaranteed residual value} \\ &= \text{Rs.1,00,000} + \text{Rs.2,500} - (\text{Rs.10,000} \times 0.40388) = \text{Rs.98,461.20}. \end{aligned}$$

Note that the initial direct costs will require a credit entry to some account, usually accounts payable or cash. The inventory account is credited for the carrying value of the asset, in this case Rs.1,00,000.

The adjusted selling price is equal to the PV of the minimum payments, or Rs.1,45,961.20. Finally, the unearned interest revenue is equal to the gross investment (i.e., lease receivable) less the present value of the components making up the gross investment (the minimum lease payment of Rs.29,382.40 and the unguaranteed residual of Rs.10,000). The present value of these items is Rs.1,50,000 [$(\text{Rs.29,382.40} \times 4.96764) + (\text{Rs.10,000} \times 0.40388)$]. Therefore, the entry necessary to record the lease is

	(Rs.)	(Rs.)
Dr. Lease receivable	2,45,059.20	
Dr. Cost of goods sold	98,461.20	
Cr. Inventory		1,00,000.00
Cr. Sales		1,45,961.20
Cr. Unearned interest		95,059.20
Cr. Accounts payable (initial direct costs)		2,500

The next step is to determine the amortization schedule. Since both principal and interest are included in each payment. According to the statement, interest is recognized on a basis such that an equal rate is earned over the term of the lease.

Year	Cash payment	Interest	Reduction in principal	Balance of net investment
	(Rs.)	(Rs.)	(Rs.)	(Rs.)
Inception of lease				1,50,000.00
1	29,382.40	18,000.00	11,382.40	1,38,617.00
2	29,382.40	16,634.11	12,748.29	1,25,869.31
3	29,382.40	15,104.32	14,278.08	1,11,591.31
4	29,382.40	13,390.95	15,991.45	95,599.78
5	29,382.40	11,471.97	17,910.43	77,689.35
6	29,382.40	9,322.72	20,059.68	57,629.67
7	29,382.40	6,915.56	22,466.84	35,162.83
8	29,382.40	4,219.57	25,162.83	10,000.00
	2,35,059.20	95,059.20	1,40,000.00	

In the above schedule the net investment is the gross investment (lease receivable) less the unearned interest. The above schedule reveals that at the end of the lease term, the net investment is equal to the estimated residual value.

The amortization schedule also reveals that the total interest earned over the lease term is equal to the unearned interest at the beginning of the lease term.

The entries below illustrate the proper treatment to record the receipt of the lease payment and the amortization of the unearned interest in the first year.

	Rs.	Rs.
Dr. Cash	29,382.40	
Cr. Lease receivable		29,382.40
Dr. Unearned interest	18,000.00	
Cr. Interest revenue		18,000.00

Note that there is no entry to recognize the principal reduction. This is done automatically when the net investment is reduced by decreasing the lease receivable (gross investment) by Rs.29,382.40 and the unearned interest account by only Rs.18,000. The Rs.18,000 is 12% (implicit rate) of the net investment. These entries are to be made over the life of the lease.

At the end of the lease term the asset is returned to the lessor and the following entry is required:

	Rs.	Rs.
Dr. Asset	10,000	
Cr. Lease receivable		10,000

If the estimated residual value has changed during the lease term, then the accounting computations would have changed also to reflect this.

Direct Financing Lease

Some lessors are not manufacturers or dealers; instead, they are organizations like financing companies that provide lessees with a means for financing asset acquisitions. These organizations acquire assets from manufacturers by paying the fair market value and then leasing the asset to lessees.

In a direct financing lease, since the lessors are neither manufacturers nor dealers, a lessor does not realize profit/loss other than interest income. Fair value of the property is equal with the cost.

This is similar to that of sales-type lease as far as accounting treatment and terminology is concerned except that no profit is recognized on actual lease transaction and only interest earned is recognized since the FMV and the cost are equal.

The accounting for direct-financing lease requires the following items to be determined:

- Gross investment which is defined as the minimum amount of lease payments exclusive of any executory costs plus the unguaranteed residual value where the difference between the gross investment and the cost (carrying value) of the asset is to be recorded as the unearned interest revenue as there is no manufacturer's/dealer's profit earned on the transaction.
- Cost.
- Residual value.

The accounting entries can be listed as follows:

Dr. Lease Receivable a/c	xxx	
Cr. Asset a/c		xxx

Cr. Unearned interest a/c	xxx
Dr. Initial direct costs a/c Dr.	xxx
Cr. Cash	xxx

Net investment in the context of leases can be interpreted as the gross investment less the unearned income plus the unamortized initial direct costs related to the lease. The meaning of initial direct costs remains the same for direct financing lease as in the case of sales-type lease except for the accounting treatment. The unearned lease interest income and the initial direct costs are amortized to income over the lease term so that a constant periodic rate is earned on the net investment in the case of a direct financing lease thus effecting the reduction of the implicit interest rate, or yield, to the lessor over the life of the lease.

Table 2

	Direct Financing Lease	Sales-type Lease
Balance Sheet	<ul style="list-style-type: none"> Lease receivable (current and non-current) Initial direct costs (added to net investment causing a new implicit rate of interest) 	<ul style="list-style-type: none"> Lease receivable (current and non-current)
Income Statement	<ul style="list-style-type: none"> Unearned interest revenue Interest revenue Amortization of initial direct costs 	<ul style="list-style-type: none"> Unearned interest revenue Interest revenue Initial direct costs (expensed immediately) Dealer's profit.

Direct Financing Lease (Lessor)

Gross Investment = total amount lessor receives = MLPs + URV = Lease Receivable FMV = cost of asset = PV of gross investment = Asset 0	Unearned Interest revenue <ul style="list-style-type: none"> Recognize as revenue Using the (effective) interest method
--	--

Sales-Type Lease (Lessor)

Gross Investment = total amount lessor receives = MLPs + URV = Lease Receivable FMV = Sales price = PV of MLPs = Sales Cost = Cost of Goods Sold 0	Unearned Interest revenue <ul style="list-style-type: none"> Recognize as revenue using the (effective) interest method Gross (dealer's) profit <ul style="list-style-type: none"> Recognize immediately Sales less CGS on income statement
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Illustration 9

On 1st January 2005, Ahuja Automobiles Ltd., leased an equipment for 3 years costing Rs.5,27,432 with an expected economic life for 5 years. The fair market

value of the equipment is Rs.5,27,432 as on 1st January, 2005. Lease payments are to be made at the beginning of each year. The guaranteed residual value of the equipment is Rs.40,000 after 3 years. Ahuja expects 10% as its return on investment. The equipment will be reverting back to Ahuja after the lease term is over. There is no uncertainty for collectivity and uncertainties relating to minimum payment and costs yet to be incurred. The cost (FMV) of the asset incurred by the Ahuja to acquire the asset for leasing is to be recovered through two components: annual rent payments and guaranteed residual value using a discount (implicit) rate of 10%.

This lease is a direct financing lease because criterion 4 (the 90% test) is satisfied.

$$\text{Rs.4,97,380} + \text{Rs.30,052} \geq (\text{Rs.5,27,432}) \times 0.9$$

(Since the residual value is guaranteed, the PV of the MLP is 100% of the FMV.)

Other than this criterion, two additional criteria for the lessor are satisfied, and FMV equals cost. If the residual value had been unguaranteed, the 90% test would still have been met because $\text{Rs.4,97,380} \geq (0.9) (\text{Rs.5,27,432})$.

The annual rent payment to Ahuja is computed as follows:

- a. PV of guaranteed residual value
 $\text{Rs.40,000 GRV} \times 0.7513 = \text{Rs.30,052}$
 - b. PV of annual rent payments = FMV of asset Less PV of guaranteed residual value
 $\text{Rs.5,27,432} - \text{Rs.30,052} = \text{Rs.4,97,380}.$
 - c. Find annual rent payment
 $\text{Rs.4,97,380} / \text{PVA}(n = 3; i = 10\%)$
 $\text{Rs.4,97,380} / 2.4869 = \text{Rs.2,00,000}$
1. The lease should be recorded at the beginning of year 1 by Ahuja Company.
 2. The lease receivable is calculated as follows:
 $(\text{Annual rent payment} \times \text{Lease term}) + \text{GRV}$
 $(\text{Rs.2,00,000} \times 3 \text{ yrs}) + \text{Rs.40,000} = \text{Rs.6,40,000}$
 3. Unearned interest revenue is calculated as follows:
 $\text{Lease receivable} - \text{FMV of asset}$
 $\text{Rs.6,40,000} - \text{Rs.5,27,432} = \text{Rs.1,12,568}$
 4. Unearned interest is to be amortized during the lease term using the following amortization schedule.

Amortization Table

	Rs.	Rs.
Carrying value at the beg of year (= PV of gross investment)		5,27,432
Interest revenue (10%)	(52,744)	
Rent payment	2,00,000	<u>(1,47,256)</u>
Carrying value at the beg of year 2		3,80,176
Interest revenue (10%)	(38,016)	
Rent payment	2,00,000	<u>(1,61,984)</u>

	Rs.	Rs.
Carrying value at the beg of year 3		2,18,192

Interest revenue (10%)	(21,808)	
Rent payment	2,00,000	(1,78,192)
Carrying value at end of year 3 (= residual value)		40,000
Lease receivable on balance sheet		

Note: As the lease expires, interest revenue decreases and the reduction of principal increases.

5. The journal entries for the lessor are shown below:

Journal Entries for the Ahuja

		Rs.			Rs.
<i>Initial entries (Beg of Yr.1)</i>			<i>End of year 2</i>		
Equipment for Leasing	5,27,432	5,27,432	Cash	2,00,000	
Cash			Lease receivable		2,00,000
Lease receivable	6,40,000		Unearned interest	38,016	
Equipment for leasing		5,27,432	Interest revenue		38,016
Unearned interest		1,12,568			
<i>End of year 1</i>			<i>End of year 3</i>		
Cash	2,00,000		Cash	2,00,000	
Lease receivable		2,00,000	Lease receivable		2,00,000
Unearned interest	52,744		Unearned interest	21,808	
Interest revenue		52,744	Interest revenue		21,808

6. If after 3 years when the asset has returned, the asset has a fair market value of Rs.16,000 only, in that case the lessee will need to make a payment of Rs.24,000 (Rs.40,000 – Rs.16,000) because the residual value was guaranteed.

At that time Ahuja will pass the following entry:

	Rs.	Rs.
Dr. Cash	24,000	
Dr. Residual value of equipment	16,000	
Cr. Lease receivable		40,000

Illustration 10

On January 1, 2005, the Andrew Co. is in the last stages of negotiating a lease with the Burner Co. The asset is carried in Andrews's inventory at a cost of Rs.100,000. The lease does not have a transfer of title clause nor a purchase option clause. The lease terms are as follows: no down payment; the lessee makes annual lease payments of Rs.27,238 at year-end for four years; the implicit rate is 10%; and the leased asset is to be returned at the end of four years. The accounting staff disagrees about whether the estimated useful life of the leased asset is five or six years, and whether the estimated salvage value of the asset at the end of four years is Rs.20,000 or Rs.0.

Required. Effects of the proposed lease transaction under each of the following set of conditions:

- The asset's estimated useful life is six years, the fair value is Rs.100,000, and the estimated salvage value is Rs.0;
- The asset's estimated useful life is five years, the fair value is Rs.100,000, and the estimated salvage value is Rs.20,000; and
- The asset's estimated useful life is five years, the fair value is Rs.100,000, the estimated salvage value is Rs.20,000, and the book value is Rs.80,000 rather than Rs.100,000

Treat leasing as a primary activity for Andrew Co. Also, for each set of assumptions, indicate what type of lease classification is used by Andrew.

Solution

Condition (1), the lease is an **operating lease**. There is no transfer of title or bargain purchase; the lease term of four years is less than 75% of the estimated useful life of six years; and the present value of future lease payments of Rs.86,340 ($n = 4$; $i = 10\%$; payment = Rs.27,238; present value = Rs.100,000; and future value = Rs.0) is less than 90% of the asset's estimated fair value of Rs.100,000.

Condition (2), the lease is a **direct financing lease**. There is no transfer of title or bargain purchase; the lease term of four years is greater than 75% of the estimated useful life of five years; and the present value of future lease payments of Rs.100,000 ($n = 4$; $i = 10\%$; payment = Rs.27,238; and future value = Rs.20,000) is greater than 90% of the asset's estimated fair value of Rs.100,000. Because the present value of future lease payments is equal to the asset's carrying value, the lease is a direct financing lease.

Condition (3), the lease is a **sales-type lease**. There is no transfer of title or bargain purchase; the lease term of four years is greater than 75% of the estimated useful life of five years; and the present value of future lease payments of Rs.100,000 ($n = 4$; $i = 10\%$; payment = Rs.27,238; and future value = RS 20,000) is greater than 90% of the asset's estimated fair value of Rs.100,000. Because the present value of future lease payments is greater than the asset's carrying value, the lease is a sales-type lease.

**Andrew Co. Statements of Cash Flows for Year Ended
December 31, 2005 (Cash Outflows in Parentheses)**

	Assumption		
	(1) Operating	(2) Direct Financing	(3) Sales-Type
Operating Activities:			
Interest received (1)		10,000	10,000
Lease receivable reduction (2)		17,238	17,238
Lease payments received	27,238		
1. Interest income = 100,000 x 10% = 10,000.			
2. Annual payment of 27,238 – 10,000 interest portion.			

**Andrew Co. Balance Sheets December 31, 2005
(Cumulative Effect of Lease Transactions Only)**

	Assumption		
	(1) Operating	(2) Direct Financing	(3) Sales-Type
Assets			
<i>Current assets</i>			
Cash	27,238	27,238	27,238
Lease receivable – current portion (5)		27,238	27,238
Inventory *	0	(100,000)	(80,000)
<i>Long-term investments and funds</i>			
Lease receivable (2)		101,714	101,714

	Assumption		
	(1) Operating	(2) Direct Financing	(3) Sales-Type
Less: unearned interest (4)		<u>18,952</u>	<u>18,952</u>
Net lease receivable (3)		82,762	82,762
Less: current portion		<u>27,238</u>	<u>27,238</u>
Total (1)		55,524	55,524
Net Cumulative Effect on Assets	27,238	10,000	30,000
Owners' Equity			
Retained earnings (ignoring income taxes)	27,238	10,000	30,000

* Asset would remain on Andrew's books. This balance sheet reflects changes due to the lease transaction.

1. December 31, 2005 cash payment.
2. $27,238 \times 3 = 81,714 + 20,000 = 101,714$.
3. Present value of future cash flows ($n = 3$; $i = 10\%$; payment = 27,238; future value = 20,000; present value = ? = 82,763, rounded to 82,762 above to make financial statements articulate.
4. Difference between total lease receivable and net lease receivable.
5. Amount due December 31, 2005.

Andrew Co., Income Statements for Year ended December 31, 2005

	Assumption		
	(1) Operating	(2) Direct Financing	(3) Sales-Type
Sales			100,000
Cost of Goods Sold			<u>80,000</u>
Gross Profit			20,000
Lease revenue	27,238		
Other revenues, (expenses), gains and (losses)			
Interest revenue		10,000	10,000

Leveraged Leases

SFAS-13 defines leveraged lease as a lease which satisfies the following:

1. It is a direct financing lease that does not result in dealer's profit ensuring reasonable predictability of collection of minimum lease payments with no uncertainties attached to costs.
2. The lease involves 3 parties – lessor, lessee, and a long-term creditor.
3. The lessor has a substantial leverage in that transaction.
4. The pattern of the lessor's net investment declines in early years and then rises in later years before being liquidated.

The initial and continuing investment of the lessor in a leveraged lease representing rentals receivable, investment tax credit, residual value, unearned and deferred income (pre-tax lease income after deducting initial direct costs and the investment tax credit remaining to be allocated to income over the lease term) is to be recorded net of the non-recourse debt.

The amount of net income recognized consists of pre-tax income, investment tax credit and the respective tax effect on pre-tax income and such income is computed by preparing the projected cash flow analysis, calculating the rate of return on net investment which is increased/decreased by the difference between the net cash flow and the amount of income recognized. Statement requires any

loss arising due to the difference between the cash receipts and net investment to be recognized without permitting the upward adjustments. A schedule of the components of the leveraged leases shall be disclosed together with the amount of deferred taxes separately in the footnotes to the financial statements.

Accounting for Leveraged Leases is said to be one of the most complex accounting subjects. A leveraged lease does not affect the lessee's accounting treatment. For these leases also he uses the same accounting treatment as outlined earlier. The lessee is interested only in differentiating whether the lease agreement qualifies as an Operating lease or a Capital lease.

The accounting treatment in the books of the lessor is a little complex. In a leveraged lease, the lessor obtains non-recourse financing for the leased asset from a third party, such as a bank. The lease is "leveraged" because the lessor borrows to finance the transaction.

The prerequisites required to classify a lease as a leveraged lease are:

1. The lease must meet the definition of a direct financing lease.
2. The lease involves three parties – Firstly, the owner-lessor; Secondly, the lessee; and Thirdly, a long-term creditor.
3. The financing provided by the long-term creditor is non-recourse to the general credit of the lessor and sufficient to provide the lessor with substantial leverage.
4. The lessor's net investment is reduced in the early years and increases in the later years until it is eliminated.

Where the above requirements are not met the lessor accounts the lease as direct financing lease. Leveraged leases are the end result of efforts to maximize tax benefits associated with a lease transaction.

The leveraged lease arrangement can be summarized as follows:

- i. The owner-lessor secures long-term financing from the creditor, generally in excess of 50% of the purchase price.
- ii. The owner-lessor then uses the finance acquired and his own funds to purchase the asset from the manufacturer.
- iii. The manufacturer delivers the asset to the lessee.
- iv. The lessee remits periodically the rent to the lessor.
- v. The debt taken from the creditor for the asset is either guaranteed by either using the asset as collateral, or by way of assignment of lease payments, or by both the methods depending on the demand of the creditor.

In precise the entire lease agreement is accounted for as a single transaction and not as a combination of direct finance lease plus a debt transaction. A lessor records its investment (receivable) net of the recourse debt.

The gross investment is calculated as the sum of:

- a. The rentals receivable from the lessee (net of principal and interest due to long-term creditor).
- b. A receivable for the amount of investment tax credit to be realized on the transaction (This has been repealed, effective from Jan 1, 1986 hence applicable only in case of property placed in service prior to this date.)
- c. The estimated residual value of the leased asset.
- d. The unearned and deferred income comprising of the estimated pre-tax lease income or loss (Gross lease rentals less Depreciation less Loan interest), after deducting initial direct costs, remaining to be allocated to income and the investment tax credit remaining to be allocated to income over the remaining term of the lease.
 - The computation of unearned and deferred income requires the creation of cash flow analysis by year for the entire lease term.

The net investment for the purpose of computing the net income for the period is the difference between the gross investment in the lease (discussed earlier) less the deferred taxes relative to the difference between pre-tax lease income and taxable lease income.

- The computation of periodic net income requires the preparation of another schedule that in turn uses the cash flow derived in the earlier schedule, and involves the allocation between income and reduction in net investment.

The amount of the income is determined by applying a rate to the net investment. The rate is derived in the same manner as the implicit rate except for the difference that the years in which there is a positive net investment are considered. In essence, income is recognized and reported only in the years in which there is positive net investment.

The income recognized is segregated among the following three elements:

1. Pre-tax accounting income.
2. Amortization of investment tax credit.
3. The tax effect of the pre-tax accounting income.

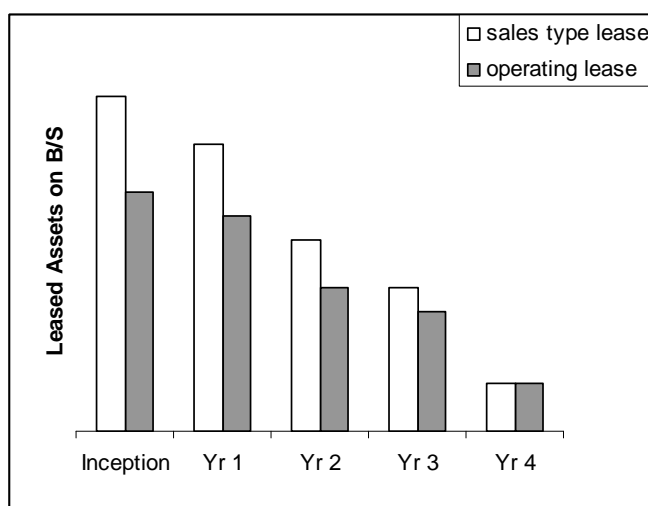
The pre-tax accounting income and the amortization of income tax credit, are allocated in proportionate amounts from the unearned and deferred income included in the calculation of the net investment. The tax effect is recognized in the tax expense for the year. The difference between the pre-tax lease accounting income and taxable lease income effects the tax, and this tax effect is either charged (or credited) to deferred taxes.

All the components of the leveraged lease must be recalculated in case of change in tax rates, using the revised after-tax cash flows arising from the revised tax rates.

If the projected cash receipts (income) are less than the initial investment, the deficiency is recognized as a loss at the inception of the lease. Also, during the lease period if the method adopted for recognizing income result in a future period loss, the loss is to be immediately recognized.

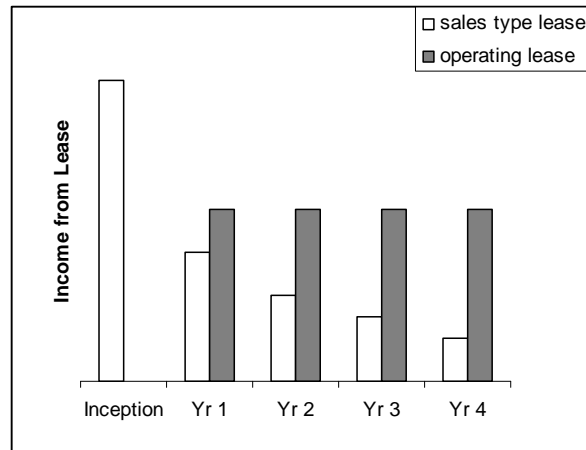
Sale-Type vs. Operating Lease

Figure 3: Balance Sheet Effect



It can be seen from the above figure that leased assets on balance sheet is larger at the inception of the lease in case of sale type lease compared to operating lease, however at the end of the lease the salvage value is same under both the types of lease.

Figure 4: Income Statement Effect



As seen from the above figure, under the sale type lease the income will be front-loaded because the gain on sale is reported at the inception of the lease and later on that is after inception only the interest expense is reported. In case of operating lease the income is same over the period of the lease. It can be seen that the total income over the life of the lease will be same under both the methods

Cash Flow Statement Effect

Under the sale- type lease cash flow from operations will be front loaded because at the inception of the lease the gain on sale is reported. This is off set by out flow which is classified as cash flow from investing activities.

Graph to be done

FINANCIAL REPORTING FOR SALE-LEASEBACK TRANSACTIONS

SFAS-28 defines it as a transaction where the owner sells the property and leases back all or part of it. The owner of the property is the seller-lessee and the purchaser is the purchaser-lessor.

The reasons for this type of arrangement are:

1. If the asset had been originally financed by a debt and the interest rates have fallen, the leaseback can be used as an effective method to refinance at a lower rate.
2. The most important motivating factor for the sale and leaseback transaction is to generate cash.

Accounting for this by the seller-lessee is determined by the degree of rights in the remaining use of the property he retains as:

- a. substantially all if the present value of the fair rental payments is equal to 90% or more of the fair value of the sold assets, the seller-lessee is presumed to have retained substantially all the rights to use the sold property;
- b. minor rights determined by the present value of the total reasonable rental (10% or less than the fair value of the property at the inception of the lease);
- c. more than minor but less than substantial.

If the seller-lessee retains substantially all the rights to use the property, the profit/loss is deferred in proportion of the amortization of the leased property in case of a capital lease and deferred in proportion to the gross rental charged to expense over the lease term in case of an operating lease. (Irrespective of whether capital or operating lease in case of land, profit/loss is deferred on straight-line basis over the lease term).

If the seller-lessee retains the rights to a minor portion of the remaining use in the property, this is accounted as two independent transactions based on their separate

terms. The lease must provide for a reasonable amount of rent and the profit/loss on the sale must be increased/decreased to bring the rental of the leased property to a reasonable amount.

If the seller-lessee retains more than minor but less than substantially all rights, the excess profit on the recorded amount and the actual profit is recognized under SFAS-13 and the balance profit is deferred and amortized in proportion of the leased property in case of a capital lease and in proportion to the gross rentals charged to expense in case of an operating lease.

In a sale leaseback, any gain on the sale of the asset is deferred and amortized. However, a real loss on the sale of the property is immediately recognized and not deferred. A real loss occurs where the fair value is less than the carrying amount of the asset. On the other hand, if the fair value exceeds the carrying amount, but the asset is sold to the buyer/lessor for less than the carrying amount, an artificial loss is produced which should be deferred and amortized as an addition to depreciation.

Figure 5: Classification of a Lease as a Capital or Operating Lease

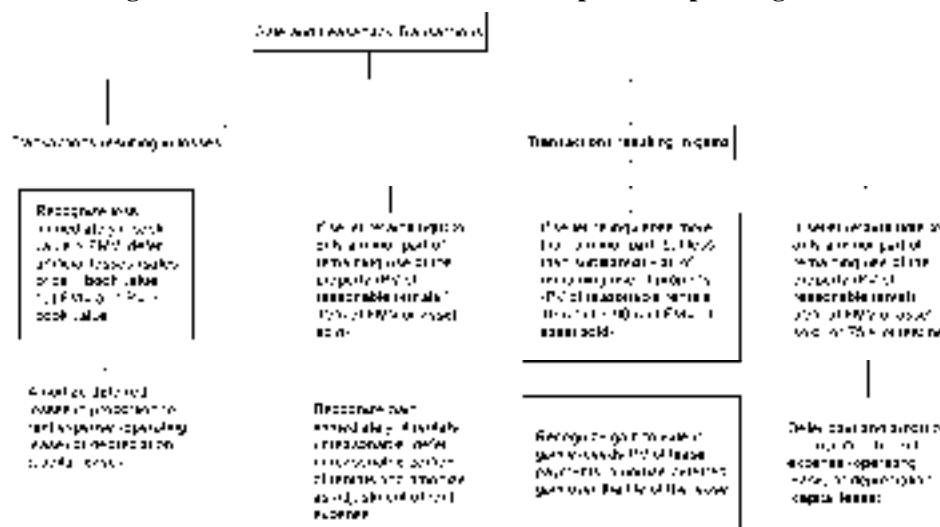


Illustration 11

On 31st March, 2006, Ashish sold equipment to Meera, and simultaneously leased it back for 14 years. Pertinent information at this date is as follows:

	Rs.
Sales price	11,60,000
Carrying amount	8,80,000

Estimated remaining economic life 15 years

What will be the reporting amount of deferred gain from the sale of the equipment as on 31st March 2006 statement?

Solution

As per statement, sale-leaseback arrangements are treated as though two transactions were a single financing transaction, if the lease qualifies as a capital lease. Any gain or loss on the sale is deferred and amortized over the lease term (if possession reverts to the lessor) or the economic life (if ownership transfers to the lessee).

In the given case, the lease term is more than the 75% of the total economic life as 14 years is 93% of the 15 years. Thus the lease qualifies as capital lease. Therefore, at March 31, 2006, all of gain (Rs.11,60,000 – Rs.8,80,000 = Rs.2,80,000) would be deferred and amortized over 14 years. Since the sale took place on March 31, 2006, there is no amortization for 2006.

Sale and Leaseback Involving Real Estate

In order to be qualified for the accounting treatment as a sale-leaseback involving real estate, the following three conditions need to be fulfilled:

1. The lease must be a normal leaseback involving active use of the leased property in the seller-lessor's trade or business during the lease term.
2. Payment terms and provisions must adequately demonstrate the buyer-lessor's initial and continuing investment in the property.

The buyer-lessor's initial investment is adequate if it demonstrates the buyer-lessor's commitment to pay for the property and indicates a reasonable likelihood that the seller-lessee will collect any receivable related to the leased property. The buyer-lessor's continuing investment is adequate if the buyer is contractually obligated to pay an annual amount at least equal to the level of annual payment needed to pay the debt and interest over no more than (1) 20 years for land, and (2) the customary term of a first-year mortgage for other real estate.

3. Payment terms and provisions must transfer all the risks and rewards of ownership as demonstrated by a lack of continuing involvement by the seller-lessee.

In case of the sale-leaseback transactions not meeting the above conditions should be accounted for as a deposit.

Leases Involving Real-Estate

- a. ***Leases involving land only:*** It is classified as a capital lease if the respective conditions are met and record the asset and corresponding liability at a value which is equal to the present value of the minimum lease payment. Where the lease does not contain any provision to transfer the ownership of the asset or a bargain purchase option, the lease will be considered as an operating lease.

In case of lessor, if the title of the asset transfers and the lease generates profit/loss to lessor then it will be considered as sales type lease and accounted for as per norms specified in SFAS 66. If the lease does not raise any profit/loss but transfers ownership of the asset and the collectibility and no material uncertainty criteria are met in that case the lease will be considered as direct financing or leveraged lease as appropriate. If the lease contains bargain purchase option and both the collectibility and no material uncertainty criteria are met then the lease should be classified either direct financing or leveraged lease or operating lease. If the lease does not fulfill the collectibility and no material uncertainty criteria, then it must be recognized as operating lease.

- b. ***Leases involving land and buildings:***
 1. Leases which provide for transfer of ownership of property at the end of the lease term containing bargain purchase option, in case of lessee, the PV of minimum lease payments less executory costs are allocated between land and buildings in proportion to their fair value at the inception of the lease and capitalized separately. PV assigned to buildings is amortized as per lessee's depreciation policy.
 2. In case of lessor, if the lease gives rise to dealer's profit and provides for transfer of ownership, it is classified as a sales-type lease and if it does not result in dealer's profit but provides for transfer of ownership, it is classified as a direct financing lease provided that collection of minimum lease payments is reasonably predictable and no uncertainties exist regarding costs. If the lease result in dealer's profit and contains bargain purchase option and meets collectibility criteria and no material uncertainty criteria, it is classified as an operating lease and if the lease does not result in dealer's profit but contains bargain purchase option, it is classified as direct financing lease or leveraged lease.

3. Fair value of the land is less than 25% of the total fair value of the leased property at the inception of the lease.

The lessee should consider the land and building as a single unit and the estimated economic life of the building is the estimated economic life of the single unit. In case of the lessee, the asset is amortized as per the lessee's normal depreciation policy over the lease term if either criterion (3) or (4) is met.

4. Fair value of the land is 25% or more of the total fair value of the leased property at the inception of the lease –

Both the lessor and the lessee shall consider the land and building separately where the lessee's incremental borrowing rate is applied to the fair value of the land to determine the annual minimum lease payments applicable to land and the balance is attributed to the buildings. As per SFAS-13, in case of lessee, the building portion is accounted as a capital lease if it meets either (3) or (4) th criteria and amortized as per lessee's normal depreciation policy and the land portion is accounted as an operating lease.

In case of the lessor, if the lease gives rise to dealer's profit and transfers ownership and meets both the collectibility and certainty in payment criteria in that case the lease is to be considered as a sales type lease account for as a single unit. If the lease does not result in dealer's profit but meets the transfer of ownership and meets both the collectibility and certainty in payment criteria the lease will be considered as either direct financing or leveraged lease as appropriate.

- If the lease has a bargain purchase option and generates profit/loss to the lessor, then it will be considered as operating lease.
 - If the lease has a bargain purchase option and meets both the collectibility and certainty in payment criteria but generates no profit/loss then it will be considered as direct financing or leveraged lease as appropriate.
 - If the lease term does not transfer the ownership or it is not containing bargaining purchase option then the lease should follow the same rule as the lessee is following for real estate transactions.
- c. **Leases involving land, building and equipment:** The minimum lease payments attributed to the equipments are to be estimated separately and must not be combined with the real estate values.
 - d. **Leases involving only a part of the building:** If the cost and fair value of a lease involving a part of the building cannot be determined objectively, FAS-13 requires the lessor to account for the lease as an operating lease and in case of the lessee, if the lease term at inception is substantially 75% or more than the estimated economic life of the leased property, it is capitalized and follow the normal depreciation policy over the lease term otherwise it is classified as an operating lease.

FINANCIAL STATEMENT DISCLOSURE

Lessee

1. General description of leasing arrangements including the basis of contingent rental payments, terms of renewals, purchase options, escalation clauses, constraints on lease agreements as additional debt, dividends, leasing limitations must be disclosed.

2. In case of capital leases, gross assets (by major property categories), accumulated depreciation, liabilities with current and non-current classification, minimum future lease payments for each of the next five years showing deductions for executory costs, profit, imputed interest, minimum sublease income due in future periods under non-cancelable subleases and total contingent rentals actually incurred for each period are to be reported separately.
3. In the case of operating leases having non-cancelable lease terms in excess of one year, SFAS-13 requires the disclosure of minimum future rental payments total and for each of the next five years, minimum sublease income due in future periods under non-cancelable subleases, schedule of total rental expense showing the composition by minimum rentals, contingent rentals, sublease income.

Following items are to be shown in the balance sheet and income statement of the lessee:

Lessee Capital Lease

Balance Sheet	Leased asset (net of accumulated depreciation) Lease obligation (current and non-current)
Income Statement	Depreciation expense Interest expense Other maintenance expense.

LESSEE'S FINANCIAL STATEMENT DISCLOSURE

Illustration 12

On 31st March 2006, Mr. Charandas furnished the following figures relating to his leased property.

(Rs. in thousands)

Leased Assets	2006	2005
Manufacturing Plants	3,000	2,200
Retail Stores	2,400	1,680
Other Assets	600	420
Total	6,000	4,300

The accumulated depreciation calculated by the accountants of Mr. Charandas for the leased properties for these two years is Rs.16,00,000 and Rs.11,00,000 respectively. These assets were leased in different years and the lease terms are also different for each of these properties. The executory costs are to be borne by the lessee and it is estimated as Rs.5,00,000 and imputed interest amount is of Rs.9,80,000. The current and non-current portions of liabilities for 2006 and 2005 are Rs.3,65,000 and Rs.3,40,000 respectively. The lease has classified as capital lease.

Minimum future lease payments and present values of the net minimum payments for next 5 years are –

(Rs.)

Year ended 31st March	Amount
2007	8,12,000
2008	24,64,000
2009	3,20,000
2010	2,50,000
2011	2,00,000
After 2011	9,00,000
Total	49,46,000

Please help Mr. Charandas by showing these figures properly in the balance sheet as on 31st March 2006.

Solution

Lessee's Balance Sheet

	31st March	
	20x6	20x5
<i>Assets</i>		
Leased Property		
Capital leases, less accumulated amortization (Note)	44,00,000	32,00,000
<i>Liabilities</i>		
Current		
Obligations under capital leases (Note)	7,30,000	6,80,000
Non-current		
Obligations under capital leases (Note)	27,36,000	25,20,000

Capital Leases Gross Assets and Accumulated Amortization

(in thousands)

Type of Property	Rs.	Rs.
Manufacturing Plants	3,000	2,200
Retail Stores	2,400	1,680
Other Assets	600	420
Total	6,000	4,300
Less: Accumulated Amortization	1,600	1,100
	4,400	3,200

Capital Leases Minimum Future Lease Payments and Present Values of the Net Minimum Lease Payments

Year ended 31st March	(Rs.)
2007	8,12,000
2008	24,64,000
2009	3,20,000
2010	2,50,000
2011	2,00,000
After 2011	9,00,000
Total minimum lease payments	49,46,000
Less: Executory costs	5,00,000
Net minimum lease payments	44,46,000
Less: Imputed interest	9,80,000
Present value of net minimum lease payments	34,66,000

In addition to the foregoing statements and schedules, footnotes describing minimum sublease income and contingent rentals should be included, if required.

OPERATING LEASE – LESSEE

Illustration 13

On 31st March 2006, Mr. Chandrashekhar furnished following information regarding operating leases. Mr. Chandrashekhar subleased the asset and received Rs.400 and Rs.300 respectively for the year of 2006 and 2005. The lease provision contains a contingent provision which is fixed as 5% of the total revenue in excess of Rs.20,00,000. Sales for 2005 and 2006 is Rs.40,00,000 and Rs.50,00,000 respectively. Minimum lease rentals are as follows:

31st March	Rs.
2005	21,00,000
2006	22,00,000
2007	16,30,000
2008	48,00,000

31st March	Rs.
2009	6,40,000
2010	5,00,000
2011	4,00,000
After 2011	18,00,000

Please help Mr. Chandrashekhar to reflect these figures in the balance sheet as on 31st March, 2006.

Solution

Operating Leases Schedule of Minimum Future Rental Payments

31st March	Rs.
2007	16,30,000
2008	48,00,000
2009	6,40,000
2010	5,00,000
2011	4,00,000
After 2011	18,00,000
Total minimum future rental payments	97,70,000

In addition to the above information on operating leases, a note should be included describing minimum sublease income due in the future under non-cancelable subleases.

Operating Leases Composition of Total Rental Expenses

(Amount in Rs.)

31st March	Rs. 2006	Rs. 2005
Minimum rentals	22,00,000	21,00,000
Contingent rental	2,00,000	2,50,000
Less: Sublease income	(4,00,000)	(3,00,000)
Total rental expense (net)	20,00,000	20,50,000

Note: The above schedule of total rental expense excludes leases with terms of one month or less that were not renewed. In addition to the foregoing information on capital and operating leases, a footnote describing the general disclosure policy for the lessee's leases should be included, containing (a) general leasing arrangements, (b) basis of contingent rental payments, (c) terms of renewals, purchase options, and escalation clauses, and (d) restrictions imposed by lease agreements, such as additional debt, dividends, and leasing limitations.

Lessor

1. General disclosure and description of the lessor's leasing arrangements.
2. In the case of capital leases, sales-type leases and direct financing leases:
 - i. A schedule of the components of net investments in leases as of each Balance Sheet date, including,
 - a. future minimum lease payments,
 - b. executory costs,
 - c. provision for uncollectibles,
 - d. unguaranteed residual values,
 - e. unearned income, and
 - f. contingent rentals.

- ii. A schedule of the minimum lease payments in total and for each of the next five years.
- iii. In the case of operating leases, SFAS-13 requires a schedule of the investment in property held for lease by major categories less accumulated depreciation, a schedule of future minimum rentals on non-cancelable operating lease for each of next five years, the amount of contingent rentals included in each income to be disclosed.

A footnote should be included for contingent rentals.

Periodic Journal Entries:

Dr. Unearned interest revenue	xxx	
Cr. Interest revenue		xxx
Dr. Cash	xxx	
Cr. Lease payments receivable		xxx

Illustration 14

On 1st April 2005, Chandani Company signed a 10 years operating lease for a warehouse at an annual minimum lease payment of Rs.2,00,000. Chandani also incurred Rs.3,000 as a monthly allocation of the building's operating expense. In the notes to Chandani's 31st March, 2006 financial statements, what amounts of subsequent year's lease payments should be disclosed?

Solution

The statement requires that the lessee should disclose the minimum lease payment for each of the next 5 years and the aggregate amount of minimum lease payment after 5 years. Thus for the first 5 years, the minimum lease payment for Chandani Company is Rs.2,00,000 x 5 = Rs.10,00,000 and is to be shown separately for each of next 5 years. In aggregate Rs.18,00,000 (9 remaining payments x Rs.2,00,000) is to be shown for rest of the lease term.

SUMMARY OF IAS 17

This Standard is to be applied in accounting for leases, except for the following specialized types:

- a. lease agreements to explore for or use natural resources, such as oil, gas, timber, metals and other mineral rights; and
- b. licensing agreements for such items as motion picture films, video recordings, plays, manuscripts, patents and copyrights.

A lease is an agreement whereby the lessor conveys to the lessee in return for rent the right to use an asset for an agreed period of time. A finance lease is a lease that transfers substantially all the risks and rewards incident to the ownership of an asset to the lessee, which need not necessarily imply the transfer of title to the subject assets. An operating lease is a lease other than a finance lease

A lease is classified as a finance lease or an operating lease at its inception (i.e., the earlier of the date of the lease agreement or of a commitment by the parties to the principal provisions of the lease). A lease is classified as a finance lease if it transfers substantially all the risks and rewards incident to ownership. . All other leases are operating leases.

Accounting by Lessees

FINANCE LEASE

At inception of the lease, *Finance* leases are recognized as assets and liabilities in the balance sheet and is to be capitalized at amounts lower of:

- The fair value of the leased property net of grants and tax credits receivable by the lessor, and
- The present value of the minimum lease payments.

In calculating the present value of the minimum lease payments, the discount factor is either the interest rate implicit in the lease; or the lessee's incremental borrowing rate on the former not determinable under the given circumstances. Any initial direct costs of the lessee are added to the amount recognised as an asset. The minimum lease payments are split into finance charge and reduction of the outstanding liability. The finance charge represents a constant periodic rate of interest on the outstanding liability.

A finance lease gives rise to a depreciation expense for the asset as well as a finance expense for each accounting period. The depreciation policy for leased assets is consistent with that of owned depreciable assets, and depreciation is calculated on the basis set out in IAS 16 on property, plant and equipment. If it is not reasonably certain that the lessee will obtain ownership at the end of the lease, the asset is fully depreciated over the shorter of the lease term and its useful life.

The lessee must include disclosure of rental expenses, sublease rentals, and a description of the leasing arrangements.

OPERATING LEASE

Operating lease payments should be recognized as an expense in the income statement on a straight line basis over the lease term unless another systematic basis is representative of the time pattern of the user's benefit.

Accounting by Lessor FINANCE LEASE

At inception of the lease, *Finance* leases should be recorded as receivables at an amount equal to the net investment in the lease and not as property, plant and equipment. The net investment in the lease is the present value of:

- The minimum lease payments, and
- Any unguaranteed residual value accruing to the lessor.

Net investment in the lease is the gross investment in the lease *less* unearned finance income, where the latter is defined as the difference between the lessor's gross investment in the lease and its present value.

Any initial direct costs incurred by lessors other than manufacturer or dealer lessor are included in the finance lease as receivable. Finance income is recognised so as to produce a constant periodic rate of return on the lessor's net investment in the lease. Manufacturer or dealer lessors recognise selling profit or loss in accordance with their policy for outright sales.

Lessors must disclosure information about future minimum rentals and amounts of contingent rentals included in net profit or loss

OPERATING LEASE

Assets are presented in the balance sheet according to the nature of the assets in the form of property, plant and equipment. Leased assets are depreciated on a basis consistent with the lessor's normal policy used for similar assets; and according to the regulations laid down in IAS 16.

Operating lease income is recognised on a straight-line basis over the lease term, unless another systematic basis is more representative of the time pattern of the earnings process in which benefit derived from the leased asset is reduced.

Other Issues

IAS 17 specifies the accounting treatment for sale and leaseback transactions, which is dependent upon the classification of the leaseback as either finance or operating.

IAS 17 specifies disclosures about leases, which are in addition to disclosure required by other standards.

COMPARISON OF IAS 17 AND US GAAP

The IAS 17 (Leases) and the US-GAAP in Statement of Financial Accounting Standards (SFAS) 13, make a clear classification of leasing contracts into:

- Finance Leases (US: Capital Leases)
- Operating Leases

Under IAS 17, a lease is classified as an operating or finance lease based on its substance. The situations for determining when a lease is a capital (finance) lease are generally the same for IAS and US GAAP, but US GAAP (FAS 13) provides quantitative thresholds that define when these criteria are met. All leasing terms that do not fulfil any of these criteria will be classified as Operating Leases. even if one of the criteria be fulfilled then it will be classified as a Finance Lease.

Criteria	IAS	USGAAP
1. Transfer of Ownership	The leasing contract contains an agreement that the leasing property is transferred to the lessee at the end of term.	Same
2. Bargain Purchase Option	The leasing contract contains an option to purchase the leasing property at a price much lower than the current market price at that time, so that at the beginning of the term it is relatively sure that this option will be used by the lessee.	Same
3. Economic Life	The lease term is a major part of the economic life of the leasing property (The term "major part" is not clearly defined in IAS 17).	The lease term is at least 75% of the useful economic life of the leasing property.
4. Present Value of Minimum Lease Payments	At the start of the lease the minimum leasing payment must be equal to substantially all of the market value of the leasing property. 2 (IAS 17 does not provide a clear definition of "substantially all")	At the start of the lease the minimum leasing payment must be equal to at least 90% of the market value of the leasing property.
5. Special Leasing	Due to its special condition the leasing property can, without considerable modification, be only used by the lessee.	US-GAAP does not recognise this rule.

Criteria 3 & 4 in US-GAAP become irrelevant when the term begins within the last 25% of the useful economic life of the leasing property.

In addition to those criteria mentioned above, IAS 17 takes the following indicators into consideration when classifying a lease as a Finance Lease:

- If the lessee is able to terminate the contract then they have to cover the consequent losses incurred by the lessor.
- The lessor takes over all profits or losses which result from changes in the residual value of the leasing property.
- The contract prolongation option from the lessee offers a leasing rate that is much lower than the usual market rates.

Present Value of Minimum Leasing Payments

According to SFAS 13 the lessee should base the minimum leasing payments on the incremental borrowing rate of outside capital, unless the lessee is aware of the actuarial return of the lessor and this return is less than the borrowing rate.

IAS 17 on the other hand states that the lessee has to use the leasing contract interest rate insofar as this rate is known to him. If he is unaware of this rate then he has to use incremental interest of outside capital when discounting.

SALE AND LEASE BACK

Special Features According to IAS

Alienation of property proceeds as Finance Lease

Alienation of property proceeds > Book value, no immediate successful realisation of the sellers reserves, but delimitation & dissolution divided up over the length of the leasing term.

Alienation of property proceeds as Operating Lease

In this case the book value is irrelevant as the objective market prices is considered.

- a. *Alienation price is equal to the attributed value*, immediate successful realisation of profits or losses.

Exceptions

- b. *Alienation price attributed value*, then the difference between the alienation price and the attributed value is to be considered as alienation profit, divided up over the projected term in which the leasing object is to be used. The remainder, the difference between the attributed value and the book value is to be accounted immediately as a return.
- c. *Alienation price < attributed value*, immediate successful realisation of profits or losses

Special Features According to US-GAAP

Difference between “Non-Real Estate” and “Real Estate”.

Non-Real Estate:

Alienation of property proceeds as Capital Lease

Alienation profit or loss, linear dissolution over the depreciation period of the leasing object.

Alienation of property proceeds as Operating Lease

- a. Alienation profit or loss, Dissolution over the leasing contract term.
- b. Market value of the alienated object < Residual book value, immediate Realization of losses
- c. Discounted current value of minimum leasing payments < 10% purchase price (“Minor Leaseback”), Profit or loss of the alienation has an immediate effect on the operating result.

Real Estate:

In real estate it first has to be clarified if an actual sale took place. If so then the contract (Lease Back) has to be examined according to the general and then the specific criteria. Should it result in an Operate Lease contract then the asset is off balance for the lessee, and where no sale takes place and it is not an Operate Lease then the asset remains in the lessee balance.

The following criteria are to be considered:

- i. A **Sale** has taken place when the following criteria have been cumulatively fulfilled:
 - A contract of purchase for the real estate is concluded
 - An adequate price has been agreed on

- A complete real estate value “Chance¹ & Risk²” transfer has taken place.
- The seller has no future rights on the real estate e.g. the purchaser carries a chattel mortgage to the seller’s advantage.
- No continuing involvement³ with the sold real estate – apart from the leasing contract – is evident

Further criteria for the **Lease back** contract include:

- i. The leasing object is to be fully utilised in the lessee’s business. (small re-rentals are tolerated.)
- ii. In general no Bargain price option, irrelevant of the sum, is to be agreed upon.
- iii. No “Put Option” can be arranged (this would also be part of the general criteria!)
- iv. Substantial “Chance¹ and Risk²” with reference to the residual value⁴ to be left with the lessor.

Should one of these criteria not be fulfilled then it cannot be classified as sale and lease back transactions, but a secured loan. Only if all the criteria are fulfilled can it be an sale and lease back on NON REAL ESTATE.

Sales-Type Lease, Direct Financing Lease, Leveraged Lease

All of these forms of finance are described in the US-GAAP. The special forms are only used when dealing with a capital lease with (lessee) and there are certain distinguishing characteristics of the lease.

COMPARISON OF IAS 17 AND AS-19

AS-19 is similar to IAS-17 except for the following:

IAS –17	AS-19
Under IAS, initial direct costs incurred by lessor to be included in lease receivable amount in case of finance lease and in the carrying amount of the asset in case of operating lease and does not mandate any accounting policy related disclosure.	Under AS 19, initial direct cost incurred by lessor to be either charged off at the time of incurrence or to be amortised over the lease period and requires disclosure for accounting policy relating thereto in the financial statements of lessor.
In case of sale & lease back, excess of sale proceeds over the carrying amount to be deferred and amortised over lease term.	In case of sale & lease back, excess or deficiency both to be deferred and amortised over the lease term in proportion to the depreciation of the leased asset.
IAS 17 requires assets given on operating leases to be presented in the Balance Sheet according to the nature of the asset.	AS 19 requires assets given on operating lease to be presented in Balance Sheet under Fixed Assets.

OFF-BALANCE-SHEET ITEMS

A lease is often marketed on the strength of a dubious advantage called the “Off-Balance-Sheet Financing” which purports that a liability of balance sheet does not affect the debt capacity of a firm. It must be noted that a capital lease whether on or off the balance sheet affects the borrowing capacity and increases the financial risk.

Definitions

Off-Balance-Sheet Items is a debt or asset which does not show up on the balance-sheet of the entity that originated the asset or debt. The off-balance sheet items are usually found in the footnotes to the financials statements.

1 Increase in the value of the real estate.

2 Decrease in the value of the real estate.

3 Example, during the building of the real estate the future lease is occupied with certain tasks involving oversight of construction process.

4 Chance and Risk effect the changes in the current market value of real estate.

As per standards, assets or liabilities that are created by a contract may not be recognized to their full extent in the financial statements or they may not be recognized at all. These assets and liabilities are referred to as off-balance sheet items.

Off-Balance-Sheet Assets: Item representing a resource of the entity or something expected to have future economic benefit. It is a positive sign of financial position even though it is not shown in the balance sheet (unrecorded assets). A going concern is assumed here, since in liquidation unrecorded assets would generally not be realizable.

Unrecorded assets include a tax loss carry forward benefit, a purchase contract for an item at a price significantly less than the going rate, anticipated rebates, and a contingent asset (as when the entity may receive a payment if a certain event occurs).

Off-Balance-Sheet Liabilities: Item not reported in the body of the financial statements as a liability but possibly requiring future payment or services. These items include litigation, guarantees of future performance, and renegotiation of claims under a government contract.

Off-Balance-Sheet Financing: A way of raising money that does not appear on the balance sheet. It is any form of funding that avoids placing owners' equity, liabilities or assets on a firm's balance sheet. This is generally accomplished by placing those items on some other entity's balance sheet. Generally special purpose entity are formed and assets and liabilities are placed on its balance sheet.

It is a form of financing in which large capital expenditures are kept off of a company's balance sheet through various classification methods. Examples of off-balance-sheet financing include joint ventures, research and development partnerships, and operating leases (rather than purchases of capital equipment).

Why is it Necessary to take Care of Off-Balance-Sheet Items?

OPERATING LEASE

Operating leases are one of the most common forms of off-balance-sheet financing. In these cases, the asset itself is kept on the lessor's balance sheet, and the lessee reports only the required rental expense for use of the asset in the statement of profit and loss on a straight line basis unless another systematic basis is more representative of the time pattern of the user's. Most of the companies opt for operating leases, therefore care should be taken to see the future liabilities that will need to be funded by future revenue which are shown in the footnotes and compare with the peer company.

PENSION ASSETS AND LIABILITIES

Pension Assets and Liabilities are not shown on the balance sheet since the pension assets are put into a trust, a separate legal entity, and that those assets belong to the employees. So it's not fair that the company tries to claim them. In such cases one thing to look for: "net pension liability," found on the company's balance sheet. For example Let's assume there are Rs.150 million in pension assets. But if everyone retired, the company would need to pay out Rs.250 million. So the company is short Rs.100 million at that time. That's a liability to the company and is show up on its balance sheet and management has to come up with the money before they all retire.

JOINT VENTURES AND AFFILIATES

If a company owns 50% or less of an affiliate or a joint venture, then only the net of the assets and liabilities the company owns pertaining to that affiliate is shown in the balance sheet under the head investments as per "equity method". For example if a company owns 50% of a company with Rs.10 million in assets and Rs.8 million in debt, net assets are Rs.2 million, assuming no goodwill. Since the

company owns half, it reports Rs.1 million as an asset under the head investment in its balance sheet. But one should know that the company is responsible for Rs.4 million in debt.

Therefore from the above it is clear that showing a net figure on the balance sheet and leaving all the meat in the footnotes will not give a clear picture of a company's total leverage. Therefore the leverage ratios has to be calculated after taking into account the information presented in the footnotes like the total pension liability, leases outstanding, and affiliate liabilities etc and to compare that with industry peers.

Why do Company Opt to Show Off-Balance-Sheet Items?

Companies often use off-balance-sheet financing to keep their debt to equity (D/E) and leverage ratios low, especially if the inclusion of a large expenditure would break negative debt covenants. The other reasons are:

- i. Off-balance-sheet financing is attractive from a risk management standpoint. When assets and liabilities are moved from one balance sheet to another, the risks associated with those assets and liabilities go with them. This was also helpful to investors who did not want to invest in these other ventures.
- ii. Off-balance-sheet financing also affords considerable flexibility in financing.
- iii. Off-balance-sheet financing is often employed as a means of asset-liability management.
- iv. Off-balance-sheet financing has other applications. Such as special purpose entities can be used in tax avoidance. Banks use off-balance-sheet financing to achieve reductions in their regulatory capital requirements

OFF-BALANCE-SHEET ARRANGEMENTS

In the most basic sense, off-balance-sheet arrangements include those transactions or financial arrangements that are not fully disclosed in a company's financial statements under Generally Accepted Accounting Principals (GAAP). These types of arrangements have been used to provide financing or liquidity, to hedge or allocate risks, and to engage in leasing transactions. Off-balance-sheet transactions may involve complex transaction structures and Special Purpose Entities (SPE) or Simple Lease Arrangements.

Off-balance-sheet arrangements often involve the transfer of assets from one entity to another in transactions in which the transferor may have continuing involvement with the assets in the form of financial guarantees, retained interests or other contingent arrangements.

Definition of "off-balance-sheet arrangement" primarily targets the means through which companies typically structure off-balance sheet transactions or otherwise incur risks of loss that are not fully transparent to investors. The definition of "off-balance-sheet arrangement" includes any contractual arrangement to which an unconsolidated entity is a party, under which the registrant has:

- Any obligation under certain guarantee contracts.
- A retained or contingent interest in assets transferred to an unconsolidated entity or similar arrangement that serves as credit, liquidity or market risk support to that entity for such assets.
- Any obligation under certain derivative instruments.
- Any obligation under a material variable interest held by the registrant in an unconsolidated entity that provides financing, liquidity, market risk or credit risk support to the registrant, or engages in leasing, hedging or research and development services with the registrant.

OFF-BALANCE-SHEET DISCLOSURE REQUIREMENTS

Section 401(a) of the Sarbanes-Oxley Act directed the SEC to issue rules requiring public companies to disclose in their annual and quarterly financial reports all material off-balance sheet transactions, arrangements, obligations (including contingent obligations) and other relationships with unconsolidated entities or other persons that may have a material current or future effect on one or more of the companies' financial measures.

The SEC adopted rule amendments to require an issuer to provide an explanation of its off-balance sheet arrangements in a separately captioned subsection of the MD&A contained in the issuer's disclosure documents. In addition, the amendments also require issuers (other than small business issuers) to provide an overview of certain known contractual obligations in a tabular format.

The rule requires public companies to disclose their "off-balance-sheet arrangements" that have or are reasonably likely to have a current or future effect on their financial condition, changes in financial condition, revenues, expenses, results of operations, liquidity, capital expenditures or capital resources that is material to investors. This disclosure will first be required for filings containing financial statements for fiscal years ending on or after June 15, 2003. The focus is on material off-balance sheet arrangements and their material effects.

Disclosure Requirement

Companies are required to provide comprehensive explanations of off-balance sheet arrangements in their annual and quarterly reports, in their registration statements and in proxy and information statements that have an MD&A, in each case in a separately captioned section within MD&A. In addition, companies must determine whether the contracts underlying these arrangements are material contracts required to be filed as exhibits.

The disclosure is a principles-based approach. The companies are required to disclose information to the extent that it is necessary to provide investors with a clear understanding of the issuer's material off-balance sheet arrangements and their material effects on financial condition, changes in financial condition, revenues or expenses, results of operations, liquidity, capital expenditures or capital resources. The amendments contain the following four specific disclosure items to strengthen the principles-based approach:

- the nature and business purpose of the issuer's off-balance sheet arrangements;
- the importance of the off-balance sheet arrangements to the issuer for liquidity, capital resources, market risk or credit risk support or other benefits;
- the financial impact of the arrangements on the issuer (e.g., revenues, expenses, cash flows or securities issued) and the issuer's exposure to risk as a result of the arrangements (e.g., retained interests or contingent interest); and
- known events, demands, commitments, trends or uncertainties that affect the availability or benefits to the issuer of material off-balance sheet arrangements.

In addition, as with other principles-based disclosure requirements, the companies are to provide other information that it believes is necessary for an understanding of its off-balance arrangements and their material effect on the issuer.

While there is no requirement to disclose the nature and amount of the total assets and total obligations of the unconsolidated entity that conducts off-balance sheet activities on behalf of the issuer, it may be necessary for the issuer, in fulfilling its requirements to explain the nature and business purpose of an off-balance sheet arrangement, to disclose the nature and amount of the assets transferred to the unconsolidated entity.

Companies are to aggregate off-balance sheet arrangements in groups or categories that provide information in an efficient and understandable manner and avoid repetition and disclosure of immaterial information.

The SEC's policy regarding MD&A disclosure of preliminary negotiations also applies with respect to off-balance sheet arrangements. Therefore, the amendments include an instruction that no obligation to disclose an off-balance-sheet arrangement will arise until an unconditionally binding definitive agreement, subject only to customary closing conditions, exists, or if there is no such agreement, when settlement of the transaction occurs.

Information must be Disclosed in Tabular Format

Public companies (other than small business issuers) will be required to disclose, in a tabular format, the amount of payments under specified contractual obligations, aggregated by category of contractual obligation, for specified time periods. The information is to be as of the latest fiscal year and balance sheet date and the table should be in substantially the same form as follows:

Contractual Obligations	Payments due by period				
	Total	Less than 1 year	1-3 years	3-5 years	More than 5 years
[Long-Term Debt]					
[Capital Lease Obligations]					
[Operating Leases]					
[Purchase Obligations]					
[Other Long-Term Liabilities Reflected on the Registrant's Balance Sheet under GAAP]					
Total					

To provide flexibility for company-specific disclosure, the amendments allow a registrant to disaggregate the specified categories by using other categories suitable to its business, but the table must include all of the obligations that fall within specified categories. In addition, the table should be accompanied by footnotes necessary to describe material contractual provisions or other material information, including any material termination or renewal provisions, to the extent necessary for an understanding of the timing and amount of the contractual obligations in the table.

The first three categories of contractual obligations are defined by reference to the relevant US GAAP accounting pronouncements under which the issuer prepares its primary financial statements.

The amendments define a "purchase obligation" to mean: "an agreement to purchase goods or services that is enforceable and legally binding on the registrant and that specifies all significant terms, including: fixed or minimum quantities to be purchased; fixed, minimum or variable price provisions; and the approximate timing of the transaction."

To eliminate unnecessary repetition, company may include within its MD&A a cross-reference to information in the footnotes to the financial statements. However, the quality of the discussion of off-balance sheet arrangements must not be diminished as a result of including a cross reference.

TAKE OR PAY AND THROUGHPUT ARRANGEMENTS

As per SFAS-47 take or pay contracts, throughput contracts and other unconditional purchase obligations typically associated with project financing arrangements are one of the type of long-term borrowings and arrangements. The statement requires that when the long-term commitment is used to obtain financing, the purchaser must disclose the nature of the commitment and the minimum required payments in the footnotes of the financial statements.

Firm use take or pay contracts to ensure the long-term availability of raw materials and other inputs necessary for operations. Under these arrangements the purchasing firm commits to buy a minimum quantity of an input over a specified time period. Input prices may be fixed by contract or may be related to market prices. These contracts are often used as collateral for obtaining finance. However, neither the assets nor any debt incurred to obtain or guarantee availability of operating capacity are recognized on the balance sheet of the purchaser. This results in lower leverage ratios. Therefore for the purpose of analysis, debt-equity ratios and other Leverage ratios, should be computed after adding the present value of the assets and debt commitments to the balance sheet assets and debts respectively.

SALE OF RECEIVABLES WITH RESOURCES

Sale of receivables with recourse is called Securitization. Securitization involves:

- i. the sale of a large pool of Receivables by an entity (Originator) that creates such Receivables (or purchases the Receivables from entities that create them) in the course of its business to a “bankruptcy-remote,” special purpose entity (SPE) (wholly owned subsidiary which is engaged in the business of acquiring, owning and selling the Receivables) in a manner that qualifies as a “true sale” (vs. a secured loan) and is intended to achieve certain results for accounting purposes, as well as protecting the Receivables from the claims of creditors of the Originator, and
- ii. the issuance and sale by the SPE (Issuer), in either a private placement or public offering, of debt securities (Securities) that are subsequently satisfied from the proceeds of and secured by the Receivables.

ADVANTAGES

- i. Securitization helps the firm to expand business operations without affecting debt-equity ratios.
- ii. The Receivables are moved “off balance sheet” and replaced by a cash equivalent (less expenses of the Securitization), thus improving the firm’s balance sheet and resulting in gain or loss, which itself is usually an intended, beneficial consequence.
- iii. The originator does not have to wait until it receives payment of the receivables (or, in a “future flow” securitization, until it even generates them) to obtain funds to continue its business and generate new Receivables.
- iv. The Securities issued in the Securitization are more highly rated by participating rating agencies (because of the isolation of the Receivables in a “bankruptcy-remote” entity), thus reducing the cost of funds to the Originator when compare to traditional forms of financing. In instances where the Receivables bear interest, there is usually a significant spread between the interest paid on the Securities and the interest earned on the Receivables.

Under a sale of receivables with recourse, even though the accounts receivable are sold to unrelated parties by the firm, the firm continues to service the original receivables and transfers any collections to the new owner of those receivables. This transaction is considered as a collateralised borrowing because, even though such transaction are recorded as a sale, thereby decreasing accounts receivable and increasing operating cash flow, the buyer has limited exposure (the risk of not collecting a receivable is borne by the seller). That is if there is any default, then the firm has to reimburse the buyer of receivables with the transaction value and the interest cost for the period. These are usually disclosed in the footnotes to the financial statements. A financial asset can be eliminated from the balance sheet only when the firm has lost complete control of the contractual rights.

The sale of receivables artificially reduces the receivables and short-term borrowings and has the effect of lowering the leverage ratio and increasing the current ratio and receivables turnover ratio. Therefore for the purpose of analysis, i.e., before computing ratios (example: the current ratio, receivables turnover ratio and leverage ratio) both accounts receivable and current liabilities should be increased by the amount of receivables sold that have not yet been collected before. Similarly cash from operations should be adjusted by classifying the sale of the receivable as cash from financing, instead of cash from operations.

Illustration 15

Firm A financial statement contain the following details:

Selling of receivables	= Rs.2,04,000
Debt	= Rs.15,60,000
Equity	= Rs.6,96,000
EBIT	= Rs.3,18,000
Interest Expense	= Rs.1,22,400
Interest on receivables	= 9%

It is disclosed in footnotes of the financial statements that the receivables were sold with recourse.

Calculate the leverage ratios before and after the balance sheet adjustment?

Solution

For the purpose of analysis, selling of receivables is treated as borrowing and current liability is increased accordingly. Income statement should be adjusted to show the changes in interest and adjust the cash from operations by reducing the amount of receivable sold from the cash flow from operations and increasing the cash flow from financing.

Particulars	As reported	After adjustment
Debt	15,60,000	17,64,000
Equity	6,96,000	6,96,000
Debt to equity ratio	2. 24	2. 53
EBIT	3,18,000	3,36,360
Interest expense	1,22,400	1,40,760
Interest Coverage ratio	2.6	2.39

Finance Subsidiaries

Many firms have long used legally separate finance subsidiaries to borrow funds to finance parent company receivables, the cost of such debt is generally lower than general purpose borrowings because of well defined collateral. These firms did not consolidate their finance subsidiaries because they owed 50% or less of finance subsidiaries. That is only the net of the assets and liabilities the firm owns pertaining to that finance subsidiaries is shown in the balance sheet under the head investments as per equity method. The direct consequence of not consolidating these highly leveraged subsidiaries is the reduction of debt-to-capital ratios.

Therefore for the purpose of analysis debt-to-equity ratio, receivables turnover and interest coverage ratios has to be calculated after adding the parent's proportionate share of the receivables and liabilities of the finance subsidiary to the assets and liabilities of the parent firm. These adjustments can be made by taking into account the information presented in the footnotes.

Joint Venture and Investment in Affiliates

Firms may acquire operating capacity through investment in affiliated firms, including suppliers and end users. Joint venture with other firms may provide economies of scale and provide opportunity to share operating, technology and financial risks. Investors frequently obtain financing for the joint venture by entering into take or pay or throughput contracts with minimum payments designed to meet the venture's debt service requirements. Direct or indirect guarantees may also be present in joint venture which is disclosed in the foot notes to the financial statements.

Therefore for the purpose of analysis, debt guarantees should be added to the debt of the firm. In case there is no guarantee then, proportionate share of the affiliates debt should be added to the debt of the firm.

Product Financing Arrangements

Product financing arrangement is a an agreement to finance the acquisition of a product through debt. This is an off-balance sheet item where in the firm(financing entity) purchase the inventory on behalf of another firm (sponsor) that buys the inventory over the period of time. The sponsor firm at the time of purchase will pay the interest and holding costs in addition to the inventory cost (principal amount). In case of sale and repurchase agreement the inventory can be used as the collateral to obtain finance from the financier. At the time of acquisition, the sponsor debits inventory and credits a liability for the amount owed to the financing entity. When payment of the obligation is made, the liability is debited for the principal, interest expense is debited for the interest, and cash is paid for the total amount.

SFASB 49 deals with the product financing arrangements. As per this statement . A product financing arrangement is a transaction in which an enterprise sells and agrees to repurchase inventory with the repurchase price equal to the original sale price plus carrying and financing costs, or other similar transactions. This Statement requires that a product financing arrangement be accounted for as a borrowing rather than as a sale.

As per the statement there are four steps in the product financing arrangement:

- i. The sponsor sells the inventory to the financing entity in return for the remittance of sale price. At the same time he agrees to repurchase the inventory at a pre-specified price which covers the holding and financing charges.
- ii. Using the inventories as the collateral, the funds are obtained from the bank by the financing entity.
- iii. The funds obtained by the financing entity are remitted to the sponsor, who uses it to pay off the costlier debt.
- iv. Later on when the regular funds are available to the sponsor inventory is repurchased.

When the sponsor receives the initial funds, the transaction has to be recognized by recording the initial liability by creating a liability for the contractual amount which has to be paid to the financing entity when the repurchase has to be made. The sponsor is to accrue the carrying costs and financing costs as per the normal accounting policies. The inventory is not to be taken out off balance sheet of the sponsor and a sale is not to be recorded.

A foot note has to provided by the financing entity that the inventory is held on behalf of the sponsor. Therefore it should be eliminated from the inventory of the financing entity and taken into account as inventory in the books of the sponsor.

Therefore for the purpose of analysis debt-to-equity ratio, receivables turnover and interest coverage ratios has to be calculated after taking into account of the above considerations.

R&D Financing Arrangement

R&D financing arrangements are arrangements wherein the firm (commercial organization) undertakes R&D work on behalf of the financing entity (not for profit organization). The financing entity will pay the firm for the research and assets bought for that purpose. There may also be an arrangement for sharing of fees or patent between the both.

The accounting treatment is as follows:

- The firm has to record the value of the asset bought as a contingent liability in notes to accounts in the financial statement and the advance received for the research work has to be shown under current liability.
- The financing entity has to record the advance paid under current asset and the assets bought are shown as assets under R&D financing arrangements since they are not immediately used for the firms business.
- Therefore for the purpose of analysis leverage ratios is to be calculated after taking into account of the contingent liability.

SUMMARY

- Leasing has grown as a popular mode of financing fixed assets due to various economic reasons for the adoption of lease transactions viz: 100% financing, Flexibility of use for the tax benefits, the lessor receives the equivalent of interest as well as an asset with some remaining value at the end of the lease term.
- Leases can be structured to allow manipulation of the tax benefits associated with the leased asset. They can be used to transfer the ownership of the leased asset, along with the risk associated with the ownership.
- For accounting and reporting purposes, leases have been classified as operating and capital lease with respect to lessee and as operating, sales-type, direct financing, leveraged lease with respect to lessor.
- A lease is often marketed on the strength of a dubious advantage called the “Off-Balance-Sheet Financing” which purports that a liability of balance sheet does not affect the debt capacity of a firm. It must be noted that a capital lease whether on or off the balance sheet affects the borrowing capacity and increases the financial risk.
- Of the aforesaid classifications, the classification in terms of capital lease and operating lease is of fundamental importance in the financial analysis and accounting for leases. The distinction is drawn on the basis of the risks and rewards of ownership transferred from the lessor to the lessee. If a lease transfers a substantial part of the risks and rewards it is classified as a capital lease; otherwise, it is called an operating lease. To assess the default risk of a lease, the lessor has to examine the creditworthiness of the lessee.
- Given the long-term relationship envisaged by a capital lease, the unlimited innovative ways of structuring a lease, and the legal and tax complexities that go with the structuring of such leases, selecting a lessor cannot be accomplished by applying the “minimum lease quote” as the sole criterion of appraisal.
- SFAS-28 defines Sell and lease back as a transaction where the owner sells the property and leases back all or part of it. The owner of the property is the seller-lessee and the purchaser is the purchaser-lessor.
- General description of leasing arrangements including the basis of contingent rental payments, terms of renewals, purchase options, escalation clauses, constraints on lease agreements as additional debt, dividends, leasing limitations must be disclosed.

- In case of capital leases, gross assets (by major property categories), accumulated depreciation, liabilities with current and non-current classification, minimum future lease payments for each of the next five years showing deductions for executory costs, profit, imputed interest, minimum sub-lease income due in future periods under non-cancellable sub-leases and total contingent rentals actually incurred for each period are to be reported separately.
- We have also studied the Real estate leases involving land exclusively or in part, a leveraged lease involving significant long-term non-recourse financing by a third party creditor. With the concluding discussion on Indian and International statements of leases.

Chapter VII

Analysis of Pensions and Other Employee Benefits

After reading this chapter, you will be conversant with:

- Types of Pension Plans
- Pension Accounting
- Reporting under US GAAP
- Other Post Retirement Benefits Accounting under US GAAP
- International Accounting Practices
- Accounting for Retirement Benefits under Indian Accounting Standards
- Analysis of Pension and Other Post Retirement Benefits

Introduction

The employers often provide benefits to their employees after retirement as a measure of security and motivating the employees to perform better by establishing pension plans. These –pension plans are designed to provide income to individuals during their retirement years. These retirement benefits come in two forms:

- i. Pension benefits under which the employer promises monetary benefits to the employee after retirement, and
- ii. Other post retirement benefits under which the employer provides other benefits besides monetary benefits to employees after retirement. These can be in the form of health care and life insurance benefits.

The retirement benefit plans have over the years gained wide spread popularity and account for a major share of any organization's liabilities. The growth of these plans can also be attributed to the fact that generous tax concessions and benefits have been made available to companies or employers who provide employees with such plans.

However, organizations faced difficulties in the valuation of these plans as there were several assumptions and uncertainties regarding timing and magnitude of these benefits, post retirement costs, employee life expectancy, expected rates of return etc. To remove the ambiguities in accounting for pensions and other post retirement benefits, US GAAP has implemented Statements No.87 and No.88 which were later modified into FAS 106 and FAS 132. Currently it is FAS 132 which super cedes the other statements.

In this chapter we focus on the accounting for post retirement benefits with emphasis on pension accounting in accordance with the US GAAP, discuss IAS and Indian Accounting Standards on retirement benefits and also undertake an analysis of these to understand their implications.

Meaning and Definitions of Important Terms

Actual return on plan assets component (of net periodic pension cost): The difference between fair value of plan assets at the end of the period and the fair value at the beginning of the period, adjusted for contributions and payments of benefits during the period.

Actuarial funding method is any of the several techniques that actuaries use in determining the amounts and incidence of employer contributions to provide for pension benefits.

Actuarial gain or loss – see gain or loss.

Amortization – usually refers to the process of reducing a recognized liability, systematically by recognizing revenues or reducing a recognized asset systematically by recognizing expenses or costs. In pension accounting, amortization is also used to refer to the systematic recognition in pension cost over several periods of previously unrecognized amounts including unrecognized prior service cost and unrecognized net gain or loss.

Assumptions – estimates of the occurrence of future events affecting pension costs, such as mortality, withdrawal, disablement and retirement, changes in compensation and national pension benefits and discount rates to reflect time value of money.

Attribution – The process of assigning pension benefits or costs to periods of employee service.

Benefits – payments to which participants may be entitled under a pension plan, including pension benefits, death benefits and benefits due on termination of employment.

Contributory plan – A pension plan under which employees contribute part of the cost. In some contributory plans, employees wishing to be covered must contribute; in other contributory plans, employee contributions result in increased benefits.

Curtailment – Event that significantly reduces the expected years of future service of present employees or eliminates for a significant number of employees the accrual of defined benefits for some or all of their future services. Curtailments include (1) termination of employee's services earlier than expected, which may or may not involve closing a facility or discontinuing a segment of a business and (2) termination or suspension of a plan so that employees do not earn additional defined benefits for future services. In the later situation, future service may be counted toward vesting of benefits accumulated based on past services.

Discount rate – The interest rate used to adjust for the time value of money.

Expected long term rate of return on plan assets – An assumption as to the rate of return on plan assets reflecting the average rate of earnings expected on the funds invested or to be invested to provide for the benefits included in the projected benefit obligation.

Fair value is the amount that a pension plan could reasonably expect to receive for an investment in a current sale between a willing buyer and a willing seller that is other than in a forced or liquidation sale.

Final pay plan – A benefit formula that bases benefits on the employee's compensation over a specified number of years near the end of the employee's service period or on the employee's highest compensation periods. For instance a plan might provide annual pension benefits equal to one percent of the employee's average salary for the last five years for each completed year of service.

Flat benefit formula – A benefit formula that bases benefits on a fixed amount per year of service, such as Rs.2,000 per year for each completed year of service.

Fund if used as a verb, to pay over to a funding agency (as to fund future pension benefits or to fund pension cost). Used as a noun, assets accumulated in the hands of a funding agency for the purpose of meeting pension benefits when they become due.

Funding policy – The program regarding the amounts and timing of contributions by the employer (s), participants and any other sources to provide the benefits a pension plan specifies.

Measurement date – the date as of which plan assets and obligations are measured.

Multi-employer plan – A pension plan to which two or more unrelated employers contribute, usually pursuant to one or more collective bargaining agreements. A characteristic of multi employer plans is that assets contributed by one participating employer may be used to provide benefits to employees of other participating employers since assets contributed by an employer are not segregated in a separate account or restricted to provide benefits only to employees of that employer. A multi employer plan is usually administered by a board of trustees composed of management and labor representatives and may also be referred to as a "joint trust" or "union plan". Generally, many employers participate in a multi employer plan, and an employer may participate in more than one plan. The employers participating in multi employer plans usually have a common industry bond, but for some plans the employers are in different industries and the labor union may be their only common bond.

Multiple employer plans are generally not collectively bargained and are intended to allow participating employers, commonly in the same industry, to pool their assets for investment purposes and reduce the costs of plan administration. A multiple employer plan maintains separate accounts for each employer so that contributions provide benefits only for employees of the contributing employer. Some multiple employer plans have features that allow participating employers to have different benefit formulas, with the employer's contributions to the plan based on the benefit formula selected by the employer.

Participant – Any employee or former employee, or any member or former member of a trade or other employee association, or the beneficiaries of those individuals, for whom there are pension plan benefits.

Pension benefits – Periodic (monthly) payments made pursuant to the terms of the pension plan to a person who has retired from employment or to that person's beneficiary.

Plan amendment – Changes in terms of an existing plan or the initiation of a new plan. A plan amendment may increase benefits, including those attributed to years of service already rendered.

Plan assets are assets such as stocks, bonds and other investments that have been segregated and restricted in a trust, to provide benefits. Plan assets include amounts contributed by the employer and amounts earned from investing the contributions, less benefits paid. Plan assets cannot ordinarily be withdrawn by the employer except in certain circumstances when a plan has assets in excess of obligations and the employer has taken certain steps to satisfy existing obligations. For purposes of this chapter, assets not segregated in a trust or other wise effectively restricted so that they cannot be used by the employer for other purposes are not plan assets even though it may be intended that such assets be used to provide pensions. Amounts accrued by the employer as net periodic pension cost but not yet paid to the plan are not plan assets for purposes of this chapter. Securities of the employer held by the plan are includable in plan assets provided they are transferable.

Plan curtailment – An event that significantly reduces the expected years' of future services of present employees or eliminates for a significant number of employees, the accrual of defined benefits for some or all of their future services.

Plan suspension – An event in which the pension plan is frozen and no further benefits accrue. Future service may continue to be the basis for vesting of non vested benefits existing at the date of suspension. The plan may still hold assets, pay benefits already accrued, and receive additional employer contributions for any unfunded benefits. Employees may or may not continue working for the employers.

Plan termination – An event in which pension plan ceases to exist and all benefits are settled by purchase of annuities or other means.

Prepaid pension cost – cumulative employer contributions in excess of accrued net pension cost.

Prior service cost – cost of retroactive benefits granted in a plan amendment.

Retroactive benefits – benefits granted in a plan amendment (or initiation) that are attributed by the pension benefit formula to employee service rendered prior to amendment. The cost of retroactive benefits is referred to as prior service cost.

Service – Employment taken into consideration under a pension plan. Years of employment before the inception of the plan constitute an employee's past service. Years thereafter are classified in relation to the particular actuarial valuation being made or discussed. Years of employment (including past service) prior to the date of a particular valuation constitute prior service.

Service cost component (of net periodic pension cost) – Actuarial present value of benefits attributed by the pension benefit formula to services rendered by employees during the period. The service cost component is a portion of the projected benefit obligation and is unaffected by the funded status of the plan.

Settlement – Transaction that (i) is an irrevocable action, (ii) relieves the employer (or the plan) of primary responsibility for a pension benefit obligation, and (iii) eliminates significant risks related to the obligation and the assets used to effect the settlement. Examples include making lump sum cash payments to plan participants in exchange for their rights to receive specified pension benefits and purchasing nonparticipating annuity contracts to cover vested benefits. A transaction must meet all of the above three criteria to constitute a settlement.

Single employer plan – A pension plan that is maintained by one employer. The term also may be used to describe a plan that is maintained by related parties such as parent and its subsidiaries.

Vested benefits – Benefits for which the employee's right to receive a present or future pension benefit is no longer contingent on remaining in the service of the employer. (Other conditions, such as inadequacy of the pension fund, may prevent the employee from receiving the vested benefit). Under graded vesting, the initial vested right may be to receive in the future a stated percentage of a pension based on the number of years of accumulated credited service; thereafter, the percentage may increase with the number of years of service or of age until the right to receive the entire benefit was vested.

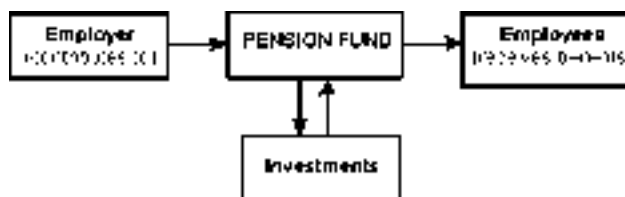
PENSION PLANS

A pension plan is described as an agreement between an employer and an employee whereby the employer agrees to pay monetary benefits to the employees on their retirement. It is designed to provide monetary replacement for salary when a person is no longer working.

Pension Plan Process

A Pension plan involves three parties – (a) the employer, (b) the employee and (c) a pension fund. Employer makes contributions to the pension fund. The pension fund is used as an intermediary to satisfy the employer's pension obligations. The fund is managed by trustees who receive contributions from the employer and invests them. The earnings from these investments are utilized for making payments to employees as pension benefits. The pension plan process is depicted in the following figure:

Figure 1: Pension Plan Process



Source: Icfai Research Team.

Types of Pension Plans

Pension plans can be divided into two basic categories –

- a. Defined contribution plans.
- b. Defined benefit plans.

Defined Contribution Plans

A defined contribution plan is one of the pension plans under which the employees make contributions to the pension fund and bear all risks associated with the fund performance. The employer agrees to contribute a specific amount to the pension fund on behalf of the employees but makes no commitment regarding benefit amounts at retirement. ~~may or may not promise to make specific contributions to the pension fund accounts of employees.~~ In other words, the organization makes no promise regarding the funds to be accumulated in the fund account. Since the employees bear the risk of the fund performance, the investment decisions are also left to the employees only.

The accounting for defined contribution plans is simple. During the reporting period, the employer faces a liability till he makes the specified contribution to the employee's accounts. Once the contribution is made, it is shown as an

expense in the income statement. At any point of time the pension expense equals the required contribution.

Defined Benefit Plans

Under this type of pension plan, the employer promises to make specific periodic payments to the employees after retirement. The employer contributes to the pension fund (but does not specify the annual amount) which he invests to meet the future obligations. As such the employer bears all the risks associated with the fund performance. There are two variations of Defined Benefit Plans:

- Pay related plans where pension benefits are linked to the employee's salary which he may be getting at or on the date of retirement. For instance, an employer may say he would pay 3% of last month's salary on the date of retirement of the employee as pension every month for each completed year of service.
- Flat benefit plans or Non-pay related plans where a fixed amount for each year of service completed is paid by the employer. The fixed amount is not related to either the present or future salary of the employee.

~~Accounting for defined benefit plans is much more complex than the defined contribution plans. This is so because estimating the pension liability involves estimation of the discount rate used to calculate the present value of future obligations, the expected increase in employee compensation, how long will the employees work before they retire, how many will quit or be fired and how long will the employees live after retirement.~~

~~Because of the complexity involved in the computation of pension amount under defined benefit plans, the rest of our discussion will be limited to understanding of the accounting methodology under defined benefit plans.~~

PENSION ACCOUNTING

Accounting under Defined Contribution Plans

Accounting for these plans is quite easy. Each year, the employer simply records pension expense equal to the amount of the annual contribution. Suppose a plan promises an annual contribution equal to 3% of an employee's salary. If an employee's salary is Rs.110,000 in a particular year, the employer would simply recognize compensation expense in the amount of the contribution and the entry to be passed in the books is

Dr. Pension Expense	Rs.33,000
Cr. Cash Account	Rs.33,000

Accounting under Defined Benefit Plans

Accounting for defined benefit plans is much more complex than the defined contribution plans. This is so because estimating the pension liability involves estimation of the discount rate used to calculate the present value of future obligations, the expected increase in employee compensation, how long will the employees work before they retire, how many will quit or be fired and how long will the employees live after retirement.

The basic journal entry in respect of the expense remains the same as in the case of Defined Contribution Plans

Dr. Pension Expense	Rs.33,000
Cr. Cash Account	Rs.33,000

Except that the expense amount calculated needs to consider a number of other factor which makes the accounting complex. Because of the complexity involved

in the computation of pension amount under defined benefit plans, the rest of our discussion will be limited to understanding of the accounting methodology under defined benefit plans.

As already explained in the previous section on pension process, the contributions made by the employer are transferred to a pension fund which is further invested in a portfolio of financial securities. The fund performance is managed to derive returns or incomes and appreciation in fund value with which the pension payments are met. Thus, at any point of time, the liability to be shown on the balance sheet of the employer company is the difference between the value of the assets (pension fund) and the value of the pension liability. Hence, pension accounting deals with the valuation of pension liability and pension assets.

Assumptions in Pension Accounting

To enable the computation of pension liability and pension assets, the employer needs to make assumptions on different aspects. Usually these assumptions are made by specialists known as Actuaries. A company undertaking pension accounting should make three major assumptions regarding:

- i. **The discount rate:** The discount rate is the rate used to calculate the present value of pension liability.
- ii. **The rate of compensation increase** is the average annual increase in the employee salary over a period of time.
- iii. **The expected return** on plan assets is the ~~long~~-long-term return on the pension investments which have been made from the pension fund.

Let us begin with the computation of pension liability or pension obligation.

Measuring Pension Obligation

The first step in the process of accounting for defined benefit plans is estimation of pension obligation or pension liability. To measure this figure there are three different approaches:

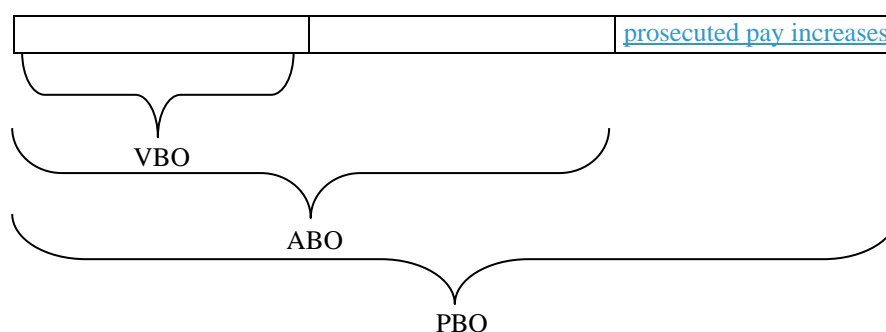
Projected Benefit Obligations (PBO) is the actuarial estimation of future pension benefits payable to employees on retirement based on expected future salary (estimated compensation levels) and service of the employee. It measures the value of the obligation on the premise that the firm is a going concern and that the employees will continue to work for the organization until their retirement.

Accumulated Benefit Obligations (ABO) is the actuarial present value of the future pension benefits payable to employees at retirement based on their current salary and service to date. This present value is equivalent to an employee's current obligation if the plan is discontinued immediately. It is an estimate of the pension liability on a current basis, which is relevant if the company expects to liquidate and settle its pension obligation.

Vested Benefit Obligation (VBO) is the amount of the accumulated benefit obligation to which employees are entitled to based on the company's vesting schedule. Vesting is the employee's right to pension benefit regardless of whether the employee remains with the company or not. This right is usually conferred after the employee has served some minimum specified period with the employer. For instance, a company may have a two year vesting period after which the employee secures the right to receive 20% of benefits under the pension plan each year. After working for five years, he will be entitled to receive full pension benefits accrued up to date.

Figure 2

<u>PV of vested benefits at present pay levels</u>	<u>PV of non-vested benefits at present pay levels</u>	<u>Present value additional benefits related to</u>
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Source: Icfai Research Team.

Let us take an example and understand the computation of pension liability according to the above mentioned three approaches.

Illustration 1

Mr. S joined the services of a company on January 1, 2005 and is included in the company's defined pension benefit plan. He is due for retirement on December 31, 2024. He is expected to live for 10 years after retirement. Mr. S is presently drawing a salary of Rs.50,000 per year. Actuarial estimates indicate that the salary is likely to increase at the rate of 4% per annum every year for the next ~~20~~ 19 years. The discount rate is 8% per annum. The vesting schedule stipulates that Mr. S will be entitled to 25% of the ABO for each completed year of service until he becomes fully vested in four years. The annual pension is equal to one week's salary at the time of retirement multiplied by the number of years worked under the plan.

Compute the PBO, ABO and VBO of the plan for the years 2005 and 2006.

Solution

1. For the Year 2005

Obligation under ABO

Annual pension benefit based on current salary

$$= 50,000 \times 1/52 \times 1 = \text{Rs.}962$$

This benefit of Rs.962 the employee will receive for each year from the date of retirement till he lives. Assuming that he lives for 10 more years after retirement, the value of pension benefit given for 10 years will be:

Rs.962 x PV of annuity of Re.1 for 10 years @ 8% discount rate

$$\text{Rs.}962 \times 6.710 = \text{Rs.}6,455$$

The PV of this amount as on December 31, 2005 will be

Rs.6455 x PV of Re.1 @ 8% for 19 years

$$\text{Rs.}6455 \times 0.232 = \text{Rs.}1,497.56$$

Therefore, the ABO of the plan as on December 31, 2005 is Rs.1,497.56

Obligation under PBO

Current salary = Rs.50,000

Salary on the date of retirement taking into account the rate of compensation

$$= \text{Rs.}50,000 \times 2.107$$

$$(\text{FV of lump sum table at 4\%}) = \text{Rs.}1,05,350$$

Annual pension based on salary at the time of retirement

$$= 1,05,350 \times 1/52 \times 1 = \text{Rs.}2,025.96$$

Present value of pension benefit as on December 31, 2024 (for next 10 years of retirement life) is

$$= \text{Rs.}2,025.96 \times \text{PV of annuity of Re.1 for 10 years @ 8\% discount rate}$$

$$= \text{Rs.}2,026 \times 6.710 = \text{Rs.}13,595$$

Present value of pension as on December 31, 2005

$$= \text{Rs.}13,595 \times \text{PV of Re.1 @ 8\% for 19 years}$$

$$\begin{array}{rcl} \text{Rs.}13,595 & \times & 0.232 \\ \hline & = & \text{Rs.}3,154.04 \end{array}$$

Therefore, the PBO of the plan as on December 31, 2005 is Rs.3,154.04

Obligation under VBO

VBO is equal to 25% of ABO = 25% of Rs.1,497.56 = Rs.374.39

2. For the year 2006

Obligation under ABO

Annual pension benefit based on current salary

$$= 52,000 \times 1/52 \times 2 = \text{Rs.}2,000$$

This benefit of Rs.2,000 the employee will receive for each year from the date of retirement till he lives. Assuming that he lives for 10 more years after retirement, the value of pension benefit given for 10 years will be

$$\text{Rs.}2,000 \times \text{PV of annuity of Re.1 for 10 years @ 8\% discount rate}$$

$$\text{Rs.}2,000 \times 6.710 = \text{Rs.}13,420$$

The PV of this amount as on December 31, 2006 will be

$$\text{Rs.}13,420 \times \text{PV of Re.1 @ 8\% for 18 years}$$

$$\text{Rs.}6,455 \times 0.250 = \text{Rs.}3,355$$

Therefore, the ABO of the plan as on December 31, 2006 is Rs.3,355

Obligation under PBO

$$\text{Salary on the date of retirement} = \text{Rs.}1,05,350 \text{ (as computed under year 2005)}$$

$$\begin{array}{rcl} \text{Annual pension based on salary at the time of retirement} & = & 1,05,350 \times 1/52 \times 2 \\ & & = \text{Rs.}4,051.9 \end{array}$$

$$\begin{array}{rcl} \text{Present value of pension benefit as on December 31, 2024} & = & \text{Rs.}4,051 \times 6.710 \\ & & = \text{Rs.}27,188 \end{array}$$

$$\begin{array}{rcl} \text{Present value of pension as on December 31, 2006} & = & \text{Rs.}27,188 \times 0.250 \\ & & = \text{Rs.}6,797 \end{array}$$

Therefore, the PBO of the plan as on December 31, 2006 is Rs.6,797

Obligation under VBO

VBO is equal to 50% of ABO = 50% of Rs.3,355 = Rs.1,677.5

Computation of Pension Cost

The Net Pension Cost is the amount recognized in an employer's financial statements as the cost of pension plan for the period. The pension cost is computed based on the Projected Benefit Obligation (PBO) of the pension plan. In simple words, pension cost represents the increase in the PBO over two periods.

Usually net periodic pension cost consists of the following components:

- i. Service cost.

- ii. Interest cost on projected benefit obligation.
- iii. Actual return on plan assets.
- iv. Gain or loss.
- v. Amortization of unrecognized prior service cost.

SERVICE COST

Service cost is the actuarial present value of benefits attributed during the current period. The plan's benefit formula is the crucial point to attributing benefits to employee service periods. Service costs reflect the increase in the PBO that arise due to the employee working for one more year in the organization.

INTEREST COST

It is the increase in the PBO that is because of the pension payments becoming closer to payment by one year. It occurs because of the present values of future pension benefits increase due to time value of money.

Illustration 2

The impact of service costs and interest costs on the PBO can be analyzed with the help of the data from the solution of illustration 1.

The summary of the solution under Illustration 1 can be presented as follows:

Particulars	2005		2006	
	ABO (Rs.)	PBO (Rs.)	ABO (Rs.)	PBO (Rs.)
Pension per year	962	2,025.96	2,000	4,051.9
Present value of pension benefit as on Dec 31, 2024	6,455	13,595	13,420	27,188
Present value of pension benefit as on Dec 31, 2005	1,497	3,154		
Present value of pension benefit as on Dec 31, 2006			3,355	6,797

Solution

The above calculations can be examined further as follows:

The difference in the PBO from the year 2005 to 2006 is an increase of Rs. 3,643. To understand the reasons for the difference, let us re compute the present value of pension benefit of the year 2005 by applying the discount rate of 2006

$$\text{Rs. } 13,595 \times 0.250250 \text{ (PV of Re.1 @ 8\% for 18 years)} = \text{Rs. } 3,399$$

The difference between the above amount and the present value of pension benefits of 2006 will be Rs.3,398 (Rs.6,797 – Rs.3,399). This difference is referred to as service cost which occurs because the employee worked for the year 2006 also.

Now take the difference between present values of pension benefits for the year 2005 computed on 2005 discount rate and 2006 discount rate. The difference will be Rs.245 (Rs.3,399 – Rs.3,154). This difference is because of time value of money.

The sum of these two differences (Rs.3,398 + Rs.245) should account for the increase in the PBO (Rs.3,643).

ACTUAL RETURN ON PLAN ASSETS

Actual return on plan assets refers to the difference between the fair value of plan assets at the end of the period and the fair value of plan assets at the beginning of the period adjusted for contributions and payments during the period. In other words, actual return on plan assets is the pension plan's earnings. Earnings on the

plan's assets consist of (a) investment income and (b) realized and unrealized appreciation (or depreciation) of plan assets. The return on plan assets reduces the pension cost.

Illustration 3

Let us once again consider the illustration no.1 to understand the concept of actual return on plan assets.

Suppose, Mr. S invested the pension fund in assets, the fair value of which are Rs.2,500 as on December 31, 2005. The return on pension assets is 22% in 2006. The long term return is expected to be 10% per annum.

Solution

With this information, actual return on pension assets can be found out by the formula,

$$\begin{aligned}\text{Actual Return} &= \text{beginning fair value of plan assets} \times \text{actual return percentage on assets} \\ &= \text{Rs.2,500} \times 22\% = \text{Rs.550}\end{aligned}$$

ACTUARIAL GAINS OR LOSSES

Actuarial gains or losses refer to changes in PBO as a result of changes in actuarial assumptions or estimations. These gains or losses arise because actuarial methods are based on numerous assumptions such as discount rate, life expectancy, employee turnover; growth in salaries etc., and it is not unusual for one or more of these assumptions to undergo change over time. This requires adjustments to be made to the estimations to bring the figures on par with the actual facts. The resulting increase or decrease in PBO is referred to as a gain or loss. These adjustments result in gains or losses.

Illustration 4

Let us once again take the data in illustration no. 1 and change the rate of increase in salary from 4% to 5% every year for a period of 20 years. The effect of this change on the PBO for the year 2006 can be computed as under,

Solution

PBO for the year 2006 with 5% increase in salary

$$\begin{aligned}\text{Salary on the date of retirement} &= 50,000 \times 2.527 \text{ (FV of lump sum table @ 5\%)} \\ &= \text{Rs.1,26,350}\end{aligned}$$

$$\begin{aligned}\text{Annual pension based on salary at the time of retirement} &= 1,26,350 \times 1/52 \times 2 \\ &= \text{Rs.4,859.6}\end{aligned}$$

$$\begin{aligned}\text{Present value of pension benefit as on December 31, 2024} &= \text{Rs.4,859.6} \times 6.710 \\ &= \text{Rs.32,608}\end{aligned}$$

$$\text{Present value of pension as on December 31, 2006} = \text{Rs.32,608} \times 0.250 = \text{Rs.8,152}$$

Therefore, the change of salary increase rate from 4% to 5% results in an increase in PBO of Rs.1,355 (Rs.8,152 – Rs.6,797)

PRIOR SERVICE COST

Prior service costs arise when the employer makes amendments to pension plans that result in increased pension benefits with retroactive effect. This occurs due to employee demands or labor negotiations or through collective bargaining.

Illustration 5

In the previous adjustment we have seen that the rate on increase in salary has been hiked to 5%. Let us now take another change to it which has resulted as an outcome of negotiations between the employer and Mr. S. Previously the annual pension was computed based on one week's salary at the time of retirement for the completed years of service. Now, because of the negotiations, suppose it has been decided to compute annual pension on the basis of one and half week's salary at the time of retirement for the completed years of service.

Solution

The increase in PBO as a result of this change will be as follows:

$$\text{Salary on the date of retirement} = 50,000 \times 2.527 \text{ (FV of lump sum table @ 5\%)}$$

= Rs.1,26,350

Annual pension based on salary at the time of retirement = $1,26,350 \times 1.5/52 \times 2$
= Rs.7,289

Present value of pension benefit as on December 31, 2024 = Rs.7,289 x 6.710
= Rs.48,912

Present value of pension as on December 31, 2006 = Rs.48,912 x 0.250
= Rs.12,228

Therefore, the change of pension results in an increase in PBO of Rs.4,076.
(Rs.12,228 – Rs.8,152)

Computation of Funded Status

The funded status of a pension plan is the difference between the fair value of pension assets and the PBO.

Funded status = Fair value of plan assets – PBO

If the funded status is a positive figure that is the fair value of assets is more than the PBO, then we call it as “over funding” and if the funded status is a negative figure that is the fair value of the assets is less than the PBO then we have what is called as “under funding”.

In other words, if pension expense is more than the cash funded (underfunded), a deferred (accrued) pension liability (credit) arises. On the other hand, if pension expense is less than the cash funded (overfunded), a deferred (prepaid) pension set (charge) arises.

The journal entry in case of underfunding

Dr. Pension Expense	xxxxxxx	
Cr. Cash		xxxxxxx
Cr. Deferred pension liability		xxxxxxx

The journal entry in case of overfunding

Dr. Pension Expense	xxxxxxx	
Dr. Deferred (prepaid) pension asset	xxxxxxx	
Cr. Cash		xxxxxxx

In our example, we have already seen that the plan assets are Rs.2,500 for the year 2005 while the PBO for the year ended December 31, 2005 was Rs.3,154. Hence the difference between the two represents an under funding of Rs.654 as the fair value of assets (Rs.2,500) is less than the PBO (Rs.3,154).

Figure 3: A Summary of Pension Accounting

Pension Obligation			
Particulars	Rs.	Particulars	Rs.
		Beginning balance	3,154
		Service cost	3,398
		Interest cost	245
Benefits paid	0	Actuarial gain / loss	1,355
		Prior service cost	4,076
			9,074
			12,228

Pension Assets			
Particulars	Rs.	Particulars	Rs.
Beginning balance	2,500		
Return on assets	550	Benefits paid	0
	3,050		

Net Economic position (Funded status)			
Particulars	Rs.	Particulars	Rs.
		Beginning balance Bal fig (unfunding)	654
Return on assets	550	Gross pension cost	9,074
		Ending balance	9,178

Net Pension Cost	
Service cost	3,398
Interest cost	245
Actuarial gains or losses	1,355
Prior service cost	4,076
Gross pension cost	9,074
Less: returns on assets	(550)
Net Pension cost	8,524

Source: Icfai Research Team.

The above figure represents the entire process of pension accounting. The pension obligation is ascertained by taking the Projected Benefit Obligation and adding to it the gross pension cost. The resulting figure is the ending balance of pension obligation which in the above example is Rs.12,228 (Rs.3,154 + Rs.9,074).

The pension liability to be reported in the balance sheet will be the ending balance of pension obligation (Rs.12,228) minus the net pension assets (Rs.3,050). Therefore the net pension liability is Rs.9,178. This amount can also be computed as the funded status Rs.654 (the difference between the fair value of assets minus the PBO) plus the net pension cost.

The amount to be reported in the profit and loss account is the net pension cost which is the gross pension cost minus the return on assets.

Let us consider a comprehensive illustration putting together all the above concepts.

Illustration 6

On Jan 1, 2006, PQR Company adopts a defined benefit pension plan. The return rate on assets is 12% and the interest rate on debt is 15%. Service costs for 2006 and 2007 are Rs.2,00,000 and Rs.2,15,000, respectively. The amounts funded for 2006 and 2007 are Rs.1,70,000 and Rs.1,95,000, respectively.

Pass the journal entries required for both the years and show the computations.

Disclose the amount of Pension Plan Assets and Planned Benefit Obligations for the year ended Dec 31, 2007.

Solution

The Journal entry for 2006 is

Dr. Pension Expense Account	Rs.2,00,000	
Cr. Cash Account		Rs.1,70,000
Cr. Deferred pension liability		Rs.30,000

Since the pension account for 2006 is Rs.2,00,000 being first year of plan, and the funded amount for the period is Rs.1,70,000, the balance denotes Rs.30,000 being deferred pension liability because of under funding.

The Journal entry for 2007 is

Dr. Pension Expense Account*	Rs.2,15,600	
Cr. Cash Account		Rs.1,95,000
Cr. Deferred pension liability		Rs.20,600

*Computation of pension liability for the year 2007 is arrived at

Service cost for 2007 is Rs.2,15,000

Interest on projected benefit obligations (Rs.2,00,000 x 15%)	Rs.30,000
--	-----------

Return on plan assets (Rs.1,70,000 x 12%)	(Rs.20,400)
--	-------------

Pension expense	Rs.2,15,600
-----------------	-------------

Status of Plan Pension assets and Planned Benefit obligations for the period ended Dec 31, 2007.

Projected benefit obligation = Rs.2,00,000 + Rs.2,15,000 + Rs.30,000 = Rs.4,45,000

Pension plan assets = Rs.1,70,000 + Rs.1,95,000 + Rs.20,400 = Rs.3,85,400

PENSION ACCOUNTING REPORTING UNDER US GAAP

The framework for pension accounting is specified under SFAS 87 of US GAAP. The principal objective of FAS 87 is to measure the compensation cost associated with employee benefits and to recognize that cost over the employee's service period. This statement is concerned only with the accounting aspects of pension costs. The funding of the benefits is not covered and is considered to be a financial management matter.

SFAS 87 specifies the accrual basis of accounting for pension costs. It basically contains three characteristics:

1. Delayed recognition.
2. Reporting of net pension costs.
3. Offsetting of assets and liabilities.

Delayed Recognition

US GAAP allows for delayed recognition of certain events (gains, losses, prior service costs etc.) that affect the value of the pension assets and pension obligations. Delayed recognition denotes that the affect of events are not fully shown immediately on the financial statements but deferred to a later date. In other words, they are amortized over a period of time. Until ~~they are shown~~ the balance is accounted for in the financial statements they will appear in the foot notes. This delayed recognition is done through the smoothing process.

Reporting of Net Pension Costs

In the previous illustration that we have taken up, we have seen that net pension liability is the difference between the pension obligation and pension assets. This net pension liability equals the funded status.

The computation of pension assets and pension liabilities are subject to a number of market fluctuations. There may be frequent changes in assets and obligations figures that induce unnecessary volatility in the reporting of the pension cost. Not only this, certain pension costs are non-recurring in nature and thus affect the entire service period of the employee and not just any one year. For instance, usually in pension accounting we have seen that prior service costs are added to compute the pension cost for the period. But there are people who argue that prior service costs are attributed to the employee's entire expected service period with the organization, not just to the current period only.

Table 1: Reported Net Pension Cost as per US GAAP

Service Cost
Add: Interest cost
Add/less: Amortization of unrecognized prior service costs
Add/less: Amortization of actuarial gains or losses
Add/less: Amortization of transitional assets or liabilities
Less: Expected return on plan assets

To reduce the volatility in the pension accounting process, FAS 87 advocated a smoothing process. This process involves postponing of certain costs and income (unusual or non-recurring costs or incomes) and amortizing them over the expected service period of the employee. This smoothing process is implemented in the following ways:

- i. **Expected return on plan assets:** FAS 87 advocate the implementation of expected return on plan assets to ascertain the return on assets instead of the actual rate of return on assets. As part of the computation of pension cost, instead of using the short term actual rate of return, an estimated long term expected rate of return is employed. This is so because using actual rate of return subjects the pension costs to volatilities in the markets. Any difference between the expected rate of return and the actual rate of return is amortized and spread over a period of time to reduce volatility. Expected rate of return is estimated through the formula,

$$\text{Expected rate of return} = \text{Beginning market value of plan assets} \times \text{expected long-term rate of return.}$$

The actuaries estimate the expected long-term rate of return. The market value of plan assets is either the fair value or a calculated value recognizing changes in fair value in a systematic manner over a period of five years.

In the illustration of Mr. S, the expected rate of return will be,
 $= \text{Rs.}2,500 \times 10\% = \text{Rs.}250.$

The expected return on plan assets (Rs.250) will differ from the actual returns on plan assets (Rs.550) as the market related value and fair value need not be same and similarly the actual rate of return may not be the same as the expected rate of return.

This analysis brings us to the following two conclusions:

- a. An increase in the expected return on assets reduces the pension cost and vice versa.
 - b. The actual return on plan assets indirectly influence the pension expense as the difference between the expected and actual rate affects the pension expense.
- ii. **Amortization of gains or losses:** Under US GAAP, net gains and losses are amortized over the service period of the employees. Net gains and losses, as we have seen previously arise out of actuarial assumptions. But US GAAP recognizes the net gains and losses arising out of differences between expected return and actual return on pension assets.

USGAAP has prescribed a systematic method of amortization. According to it when the 'corridor' is exceeded, the excess is not charged to pension expense all at once but amortized. This 'corridor' is defined as a net gain or a net loss at the beginning of a year in excess of an amount equal to 10% of the PBO, or 10% of plan assets, whichever is higher. only a corridor amount exceeding 10% of the greater of the beginning balances of market related value of plan assets or the PBO is recognized for amortization. The amortization is considered by spreading the above derived amount over the average service period of the employees.

For instance, in our example relating to Mr. S, the amount to be amortized will be as follows:

Actuarial gain or loss – 1,355

Less: abnormal return – 300

Net gain or loss – 1,055

The PBO for the year 2005 is Rs.3,154

The fair value/market related value of plan assets is Rs.2,500

The greater of the above two amounts is the PBO amount of Rs.3,154

The 'corridor' amount = net gain or loss – 10% of the PBO
= Rs.1,055 – Rs. 315 = Rs.740

This amount is amortized over the average service period of the employee which in our example is 20 years.

The amount to be shown in the current period = $740/20 = \text{Rs.}37$.

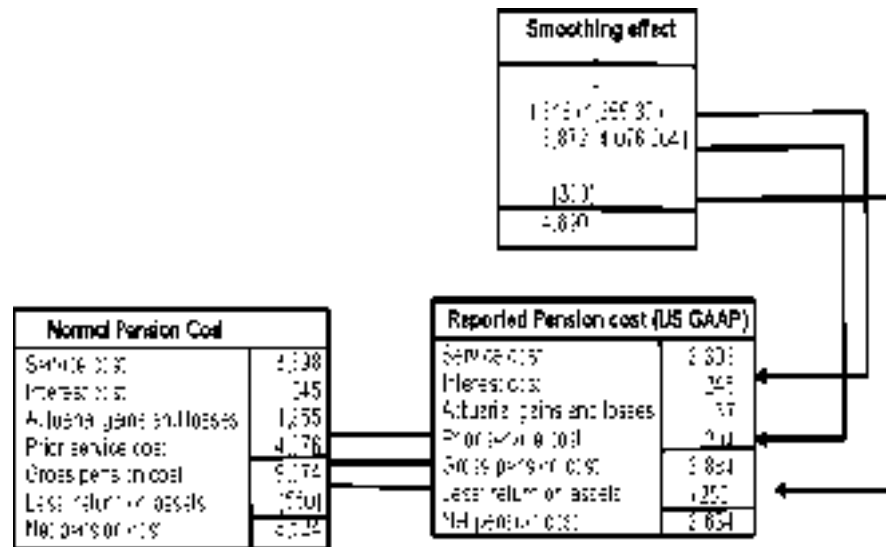
- iii. **Amortization of unrecognized prior service costs:** We have already seen that changes in the pension plans benefits made with retrospective effect as result of negotiations between the employees and the employer affect the PBO there by resulting in occurrence of prior service costs. Under US GAAP these prior service costs instead of being immediately recognized as part of pension expense are amortized over the service period of the employees on straight line basis.

For instance under the example of Mr. S, the total prior service cost is Rs.4,076. This amount is not added to net pension cost but is amortized and only 1/20th of the amount Rs.204 ($\text{Rs.}4,076 \times 1/20$) is shown in the pension cost for the current period.

- iv. **Amortization of transitional liabilities and assets:** Employer's accounting for pension was enacted in the year 1985 in the USA. Employers who were already implementing a pension plan prior to this date were asked to make a transition to FAS 87. Any resultant variation amount is to be amortized over the expected remaining service life of the affected employees. Since this item is 20 years old, many companies have already amortized most of their transition gain or loss, making it a less important component pension cost.

After having seen all the principles underlying the computation of net reported pension cost as per US GAAP, let us understand how this computation varies from the normal computation of pension cost and also understand the effect of the smoothing process on the net reported pension cost. This analysis is shown in the figure below:

Figure 4: Smoothing Effect of US GAAP (FAS 87) on Reported Pension Cost



Source: Icfai Research Team.

The above figure clearly brings out the smoothing effect because of which the net pension cost has come down to Rs.3,634 from Rs.8,524. This reduction is because of the spreading of the actuarial gains and losses, prior service cost and the return on assets over the average service period of the employees. For instance, in case of actuarial gains and losses instead of reporting the entire amount (Rs.1,355) as pension cost, the unamortized amount of Rs.1,318 has been postponed to future years for recognition and in the current period only Rs.37 has been recognized. Similar treatment is illustrated in the above figure for prior service cost and return on assets.

Netting of Assets and Liabilities

Pension assets and pension obligations are presented in the balance sheet in two ways:

- By showing the pension assets as an asset in the balance sheet and the pension obligations as an liability in the balance sheet.
- By showing only the net assets or net liabilities (the difference between the pension assets and pension obligations) in the balance sheet.

US GAAP SFAS 132 advocates the adherence to the second option in reporting pension assets and obligations in the balance sheet. This form of reporting is referred to as netting of assets and liabilities. If the pension assets are more than the pension obligations, a net asset is reported and if the pension obligations are more than the pension assets, a net liability is reported.

The netting of assets and pension obligations has been already illustrated in Table. Let us see how the reporting of net pension liability under US GAAP varies from the normal procedure illustrated above. The following figure illustrates this difference taking Mr. S example.

Table 2: Effect of Balance Sheet Reporting of Pension Liability

Net Pension Liability in General		Net Pension Liability as per US GAAP	
Particulars	(Rs.)	Particulars	(Rs.)
Beginning balance	654	Beginning balance	654
Gross pension cost	9,074	Gross pension cost	3,884
Less: return on assets	(550)	Less: return on assets	(250)
Net pension liability in balance sheet	9,178	Net pension liability in balance sheet	4,288

Note: The reduction in the net pension liability is because of unamortized amounts of actuarial gains and losses, prior service costs and return on assets. These unamortized amounts are not shown in the balance sheet and are shown only in the foot notes.

The net pension liability can also be reported in the balance sheet as per US GAAP in the following alternative way:

Reporting of Pension Liability on Balance Sheet as per US GAAP

Particulars	Rs.
Pension obligation	12,228
Less: pension assets	3,050
Funded status	9,178
Less: unrecognized gain or loss	1,318
Unrecognized prior service cost	3,872
	3,988
Add: unrecognized return on assets	300
Net pension liability reported in the balance sheet	4,288

MINIMUM LIABILITY ALLOWANCE

Pension Accounting under USGAAP requires the smoothing of pension costs for the purpose of reducing volatility and improving consistency in pension reporting. However, this practice of smoothing leads to a large amount of expenses being not recognized in the financial statements except for only a disclosure in foot notes. To partially compensate for this smoothing, US GAAP introduced the concept of Minimum Liability Allowance.

Under this, if the ABO exceeds the fair value of assets, at least that difference must be shown on the balance sheet as a liability. If needed, the existing pension asset or liability should be adjusted to this figure by recording an additional minimum liability. The calculation of minimum liability allowance is based on ABO and not on PBO as the rationale says that in case of plan termination the liability of the employer is the ABO and not the PBO. However, the minimum liability allowance need not be provided if the fair value of assets exceed the ABO.

In our example of Mr.S, the ABO was Rs.1,497 and the fair value of plan assets was Rs.2,500. The minimum liability allowance to be provided should be Rs.1,003 (Rs.2,500 – Rs.1,497). However, since the net pension liability reported in the balance sheet is Rs.4,288, we need not create any additional liability amount.

Let us take another example to illustrate more clearly the concept of minimum liability allowance.

Illustration 7

The following are the details of four defined plans:

(Amount in Rs.)

Particulars	Plan 1	Plan 2	Plan 3	Plan 4
Accumulated benefit obligation (ABO)	15,000	15,000	15,000	15,000
Fair market value of assets (FMV)	10,500	10,500	10,500	21,000
Net pension cost	0	(6,000)	1,500	(3,000)

Show the net pension liability to be reported in the balance sheet and the additional minimum liability to be created for each of the plans if the company has to maintain the minimum liability allowance.

Note: Amounts given in brackets denote liabilities and amounts without brackets are shown as assets.

Solution

Additional Minimum Pension Liability Computations

Particulars	Plan 1	Plan 2	Plan 3	Plan 4
Accumulated Benefit Obligation (ABO)	(15,000)	(15,000)	(15,000)	(15,000)
Fair Market Value of assets (FMV)	10,500	10,500	10,500	21,000
Excess of ABO above FMV	(4,500)	(4,500)	(4,500)	6,000
Minimum liability to be created	(4,500)	(4,500)	(4,500)	0
Net pension liability already existing	0	(6,000)	1,500	(3,000)
Additional minimum liability required	(4,500)	0	(6,000)	0
Liability reported in the balance sheet	(4,500)	(6,000)	(4,500)	(3,000)

Illustration 8

Company X has a defined benefit plan. The projected benefit obligation for its plan is Rs.120 lakh. The ABO of the plan is Rs.100 lakh and the VBO is Rs.80 lakh. The fair value of the plan assets is Rs.80 lakh. If Company X is currently reporting a pension liability of Rs.6 lakh, what is the minimum liability allowance to be created?

Solution

The minimum liability is equal to the excess of ABO over the fair value of plan assets:

$$\begin{aligned}\text{Minimum liability} &= \text{ABO} - \text{fair value of plan assets} \\ &= \text{Rs.100 lakh} - \text{Rs.80 lakh} = \text{Rs.20 lakh.}\end{aligned}$$

Minimum liability allowance or additional minimum liability to be created will be:

Minimum liability required minus the net pension liability reported:

$$\text{Rs.20 lakh} - \text{Rs.6 lakh} = \text{Rs.14 lakh.}$$

The net pension liability to be reported in the balance sheet will be Rs.20 lakh.

FAS – 88 (Employer's Accounting for Settlements and Curtailments of Defined Benefit Pension Plans and for Termination Benefits) Settlement or Curtailment of Pension Plans

Settlement

Under US GAAP, settlement has been defined as “Transaction that (i) is an irrevocable action, (ii) relieves the employer (or the plan) of primary responsibility for a pension benefit obligation, and (iii) eliminates significant risks related to the obligation and the assets used to effect the settlement. Examples include making lump sum cash payments to plan participants in exchange for their rights to receive specified pension benefits and purchasing nonparticipating annuity contracts to cover vested benefits.” Thus to constitute a pension obligation settlement, all the above three criteria should be met.

~~In case of an annuity contract settlement, an unrelated insurance company unconditionally accepts an obligation to provide the required benefits. There should not be any doubt on the capability of the insurance company to meet its contractual obligation. The substance of the contractual agreement should be such that it should relieve the employer from all the risks and rewards associated with the plan benefits.~~

~~If the entire PBO is settled, any unrecognized net gain or loss plus any remaining unrecognized net assets existing are immediately recognized. In case of partial settlement, a portion of them is recognized. In case the obligation is settled by purchasing participating annuities, the cost of the right of participation is deducted from the gain or loss before recognition.~~

~~If the total of the interest cost and service cost components of the periodic pension cost is greater than or equal to the settlement costs during a given year, the recognition of the above gain or loss is not required but permitted. The settlement cost is generally comprised of the cash paid, or the cost of non-participating annuities purchased, or the cost of participating annuities reduced by the cost of the right of participation.~~

Curtailments

Curtailment is the result of elimination of the future years of service. It is defined as “Events that significantly reduces the expected years of future service of present employees or eliminates for a significant number of employees the accrual of defined benefits for some or all of their future services. Curtailments include (1) termination of employee’s services earlier than expected, which may or may not involve closing a facility or discontinuing a segment of a business and (2) termination or suspension of a plan so that employees do not earn additional defined benefits for future services. In the later situation, future service may be counted toward vesting of benefits accumulated based on past services.”

~~If curtailment results in a decrease in the PBO, a gain is indicated and vice versa. This gain (or loss) is netted against the loss from unrecognized prior service cost. The net result is termed as curtailment gain or loss and is reported in accordance with FAS 5.~~

Termination Benefits

Termination benefits are accounted for in accordance with FAS 5. Special short time period benefits require that a loss and a liability be recognized when the offer is accepted and the amount can be reasonably estimated. Contractual termination benefits require that a loss and a liability be recognized when it is probable that employees will receive the benefits and the amount can be reasonably estimated. The cost of these benefits is the cash paid at termination and the present value of future payments.

SFAS 88, requires that any gain or loss resulting from settlement, curtailment or termination is to be reported immediately at that time of the happening of the event.

Let us consider a comprehensive illustration involving all the concepts

Illustration 9

XYZ Company has a defined benefit plan for its 1,000 employees. On Jan 1, 2006, the fair market value of pension plan assets is Rs.5,00,000, the accumulated benefit obligation is Rs.5,40,000, and the projected benefit obligation is Rs.6,50,000. It is anticipated that 10 workers eligible for pension benefits will leave each year over the next 10 years. Service cost for 2006 is Rs.90,000. On Dec 31, 2006 the projected benefit obligation is Rs.6,80,000, the fair market value of pension plan assets is Rs.5,10,000, and the accumulated benefit obligation is Rs.5,70,000. The return on plan assets is 9% and the interest rate on debt is 10%. There are no actuarial gains or losses for the year. Cash funded to the trustee for the year is Rs.1,20,000.. Compute and pass journal entries required for the year 2006.

Solution

Computation of Pension expense

Service cost		Rs.1,90,000
Interest on projected benefit obligation	(10% x Rs.6,50,000)	(Rs.65,000)
Return on plan assets	(9% x Rs.5,00,000)	(Rs.45,000)

Amortization of actuarial gains or losses		—
Amortization of prior service cost		27,273
Pension expense		Rs.1,37,273

Calculation of the amortization of prior service cost follows:

Projected benefit obligation	Jan 1, 2006	6,50,000
Less: Fair value of pension plan assets	Jan 1, 2006	5,00,000
Initial net obligation	Jan 1, 2006	1,50,000

Amortization = Rs.1,50,000/5.5 months =Rs.27,273

$$\frac{n(n+1) \times P}{2} = \frac{10(10+1)}{2} \times 10 = 55 \times 10 = 550$$

550/100 = 5.5 years

P = population decrement each year

The journal entries at Dec 31, 2006 are:

Dr. Pension expense	Rs.1,37,273	
Cr. Cash		Rs.1,20,000
Cr. Deferred pension liability		Rs.17,273
Dr. Intangible asset (pension plan)	Rs.42,727	
Cr. Additional pension liability		Rs.42,727

Computations follow:

Accumulated benefit obligation Dec 31, 2006	Rs.5,70,000
Less: Fair value of pension plan assets Dec 31, 2006	Rs.5,10,000
Minimum pension liability Dec 31, 2006	Rs.60,000
Less: Deferred pension liability	Rs.17,273
Additional pension liability	Rs.42,727

OTHER POST RETIREMENT BENEFITS ACCOUNTING UNDER US GAAP

Statement FAS 106 establishes the standard for employers' accounting for post retirement employee benefits other than pensions. This standard advocates a single method for measuring and recognizing an employer's accumulated post retirement benefit obligation referred to as APBO. It applies to all forms of post retirement benefits though it focuses mainly on the post retirement health care benefits. The basic tenets of FAS 87 have been adopted by this statement also such as:

- Accrual accounting.
- Delayed recognition.
- Reporting net cost.
- Offsetting assets and liabilities.

An objective of the statement is that the accounting reflects the terms of the exchange transaction that takes place between an employer that provides post retirement benefits and the employees who render services in exchange for these

benefits. Generally the written plan provides the best evidence of the transaction. However, if the substantive plan (the terms of the post retirement benefit plan as understood by an employer that provides post retirement benefits) differs from the written statement, it is the substantive plan that is the basis of accounting.

Accounting for Post Retirement Benefits

One basic difference between accounting for pensions and accounting for post retirement benefits is funding. Because of the absence of legal requirements for post retirement benefits and also because funding is not tax deductible, usually companies do not go for any funding of their post retirement liabilities. While some companies back the liabilities with assets yet another option is to offer these benefits in the form of services rather than monetary benefits.

The Accounting for post retirement benefits involve computing APBO (the Accumulated Post retirement Benefit Obligation) and EPBO (Expected Postretirement Benefit Obligation). The EPBO is the actuarially determined costs of providing future benefits which are gradually recognized over the employee's expected service period. The APBO is that portion of EPBO earned by the employee by rendering services as of a given date. The funded status is computed by taking the difference between the APBO and the fair value of assets designated to meet this obligation.

The Post retirement benefits costs include the following components:

- **Service costs** – Actuarial present value of benefits earned by employees during the period, the portion of EPBO attributable to the current year. EPBO is typically allocated to each year in the service period.
- **Interest costs** – Imputed growth in APBO during a period using an assumed discount rate. Interest is compounded because APBO is recognized on a present value basis.
- **Amortization of net gains and losses** – Amounts arising when actual experience of the plan differs from initial estimates or alternatively stated, if the expected return on assets differs from actual return. Because these resulting gains and losses can fluctuate, they are deferred. If the cumulative net amount of previously unrecognized gains and losses exceeds 10% of APBO, the excess portion is amortized to income over the average remaining service period.
- **Amortization of prior service costs** – Costs arising from plan amendments that change benefits and are attributed to employee service rendered prior to the amendment date. These costs are deferred and amortized by assigning equal amounts to the remaining future service periods.
- **Amortization of transition obligation** – Costs arising from initial adoption. At adoption, an unfunded postretirement obligation, called transition obligation, is identified and measured as the difference between APBO and plan assets minus any postretirement liabilities previously recorded
- **Expected return on plan assets** – This return reduces the net annual postretirement expense if the plan is funded. The difference between actual and expected return is deferred and included in the unrecognized portion of net gains and losses.

In the balance sheet, the net post retirement costs minus the benefit payments are recorded as a liability. In other words similar to pension accounting here also the unamortized amounts are not recorded in the balance sheet but are shown as foot notes.

Stock Compensation Plans

Companies offer employees a part stake in the ownership of the company by giving them stock. Such plans may take the form of restricted stock or arrangements under which the employee receives amounts that depend on the performance of a specified number of shares or employee stock options. FAS 123 describes the following disclosures about the employee stock options in the employer's financial statements:

- i. Detailed data regarding the number of options outstanding, their exercise prices and whether or not they are exercisable.
- ii. The grant date fair value of options granted during the year, with options issued at, above, or below market price disclosed separately.
- iii. A description of the method and significant assumptions used to determine the grant date fair value. Specific assumptions that must be disclosed are:
 - Risk free interest rate.
 - Expected option life.
 - Expected stock volatility.
 - Expected dividends.
- iv. Any compensation cost recognized during the period.
- v. Data regarding the modification of outstanding stock options.
- vi. Data regarding other equity instruments issued to employees.

The recognition of the compensation cost for stock option plans is not mandatory. Firms that do not recognize such cost, however, are required by the standard to disclose the pro forma effect of doing so.

INTERNATIONAL ACCOUNTING PRACTICES IN PENSION AND POST RETIREMENT BENEFITS ACCOUNTING

IAS 19 deals with the accounting for employee benefits. It has revised all the previously used valuation models and prescribes a single variant method known as projected unit credit method. Like under US GAAP, here also we have the corridor approach to recognition of actuarial gains and losses. The actual contributions to be made by the employer, the method of calculation of benefits, etc are determined by actuaries.

IAS 19 also classifies the retirement benefits into pensions and other post retirement benefits. There are two major types of pensions that it recognizes i.e., Defined benefit plans and defined contribution plans. The standard further specifies that in case of defined contribution plans, only the contribution paid during the period has to be disclosed.

In case of defined benefit plans detailed disclosures are required relating to:

- A description of each plan;
- A description of groups of employees covered;
- The policy regarding the recognition of actuarial gains and losses;
- A reconciliation of plan assets and liabilities recognized in the balance sheet, including the present value of wholly unfunded obligations, partly unfunded obligations, fair value of plan assets, costs not yet recognized in the balance sheet etc;
- A reconciliation of movements or changes during the reporting period;
- The amount of actual return on plan assets; and
- A description of the principal actuarial assumptions used.

With regard to post retirement benefits other than pensions, IAS 19 mentions four specific benefit plans:

- Short-term employee benefits including health care, transportation, etc;
- Other long-term benefit plans including long term disability benefits;
- Termination benefits; and
- Equity compensation plans including phantom stock option plans.

Most of the disclosure requirements applicable to pension accounting are also applicable to post retirement benefits.

ACCOUNTING FOR RETIREMENT BENEFITS UNDER INDIAN ACCOUNTING STANDARDS

Indian Accounting Standard-15 (Revised) deals with the accounting for retirement benefits in the financial statements of employers. As per this statement, retirement benefits include:

- i. Short-term employee benefits such as wages, salaries and social security contributions, paid annual leave, profit sharing and bonuses and non monetary benefits such as medical care, housing etc for current employees;
- ii. Post employment benefits such as gratuity, pension, other retirement benefits, post employment life insurance and post employment medical care;
- iii. Other long term employee benefits, including long service leave or sabbatical leave, jubilee or other long service benefits, long term disability benefits and if they are not payable wholly within 12 months after the end of the period, profit sharing, bonuses and deferred compensation; and
- iv. Termination benefits.

All the above said benefits provided to employees or their spouses, children or other dependants are considered as employee benefits.

Short-term Employee Benefits

In case of all short term benefits, when an employee has rendered service to an enterprise during an accounting period, the enterprise should recognize the undiscounted amount of short term employee benefits expected to be paid in exchange for that services as a,

- a. Liability (accrued expense), after deducting any amount already paid. If the amount already paid exceeds the undiscounted amount of the benefits, an enterprise should recognize that excess as an asset (pre paid expense) to the extent that the pre payment will lead to a reduction in future payments or a cash refund; and
- b. As an expense, unless another Accounting Standard requires or permits the inclusion of the benefits in the cost of an asset.

Post Employment Retirement Benefits

Post employment retirement plans have been classified into defined contribution plans and defined benefit plans. These plans can in turn be multi employer plans, state plans etc.

Accounting for Defined Contribution Plans

Accounting for defined contribution plans is straight forward because the reporting enterprise's obligation for each period is determined by the amounts to be contributed for that period. Consequently, no actuarial assumptions are required to measure the obligations or the expense and there is no possibility of any actuarial gain or loss. Moreover, the obligations are measured on an undiscounted basis,

except where they do not fall due wholly within twelve months after the end of the period in which the employees render the related service.

Accounting for Defined Benefit Plans

AS 15 (Revised) prescribed the measurement of obligations on a discounted basis because they may be settled many years after the employees render the related services. The statement also requires the use of the services of a qualified actuary in measuring the obligation under these plans.

Defined benefit plans may be unfunded, or they may be wholly or partly funded by contributions by an enterprise, and sometimes its employees, into an entity, or fund, that is legally separate from the reporting enterprise and from which the employee benefits are paid. Accounting for defined benefit plans involves the following steps:

- a. Using the actuarial techniques to make a reliable estimate of the amount of benefit that employees have earned in return for their service in the current and prior periods. This requires an enterprise to determine how much benefit is attributable to the current and prior periods and to make estimates about demographic variables (such as employee turnover and mortality rates) and financial variables (such as increase in salaries and medical costs) that will influence the cost of the benefit.
- b. Discounting the benefit using the Projected Unit Credit Method in order to determine the present value of the defined benefit obligations and the current service cost.
- c. Determining the fair value of any plan assets.
- d. Determining the total amount of actuarial gains and losses.
- e. Where a plan has been curtailed or settled, determining the resultant gain or loss.
- f. Where a plan has been changed or introduced, determining the resultant past service cost.

Where an enterprise has more than one defined benefit plan, the enterprise applies these procedures for each material plan separately.

Accounting for Other Long-term Employee Benefits

In case of other long-term employee benefits, the introduction of, or changes to other long term employee benefits rarely causes a material amount of past service cost. For this reason, this statement requires a simplified method of accounting for other long term employee benefits. This method differs from the accounting required for post employment benefits in so far as that all prior service cost is recognized immediately. Thus the net post retirement expense includes,

- a. Current service cost.
- b. Interest cost.
- c. Expected return on plan assets.
- d. Actuarial gains and losses, which should be recognized immediately.
- e. Past service cost which should also be recognized immediately.
- f. The effect of any curtailments or settlements.

Accounting for Termination Benefits

This statement requires immediate expensing of expenditure on termination benefits (including expenditure incurred on Voluntary Retirement Scheme). However where an enterprise incurs expenditure on termination benefits on or before March 31, 2009, the enterprise may choose to follow the accounting policy of deferring such expenditure over its pay back period.

Box : Retirement Benefits at Infosys

The Infosys Technologies Limited in its Annual Report 2005-06 disclosed the

following policies for its employees:

- A. **Gratuity** – Infosys provides for gratuity, a defined benefit retirement plan covering eligible employees. In accordance with the Payment of Gratuity Act, 1972, the gratuity plan provides a lump sum payment to vested employees at retirement, death, incapacitation or termination of employment, of an amount based on the respective employee's salary and the tenure of employment. Liabilities with regard to the gratuity plan are determined by actuarial valuation as of the balance sheet date, based upon which, the company contributes all the ascertained liabilities to the Infosys Technologies Limited Employees Gratuity Fund Trust. Trustees administer contributions made to the trust and contributions are invested in specific investments permitted by law.
- B. **Provident Fund** – Employees receive benefits from a provident fund which is a defined contribution plan. Aggregate contributions along with the interest thereon are paid at retirement, death, incapacitation or termination of employment. Both the employee and company make monthly contributions to the Infosys Technologies Limited Employees Provident fund Trust equal to a specified percentage of the covered employee's salary. Infosys also contributes to a government administered pension fund on behalf of its employees. The interest rate payable by the trust to the beneficiaries every year is being notified by the Government. The company has an obligation to make good the shortfall; if any between the returns from the investment of the trust and the notified interest rate.
- C. **Superannuation** – Certain employees of Infosys are also participants in a defined contribution plan. Until March, 2005 the company made contributions under the superannuation plan. The company has no further obligations beyond its monthly contributions. From April 1, 2005 a substantial portion of the monthly contribution amount is paid directly to the employees as an allowance.

ANALYZING PENSIONS AND POST RETIREMENT BENEFITS

Analyzing pensions and other post retirement benefit figures reported in the financial statements is extremely vital for any financial analyst because of the magnitude of these figures and the possibilities existing for manipulation and distortion in their computation. The analysis can be taken up from three angles:

- Income Statement Effect.
- Balance Sheet Effect.
- Effect of Actuarial Assumptions.

Income Statement Effect

We have already seen that as per US GAAP, it is the net periodic pension cost that is reported in the income statement. However, there have been varied opinions as to the ethics of using this figure in the income statement as this figure is obtained after amortizing several items such as prior service costs, net gains and losses and return on assets. Though US GAAP clearly spells out that such amortization is necessary to smooth the income statement and provide more stability to it, an analyst to know the true position should consider all costs without amortizing them.

Another problem associated with the reporting of net periodic pension cost in the income statement is to whether the cost should be segregated as an operating expense or a non operating expense. Since pensions and other post retirement benefits are considered to be part of the employee compensation, they are very much an item of operating expenses. However, there are certain components in these costs which may not be purely an operating cost. Examples include the interest cost and the return on plan assets.

For instance going back to our example of Mr.S which we have taken up at the beginning of the chapter, we understood that the pension obligation of Mr.S at the end of the year 2024 would be Rs.13,595 and to meet this today we set aside an amount of Rs.3,154. But how did we arrive at the conclusion that Rs.3,154 set aside today will amount to Rs.13,595? The answer would be the discount rate we assumed as 8%. Let us for a moment assume that Rs.3,154 is not set aside. Then this amount would have definitely been invested elsewhere and revenue earned on it. This revenue thus becomes the opportunity cost of setting aside the amount. On the other hand the return on plan assets represents what the company has actually earned from its pension assets or investments. The difference between the interest cost (opportunity cost) and the return on plan assets represents a non operating expense which should not be included in the income statement.

Balance Sheet Effect

As per US GAAP the net pension liability (asset) in the balance sheet is arrived at after computing the funded status which is adjusted for unamortized amounts. The funded status is computed on the basis of PBO (Projected Benefit Obligation). There are people who hold a different view point. They feel that funded status should be computed based on ABO (Accumulated Benefit Obligation) as it evaluates the liquidating value of pension assets and hence is a more realistic measure.

US GAAP also prescribes the netting of assets and liabilities as part of its reporting in the balance sheet. This also has given rise to controversies as it is felt that separate disclosure of plan assets and pension obligation not only helps in better presentation but also do not distort the debt equity ratio or long term ratios which other wise would be effected if the net pension liability (asset) is reported.

Hence, for the purpose of analysis, the net pension liability needs to be readjusted. Let us take an illustration to understand the effect of netting on leverage.

Illustration 10

The fair value of plan assets of a pension plan is Rs.50 lakh while the PBO is Rs.75 lakh. The net pension liability reported in the balance sheet is Rs.10 lakh. Determine the readjustment needed to the balance sheet and the effect on leverage.

Solution

The actual liability to be reported in the balance sheet should have been Rs. 25 lakh (PBO – net pension assets). But the amount actually reported is Rs. 10 lakh. Thus the balance sheet needs to be readjusted by reporting an additional liability of Rs. 15 lakh (Rs.25 lakh – Rs.10 lakh). Such a readjustment would increase the leverage and result in a decrease in equity to the extent of Rs.15 lakh.

Effect of Actuarial Assumptions

At the beginning of the chapter it has been explained that the pension accounting is based on three assumptions made by the actuaries regarding:

- The discount rate.
- The rate of compensation increase.
- The expected return on plan assets.

These assumptions leave scope for the employer to window dress the financial statements. For instance, assumptions of high discount rates, low compensation growth rates and high expected rates of return on plan assets will decrease pension expense, increase earnings and reduce the pension liability. The more aggressive the assumptions are, the lower will be the earnings quality of the company.

The effect of the changes in assumptions on the pension liability can be summarized as follows:

Assumptions	PBO	ABO	VBO
Increase in discount rate	decrease	decrease	decrease

Decrease in rate of compensation	decrease	No effect	No effect
Increase in expected return on assets	No effect	No effect	No effect

The effect of the changes in assumptions on the pension expense can be summarized as follows:

Assumptions	Service cost	Interest cost	Expected return	Pension expense
Increase in discount rate	Decrease	Increase	No effect	Decrease
Decrease in rate of compensation	Decrease	Decrease	No effect	Decrease
Increase in expected return on assets	No effect	No effect	Increase	Decrease

An increase in discount rate will improve the reported results as it results in lower net present values and hence lower pension liabilities. The service cost (since it is a present value calculation) will decrease as the discount rate increases. However the interest cost will increase. Since decrease in the service cost may be more than the increase in interest cost, it will lead to an overall decrease in pension expense.

A decrease in rate of compensation will also have a similar effect on the results as it means lower future pension payments and hence lower PBO. The service cost and the interest cost will also reduce thereby decreasing the pension cost.

An increase in the expected return of assets will reduce the pension expense as it means more return on assets.

SUMMARY

- Retirement benefits come in two forms: (a) Pension benefits under which the employer promises monetary benefits to the employee after retirement, and (b) Other post retirement benefits under which the employer provides other benefits besides monetary benefits to employees after retirement. These can be in the form of health care and life insurance benefits.
- A pension plan is described as an agreement between an employer and an employee whereby the employer agrees to pay monetary benefits to the employees on their retirement.
- Under Pension Accounting, the liability to be shown on the balance sheet of the employer company is the difference between the value of the assets (pension fund) and the value of the pension liability. Hence, Pension Accounting deals with the valuation of pension liability and pension assets.
- Net periodic pension cost consists of the following components: (a) Service cost, (b) Interest cost on projected benefit obligation, (c) Actual return on plan assets, (d) Gain or loss, and (e) Amortization of unrecognized prior service cost.
- The framework for pension accounting is specified under SFAS 87 of US GAAP. SFAS 87 specifies the accrual basis of accounting for pension costs. It basically contains three characteristics: (a) Delayed recognition, (b) Reporting of net pension costs, and (c) Offsetting of assets and liabilities.
- Statement FAS 106 of US GAAP establishes the standard for employers' accounting for post retirement employee benefits other than pensions.
- Accounting for Retirement benefits are also discussed under IAS 19 and AS-15.
- Analyzing pensions and other post retirement benefit figures reported in the financial statements is extremely vital for any financial analyst because of the magnitude of these figures and the possibilities existing for manipulation and distortion in their computation. The analysis can be taken up from three

angles: (a) Income statement effect, (b) Balance sheet effect, and (c) Effect of actuarial assumptions.

Chapter VIII

Analysis of Inter-corporate Investments

After reading this chapter, you will be conversant with:

- Meanings and Definitions of Important Terms
- Classification of Securities
- Accounting for Marketable Securities
- Analysis of Marketable Securities
- Reporting Requirements as per USGAAP, IAS and Indian AS
- Analysis of Minority Interest
- Analysis of Segment Data

Introduction

In this modern age, most companies invest in financial instruments issued by other companies. The objective of investing in other companies may be to obtain a favorable business relationship, to earn a return from the dividends or interest the securities pay or from increases in the market prices of the securities etc.~~we can rarely see a company which consists of a single corporate entity. The larger the company, more it will contain more than one company. Many multi national companies have hundreds of subsidiaries in various places.~~ In addition to this, companies invest in other companies for joint ventures and partnership purposes. These investments are called intercorporate investments. The motivations for the company to hold these inter-corporate investments are to exert influence over the management of another company and to receive dividend and stock price appreciation income or for capital gains, or for tax gains or for technological and strategic advantages.

Sometimes companies invest ~~assets~~ in investment-debt securities also. For example, US Treasury securities, Municipal securities, Corporate bonds, Convertible debt, etc. The motivation behind this investment is to use short-term idle funds. Marketing securities constitute a relatively minor share in the total assets in most of the companies with the exception of investment in subsidiary or affiliates. It means that these investments are generally not a part of operating assets. But in certain companies, like insurance and banking companies, marketing securities constitute the primary operating assets.

MEANINGS AND DEFINITIONS OF IMPORTANT TERMS

Available-for-sale Securities: These are the investments that are not classifiable as held-to-maturity or as trading. These securities would be including the debt and equity securities that are not categorized either as held-for-maturity or trading securities.

Corporate Joint Ventures: This is a corporate business owned equally by two or more investor entities and is accounted for using the equity method or in some cases using the proportional consolidation method by the investors.

Cost Method: This is the method of accounting for the investment, whereby the investor recognizes only the dividends that are received from the investee as income.

Debt Security: A debt security is any security that establishes or represents a creditor relationship with an enterprise. For example, US Treasury securities, Municipal securities, Corporate bonds, Convertible debt, etc.

Differential: This refers to the difference between the carrying amount of the common stock in the investment and the book value of the underlying net assets of the investee, and is to be allocated between the excess or the deficiency of the fair value over or under the book value of the net assets and the goodwill or the negative goodwill, and is to be amortized appropriately to the earnings from the investee.

Equity Method: A method of accounting for investments in which recognition of percentage share of income or loss, dividends, and any changes in the investment percentage in an investee by an investor is considered. The differential between the investment cost and book value of the investment and its amortization, the effects of any inter company transactions between the investor and the investee is also considered in this method.

Equity Security: An equity security is any security representing an ownership interest in an enterprise. These are the securities that include the ownership interests

like common, preferred and other capital stock, right to acquire the ownership interests such as warranties, rights, call options and the right to dispose the ownership interests in the form of put options.

Goodwill: Goodwill is the difference between the cost of the acquired enterprise and the sum of the amounts assigned to identifiable assets acquired less liabilities assumed.

Held-to-maturity Securities: If an investor has the positive intent and ability to hold the securities to maturity, investments in debt securities are classified as held-to-maturity.

Investee: Investee is the company or enterprise which issues securities which are held by an investor.

Investee Capital Transaction: This includes the purchase or the sale by the investee of its own common shares, which alters the investor's ownership interest and is accounted for by the investor as if the investee were a consolidated subsidiary.

Investor: A company or enterprise that holds an investment in the stock of another enterprise.

Other Comprehensive Income: This refers to the revenues, expenses, gains and the losses that are included in the comprehensive income but excluded from the earnings under the generally accepted accounting principles.

Significant Influence: The ability of an investor to affect the financial or operating policies of the investee. Significant influence is assumed to exist where at least 20% of the common stock having voting right is held by the investor.

Trading Securities: Debt or equity securities bought and held primarily for sale in the near term.

Undistributed Investee Earnings: This refers to the investor's share of the investee earnings in excess of the dividends that are paid.

CLASSIFICATION OF SECURITIES

Basically securities can be classified into debt securities and equity securities. Investments can also be classified based on the "significant influence". Significant influence means the ability of the investor company to control the operating and financial decisions of the investee company. The following is the detailed explanation of these classifications:

Debt Securities

As per US GAAP, a debt security is any security that establishes or represents a creditor relationship with an enterprise. This includes corporate debt, convertible bonds, US treasury and municipal securities, redeemable preferred stock or commercial paper and other secured debt instruments. US GAAP requires that investment in debt securities can be classified into three categories viz, trading securities, available for sale securities and held to maturity securities.

Equity Securities

An equity security is any security representing an ownership interest in an enterprise. These are the securities that include the ownership interests like common, preferred and other capital stock, right to acquire the ownership interests such as warranties, rights, call options and the right to dispose the ownership interests in the form of put options.

The motivations for the company to ~~invest in held~~ these securities are to exert influence over the management of another company and to receive dividend and

stock price appreciation income. Investments can further be classified based on the control aspect. Companies report these securities based on the ability to influence on the investee company's activities. This ability is expressed generally in the form of percentage of voting securities controlled by the investor company. ~~The accounting for investment in equity securities is generally based on the percentage of the voting stock obtained in another company.~~

NO INFLUENCE (BELOW 20% HOLDING)

When equity securities are non-voting or the company has less than 20% of voting stock of investee's company, then they are considered as non-influential securities. These investments are also called as minority, passive investments. The investor company has no influence on the activities of the investee's company. These securities are again classified as trading or available-for-sale securities based on the intent of the management. Accounting treatment of these securities is based on the classification.

SIGNIFICANT INFLUENCE (BETWEEN 20% TO 50% HOLDING)

When equity securities are having voting rights or the company has less than 50% of voting stock of investee's company, then they are considered as influential securities. These investments are also called as minority, active investments. These securities provide the investor company the ability to exercise significant influence over an investee's business activities. Equity method of accounting is followed for accounting of these securities.

CONTROLLING INTEREST (ABOVE 50% HOLDING)

When equity securities are having voting rights or the company has more than 50% of voting stock of investee's company, then they are considered as controlling interest securities. These investments are also called as majority, active investments. Then the investor company has to prepare consolidated financial statements. Consolidation methods and procedures are explained in the next chapter.

Investment in which Significant Influence does not Exist

Investment which do not have significant influence over the operating or financial decisions of the investee consists of all debt securities and generally small i.e. less than 20% investment in equity securities. US GAAP classifies these investments into held-to-maturity, trading securities and available for sale securities. The classification of these securities ~~is~~ purely depends upon the management intent of the investment and the classification is reviewed at each reporting date.

HELD-TO-MATURITY SECURITIES

If a company has the positive intent and ability to hold the securities to maturity, investments in ~~debt~~ securities are classified as held-to-maturity. These may be short-term or long-term securities. These securities are to be carried at an amortized cost using the effective interest method. Thus, the unrealized gains and losses would not be reported. In the case of the realized gains and losses, these would be inclusive of the earnings as are the interest income and the premium, and the discount that is amortized. These securities are to be classified on the Balance Sheet as the current or the non-current on an individual basis and on the statement of cash flows as an investing activity. In exceptional circumstances, the investor company's intent to hold the security to maturity may be changed without casting doubt on the intention of holding of the other debts to maturity. These circumstances are non-recurring and enforceable as the case of continuing deterioration of the issuer's credit. The premature sale of the held-to-maturity securities may be considered as maturities in case either of the following conditions are satisfied:

- a. The sale takes place so close to the maturity date that the interest rate risk is virtually eliminated.
- b. The sale takes place at least after 85% of the principle has been collected.

The investments that are considered as held-to-maturity are to be accounted for by adopting the cost method.

TRADING SECURITIES

These are the investments, either debt or equity, which the entity intends to sell in the near term and which are acquired as a part of an established strategy to sell, thereby generating the profits that are based on the short-term price movement. In other words, it would mean that the trading securities are those securities that are purchased and are held physically for the purpose of generating gains on the resale and therefore are classified as trading securities. These securities are to be accounted for in accordance with the costs that are adjusted for using the fair value method, i.e. they would be carried at their market value. Therefore, any unrealized gains or losses are actually the difference between the fair value of the investments and the amortized cost of the same, which means that an adjustment is required that equals the fair value during the period plus a premium on the amortization in case of decrease in the book value and minus a discount amortization in case there is an increase in the book value. Both the interest revenue and the unrealized holding gains or losses are required to be included as part of the current earnings.

The trading securities are generally held by the brokers, bankers and other financial instruments, which are engaged in the activity of buying and selling the securities. However, to the extent that the realized gains and the losses are previously reported as unrealized, only the changes that take place in the current period are to be reported as realized in the period of sale. The other components of the earnings would be including the revenue from the interest and dividends.

AVAILABLE-FOR-SALE SECURITIES

These are the investments that are not classifiable as held-to-maturity or as trading. These securities would be including the debt and equity securities that are not categorized either as held-for-maturity or trading securities. For example, a manufacturing company may purchase some securities to make effective use of the cash at hand. Included in the earnings are the realized gains and loss, which would include the previously unrealized gains and losses and the dividend income and the interest income. The classification of these securities as current or non-current is depends upon the management's intent regarding their sale. The available-for-sale securities are to be accounted for as per the cost that is adjusted for the fair value or the mark-to-market method. The unrealized gains and losses on the available-for-sale debt and the equity securities are to be calculated in the same manner as those of the trading securities. These gains and losses are however, not to be recognized in the preparation of the income statement for the period. Instead, the changes in the fair value during the period are to be reported as other comprehensive income and the accumulated unrealized gains or losses on the marketable securities are to be presented as an accumulated other comprehensive income as part of the shareholder's equity.

Investment in which Significant Influence does Exist

If the investor company has the ability to exercise significant influence over the operating and financial policies of the investee company i.e. the investor company have more than 20% stock, then these may be termed as intercompany investments. The accounting for these investments is based on the percentage of the stock held by the investor company.

ACCOUNTING FOR SECURITIES

Accounting for securities is very important for financial reporting. The accounting method depends on the nature of the investments and degree of investor influence or control over the investee company. Cost method and market method are used for accounting of non-influential securities. Equity method of accounting and consolidation method of accounting are used for accounting for intercorporate investments i.e. for investments that have significant influence.

Accounting for Non-Influential (No Influence) Investments

COST METHOD

Under this method the investments are reported at their amortized cost ~~i.e.~~, i.e. the cost that is adjusted for the amortization of the premium or discount. The investor recognizes only the dividends that are received from the investee as income. Only realized gain or loss on sale of investments is recorded as income. This method is used for accounting of held-to-maturity securities.

Illustration 1

On 1st June 2006, Akash Company bought Rs.4,00,000 face value 9% gilt securities for Rs.3,97,000 which includes an accrued interest of Rs.9,000. The maturity date for these securities is 1st September 2007 and they are paying a semi-annual interest on 1st April and 1st October of every year. If Akash uses straight-line method of amortization and intends to hold these securities till maturity then in its 31st December 2006 balance sheet what would be the carrying amount of this investment?

Solution

Held-to-maturity securities are to be carried at amortized cost. Thus on 1st June 2006, the investment is recorded at its cost of Rs.3,88,000 i.e. (Rs.3,97,000 less accrued interest of Rs.9,000). The carrying amount will be recorded as cost plus amortized discount. On 31st December 2006 this amount is Rs.(3,88,000 + Rs.12,000 x 7/15) = Rs.3,93,600.

MARKET METHOD

Under this method, the securities are carried at their current market value (fair market value) i.e. the carrying amount is to be adjusted at the date of the statement for the subsequent changes in the fair value of the investments. The unrealized gain or loss on changes in securities is included in the net income along with the dividends, interest and realized gain or loss. This method of accounting is used for trading securities and available for sale securities.

Illustration 2

On 1st April 2006, Saurab Company started its business. The following information is related with the investment made by the Saurab Company till 31st March 2007 in marketable securities –

	Trading Securities (Rs.)
Aggregate Cost	7,20,000
Aggregate Market Value	6,40,000
Aggregate lower of cost or market value applied to each security in the portfolio	6,08,000

If the market declines are judged to be temporary, what amounts should Saurab report as a loss on these securities in its March 31, 2007 income statement?

Solution

The unrealized holding gains and losses for trading securities are to be reported in earnings and unrealized gains or losses on available-for-sale securities should be excluded from earnings and reported as other comprehensive income. Thus unrealized loss of (Rs.7,20,000 – Rs.6,40,000) = Rs.80,000 on trading securities is included in income.

Illustration 3

During 2006-07, Sni Company bought some marketable equity securities as a short-term investment. On 31st March 2007, the cost and marketable value of these securities were as follows:

	Security Rs.	Cost Rs.	Market Value
X	200 shares	56,000	68,000
Y	2,000 shares	3,40,000	3,06,000
Z	4,000 shares	6,30,000	5,90,000
		10,26,000	9,64,000

These securities are classified as available-for-sale. On 30th April 2007, the company sold 2000 shares of Y Company at Rs.150 each and paid Rs.30,000 as brokerage. How much loss, Sni should report on that sale?

Solution

All the securities classified as available for sale is to be recorded at the fair value of the Sni's book. On 31st March 2007, the fair value of the Y was Rs.3,06,000 and an unrealized loss of Rs.34,000 resulted in other comprehensive income in that amount. At the time of sale the following entry is to be passed:

	Rs.	Rs.
Dr. Cash (net)	2,70,000	
Dr. Loss on sale of stock	70,000	
Cr. Investment in Security Y		3,06,000
Unrealized loss on Security Y		34,000

The unrealized loss of Rs.34,000 which is close to other comprehensive income, net retained earnings and thus avoiding double counting will offset against the unrealized gain/loss recognized in 2007-08.

LOWER OF COST OR MARKET METHOD (LOCOM)

Under this method, securities are valued at lower of cost or market values. This method is based on the conservatism concept. Unrealized losses and recoveries are recognized and reported at the end of the accounting period. This method is no longer used in the US. However, as per US GAAP, this method is used to marketable equity securities. The accounting treatment of unrealized gains and losses on the investments in marketable securities depends upon whether the securities were classified as current or non-current assets.

Illustration 4

Following information pertains with the Vamsi Ltd.'s available for sale securities–

Date	Cost Rs.	Market value Rs.
31st March, 2006	3,00,000	2,60,000
31st March, 2007	3,00,000	3,20,000

If the differences between cost and the market values are considered temporary then what amount will be included in Vamsi's 2006-07 income statement as other comprehensive income?

Solution

Unrealized holding gains and losses on available-for-sale securities are reported as other comprehensive income. On 31st March 2006, the company should report its available for sale securities at its fair value of Rs.2,60,000 with a corresponding unrealized loss of Rs.40,000. On 31st March 2007, an unrealized gain of Rs.60,000 arise because of the difference between its current fair value of Rs.3,20,000 and fair value for the previous year of Rs.2,60,000 and this will result in other comprehensive income of Rs.60,000 as a accumulated other comprehensive income.

From the above, we can summarize the three categories of the marketable securities and the accounting treatment that is applicable for each of them in the form of a table as under:

Accounting and Reporting of Marketable Debt and Equity Securities

Category	Definition	How the security is reported on the Balance Sheet	How unrealized holding gains and losses are reported on the income statement*	How realized gains and losses are reported on the income statement
Trading securities	Debt and equity securities bought and held principally for the purpose of selling them in the near term	Reported at fair market value, and grouped with current assets on the Balance Sheet	Unrealized gains and losses are included in earnings in the period of occurrence	Realized gains and losses not already recognized as unrealized components are recognized
Available-for-sale	Debt and equity securities not classified as trading or held-to-maturity	Reported at fair market value and may be classified as current or non-current	Unrealized gains and losses for a period are excluded from earnings and reported as other comprehensive income (If decline is other-than temporary" then recognized in earnings)	Realized gains and losses are recognized which include unrealized holding gains and losses recognized previously as unrealized)
Held-to-Maturity	Debt securities that the organization has the positive intent and ability to hold to the maturity date	Reported at amortized cost and may be classified as current or non-current	Unrealized gains and losses are excluded from earnings (unless decline is "other-than-a temporary")	Realized gains and losses are recognized in accordance with amortized cost method

*Or on the statement where items of other comprehensive income are reported.

Accounting for Influential Investments (Significant Influence)

COST ADJUSTED ~~FARI~~ FAIR VALUE METHOD

Under this method, first the investment is recorded in the investment account at cost and income is recognized as dividends distributed from income of the investee earned since the date the investor acquired the stock. Any dividend distributed by the investee which exceed earnings since the acquisition date are classified as return of capital and recorded as a reduction of the investment account. Under this method, equity securities must be adjusted for subsequent changes in market value, and the unrealized holding gain or loss on equity securities for the period equals the current fair value minus the previous period's fair value on the books. No inter company transactions or amortizations are recognized either in both the investment or investment income account.

EQUITY METHOD OF ACCOUNTING

When effective control is absent because the investor owns less than 51% of the voting shares, the investor still may be able to exercise significant influence over the operating and financial policies of the investee. When significant influence exists, the investment should be accounted for by the equity method.

The Equity method of accounting is used when,

- i. An investor owns between 20% and 50% of the investee's voting common stock.
- ii. The investor owns less than 20% of the investee's voting common stock but has effective control (significant influence). Significant influence may be indicated by a number of factors, including substantial inter-company transactions, exchanges of executives between investor and investee, investor's significant input in the investee's decision-making process, investor's representation on the investee's board of directors, investee's dependence on investor (e.g., operational, technological, or financial support), and substantial ownership of the investee by investor relative to other widely disbursed shareholder interests.
- iii. The investor owns in excess of 50% of the investee's voting common stock, but a negating factor exists, preventing consolidation. According to FASB Statement Number 94 (Consolidation of All Majority Owned Subsidiaries), negating factors prohibiting consolidation might be temporary control, non-control, and foreign exchange restrictions.
- iv. There is a joint venture. A joint venture is an entity that is owned, operated, and jointly managed by a common group of investors.

Equity method of accounting reports the parent's investment in the subsidiary and the parent's share of the subsidiary's profits as line items in the parent's financial statements. It is also known as one line consolidation. Under this method, instead of incorporating the share of each component like sales, cost of sales, operating expenses, etc. in the financial statements, the investor need only include his share of the investee's net income as a separate item in its income. However, there are exceptions to this rule. The investor's share in the investee's extraordinary items and the prior period adjustments would retain their identities in their investments and the retained earnings statement, and are required to be reported separately in case they bear a material relation to the investor's income.

The equity method cannot be considered as a substitute for the consolidation method, and is required to be employed when there is a significant influence of the investor on the operations of the investee but does not have the requisite control. Generally, a holding of 20% to 50% of the investee's common stock is considered as significant influence over the operations of the investee. Any holding over 50% would be considered as actual control and this would require the full consolidation of the financial statements. The 20% holding cannot be considered as absolute. Based on the circumstances, it may also be that a holding of less than 20% may also be considered as a significant influence, and in the same manner there may

arise situations, wherein a holding of over 20% may not be considered as a significant influence.

For considering whether there is a significant influence, the US GAAP said that it needs to satisfy the following conditions:

- i. There is opposition by the investee.
- ii. The agreements under which the investor surrenders the shareholder's rights.
- iii. Majority holding by a small group of holders.
- iv. The inability to obtain the desired information from the investee.
- v. The inability to obtain the representation from the investee's board of directors regarding the investments.

Whether there is sufficient contrary evidence existing which negates the presence of significant influence, is a matter of judgment and such judgment requires a careful evaluation of all the pertinent facts and circumstances over an extended period of time with respect to certain cases.

Complexities may arise in the adoption of the equity method in two circumstances. Firstly, in cases where the cost of the investment to the investor is not equal to the fair value of the investor's share of the investee's net assets and is similar to the existence of goodwill in the case of a purchase business combinations. In cases where the fair value of the investor's share of the investee's net assets are not equal to the book value thereof and is similar to the problem of purchase costs as in the case of consolidations. As the ultimate income statement results from the use of the equity method, accounting is generally the same as in the case of the full consolidation, and an adjustment is required to be made for each of the differentials.

Secondly, the complexities that relate to the inter period tax allocations. The equity method would cause the investor to reflect the current earnings based on the investee's operating results, however, for the income tax purposes, the investor need to report only on the dividends that are received and the gains or losses that would be available on the disposal of the investment.

In the absence of these complications, the use of the equity method would be straightforward and ideal. The original cost of the investment is to be increased by the investor's share of the investee's earnings and is decreased by its share of the investee's losses and by the dividends that are received. Under the equity method, the investor recognizes investment income equal to its percentage share (based on share ownership) of the net income earned by the investee rather than the portion of that net income received as cash dividends. The rationale for this approach is the presumption of the equity method that the fortunes of the investor and investee are sufficiently intertwined that as the investee prospers, the investor prospers proportionately. Stated differently, as the investee earns additional net assets, the investor's share of those net assets increases. Initially, the investment is recorded at cost. The carrying amount of this investment subsequently is:

- Increased by the investor's percentage share of the investee's net income (or decreased by its share of a loss).
- Decreased by dividends declared.

THE EQUITY METHOD

Illustration 5

Consider the following data:

Percentage of shares of Chiki Ltd owned by Elaichi Ltd.: 40%

Date of Acquisition: 1/1/2006

Purchase Price: Rs.400,000

Chiki's Stockholders' Equity on Acquisition Date: Rs.9,00,000

Income for Chiki during Year 2006: Rs.1,20,000

Dividends Paid by Chiki during Year 2006: Rs.80,000

Purchase Price over Book Value Is Amortized over (years): 10

Solution

The purchase price paid by Elaichi is in excess of the book value of the stockholders' equity of Chiki

This excess must be amortized.

	Rs.
Purchase Price:	4,00,000
Elaichi's Share in Chiki's stockholders' equity: [40% multiplied by Rs.900,000]	3,60,000
Amount to be amortized:	40,000

The entries to be made on acquisition of shares of Chiki Ltd. (i.e. on 1/1/2006)

Dr. Investment in Chiki Ltd. Rs.4,00,000

Cr. Cash Rs.4,00,000

The entry is made to record initial investment using equity method

The cost of the investment includes brokerage charges.

End of the year ie. On 31/12/2006 entry for accrual of income

Dr. Investment in Chiki Rs.44,000

Cr. Income from Chiki Rs.44,000

This figure of Rs.44,000 is derived as follows:

	Rs.
Share of Elachi Ltd. in the Chiki Ltd., net income (40% x Rs.1,20,000)	48,000
Less amortization of Rs.40,000 for 10 years	4,000
	44,000

Entry for receipt of dividends from Chiki Ltd.

Dr. Cash Account Rs.32,000

Cr. Investment in Chiki Ltd. Rs.32,000

Elachi's share in the dividends paid by Chiki Ltd. (40% of Rs.80,000). The investor's share of the investee's dividends reduces the carrying value of the investment in investee account.

Much like consolidation, the equity method views the investor and investee collectively as a special type of single entity (as if the two companies were one company). However, using the equity method, the investor doesn't include separate financial statement items of the investee on an item- by- item basis as in consolidation. Instead, the investor reports its equity interest in the investee as a single investment account. The investment account is reported at its original cost, increased by the investor's share of the investee's net income (adjusted for additional expenses like depreciation and amortization), and decreased by the portion of those earnings actually received as dividends. In other words, the investment account represents the investor's share of the investee's net assets initially acquired, adjusted for the investor's share of the subsequent increase in the investee's net assets (net assets earned and not yet distributed as dividends).

Illustration 6

On 2nd April 2005, Medha Company acquired 30% of Komal's voting stock for Rs.4,00,000. This acquisition gave Medha a significant influence over Komal Company's operating and financial policies. During 2005-06 financial year Komal reported an income of Rs.1,60,000 and paid dividend of Rs. 1,00,000. In the next financial year of 2006-07, Komal Company is reported an income of Rs.2,00,000 for 6 months ending 30th September 2006. On 1st October 2006, Medha sold half of its investment in Komal for Rs.3,00,000 cash. In January 2007, Komal paid a dividend of Rs.1,20,000. What amount should Medha include in its 2005-06 income statement as a result of the investment before adjusting for income taxes?

Solution

Medha should employ equity method to record this investment as Medha owns 30% interest and has significant influence over Komal Company. Medha's share on Komal's income i.e., 30% of Rs.1,60,000 = Rs.48,000 is to be recorded as investment revenue under the equity method. Sufficient data is not provided to determine the excess amount otherwise any excess of cost over the book value of the resulting from the purchase of investment would be amortized as investment revenue reducing the investment revenue. The dividend received by Medha i.e., 30% x Rs.1,00,000 = Rs.30,000 do not affect the investment revenue under equity method rather it will be recorded as a reduction from investment account.

Illustration 7

What should be the carrying amount of this investment in Medha's 31st March 2006 balance sheet?

Solution

Under the equity method, the investment account is increased for the Medha's portion in Komal's profit i.e., 30% of Rs.1,60,000 = Rs.48,000 and is decreased by the dividend received from Komal i.e., 30% x Rs.1,00,000 = Rs.30,000 and amortization of excess cost over book value if any. This results in a 31/3/06 carrying amount for the investment of Rs.4,18,000, as indicated in the T-account below:

Investment in Komal			
2/4/06	4,00,000		
Equity in earnings	Rs.48,000	Dividends	Rs.30,000
		31/3/06	4,18,000

Illustration 8

What amount should Medha report as gain from the sale of half of its investment in its 2006-07 income statement?

Solution

Under the equity method, the investment account is increased for the Medha's portion in Komal's profit i.e., 30% of Rs.1,60,000 = Rs.48,000 for 2006 and 30% of Rs.2,00,000 = Rs.60,000 for first 6 months of 2006-07 and is decreased by the dividend received from Komal i.e., 30% x Rs.1,00,000 = Rs.30,000 in 2005-06 and amortization of excess cost over book value if any. All these results a carrying amount of Rs.4,78,000 as on 1/10/07. This can be presented as follow:

Investment in Komal			
(Amount in Rs.)			
2/4/06	4,00,000		

Equity in earnings	48,000	Dividends	30,000
Equity in earnings	60,000		
		31/3/06	4,78,000

The gain on sale is the excess of the proceeds Rs.3,00,000 over the carrying amount of the shares sold ($1/2 \times \text{Rs.}4,78,000 = \text{Rs.}2,39,000$) or Rs.61,000 (Rs.3,00,000 – Rs.2,39,000).

Illustration 9

Consider the following balance sheets as on December 31st 2006

(Amount in Rs.)

	Company H	Company S
<u>Current Assets</u>	<u>24,00,000</u>	<u>8,00,000</u>
<u>Other Assets</u>	<u>16,00,000</u>	<u>4,00,000</u>
	<u>40,00,000</u>	<u>12,00,000</u>
<u>Current Liabilities</u>	<u>20,00,000</u>	<u>7,00,000</u>
<u>Common stock</u>	<u>14,00,000</u>	<u>3,00,000</u>
<u>Retained Earnings</u>	<u>6,00,000</u>	<u>2,00,000</u>
<u>Total</u>	<u>40,00,000</u>	<u>12,00,000</u>

On December 31st 2006 Company H acquires 40% of the common stock of Company S by paying Rs.4,00,000 in cash to the shareholders of company S company. Prepare balance sheet of H using Equity method of accounting.

Solution

Balance Sheet of H (Equity Method)

(Amount in Rs.)

	Company H
<u>Current Assets</u>	<u>20,00,000</u>
<u>Investment in S</u>	<u>4,00,000</u>
<u>Other Assets</u>	<u>16,00,000</u>
	<u>40,00,000</u>
<u>Current Liabilities</u>	<u>20,00,000</u>
<u>Common stock</u>	<u>14,00,000</u>
<u>Retained Earnings</u>	<u>6,00,000</u>
<u>Total</u>	<u>40,00,000</u>

Note:

Current assets = Rs.24,00,000 – Rs.4,00,000

(paid for investment) = Rs.20,00,000

Note:

Current assets = Rs. 24,00,000 — Rs. 4,00,000 (paid for investment)
= Rs. 20,00,000

~~Note:~~ Current assets = Rs. 24,00,000 + Rs. 8,00,000 — Rs. 4,00,000 (paid for investment) = Rs. 28,00,000

Minority interest = 20% of (Rs. 3,00,000 + 2,00,000) = Rs. 1,00,000

EQUITY METHOD VS. CONSOLIDATION METHOD

In Balance Sheet & Income Statement

Under equity method, the parent company reports its share of net income and net assets as equity in the earnings of the subsidiary and investment in the subsidiary

~~respectively. But under consolidation method, all the assets, liabilities, revenues, expenses and cash flows of the subsidiary are incorporated in the accounts of the parent company and if there is outside holding, they will exhibit as minority interest or holding.~~

~~Only assets and liabilities are changed by consolidation, the equity of the firm remains equal to the equity of the parent company. Similarly in case of income also, only the expenses and incomes are incorporated in the income statement of the parent company, the net income is unchanged.~~

In Ledger Accounts

~~Under equity method, the investment account and net income are only affected by the investment in subsidiary. But in consolidation method, all the accounts and notes to accounts are also affected.~~

In Cash Flows

~~Under equity method, only capital flows between parent company and Investee Company are reported. But in consolidation method, all the cash flows except those flows between parent and subsidiary are included in consolidated statements.~~

In Segment Reporting

~~Consolidation method combines the different operating and financial segments, where as in equity method the significant operating and financial segments are reported as off balance sheet items.~~

PROPORTIONATE CONSOLIDATION METHOD

Proportionate consolidation method is used in case of joint ventures. Generally joint ventures may take place in business for many reasons. Joint ventures provide economies of scale and helps companies to share technological, operating and financial risk.

Some joint ventures are mainly contractual agreement and no new entity is created. Each co-venture maintains their own assets, liabilities, expenses and incomes separately. It is not difficult to maintain accounting system and to analyse procedures for this type of joint ventures.

However, in most of the cases, joint venture is created as a separate entity with the help of two or more entities. In this type of joint ventures, the joint venture has separate entity and prepares its own financial statements and shows the investors accounts by using equity method of accounting. It means that the gross assets, liabilities, revenues and expenses are excluded from the financial statements of ventures. In addition to that, the ventures will also exclude the data relating to the joint ventures in the areas as leases, contingent liabilities etc in the foot notes. The venture's has the chance of excluding significant debt in the financial statement because the equity method includes only the net assets of the investee in the investor's balance sheet. In these circumstances, the following alternatives are available for better presentation of the financial statements. They are:

- a. Proportionate Consolidation method or Pro-rata consolidation.
- b. The expanded equity method.

Under proportionate consolidation method the parent company's share of each asset and liability of the joint venture is included. Only stockholders, equity will be the same under proportionate consolidation method and equity method. The parent company will include the items of expenses and incomes in its income statement. Under Expanded equity method, the proportionate shares of assets, liabilities, expenses and incomes are separated from those of the consolidate group.

As per IAS 31, the proportionate consolidation better reflects the substance and economic reality of a venture's interest in a jointly controlled entity ~~that is i.e.~~ control over the venture's share of the future economic benefits. However, IAS 31,

allows the companies to use either method. In the US, the above methods are not widely used in practice because there are no clear provisions for use proportionate consolidation method under US GAAP.

Illustration 10

Consider the following balance sheets as on December 31st 2006

	(Amount in Rs.)	
	Company H	Company S
Current Assets	24,00,000	8,00,000
Other Assets	16,00,000	4,00,000
	40,00,000	12,00,000
Current Liabilities	20,00,000	7,00,000
Common stock	14,00,000	3,00,000
Retained Earnings	6,00,000	2,00,000
Total	40,00,000	12,00,000

On December 31st 2006 Company H acquires 60% of the common stock of Company S by paying Rs. 3,00,000 in cash to the shareholders of company S company for joint venture purpose. Prepare balance sheet of H using proportionate consolidation method.

Solution
Balance Sheet of H (Consolidation Method)

	(Amount in Rs.)	
	Company H	
Current Assets	25,80,000	24,00,000 – 3,00,000 + 60% of 8,00,000
Other Assets	18,40,000	16,00,000 + 60% of 4,00,000
	44,20,000	
Current Liabilities	24,20,000	20,00,000 + 60% of 7,00,000
Common stock	14,00,000	
Retained Earnings	6,00,000	
Total	44,20,000	

CONSOLIDATION METHOD

Consolidation method of accounting reports as one economic entity of the earnings of a parent and subsidiary (subsidiaries) subsequent to the date of acquisition. This method is followed when the parent company owns more than 50% of the voting common stock of the subsidiary. In consolidation, the reporting mechanism is the entire group and not the separate companies. The parent company only reports its investments in each subsidiary equity basis in which the assets and liabilities of subsidiary are netted in investment account. Note that the entities that make up the consolidated group retain their separate legal entity; adjustments and eliminations are only for Consolidated Financial Statements.

As per US GAAP, the companies which have 50% of the voting shares of the subsidiary must be consolidated except in the following cases:

- If Control is temporary, and
- If there is barrier to control exists due to governmental action or bankruptcy or civil disorder or non-convertible currency.

In these circumstances the parent company does not have unrestricted use of the subsidiary's assets or cannot exercise control.

Illustration 11

Consider the following balance sheets as on December 31st 2006

(Amount in Rs.)

	Company H	Company S
Current Assets	24,00,000	8,00,000
Other Assets	16,00,000	4,00,000
	40,00,000	12,00,000
Current Liabilities	20,00,000	7,00,000
Common stock	14,00,000	3,00,000
Retained Earnings	6,00,000	2,00,000
Total	40,00,000	12,00,000

On December 31st 2006 Company H acquires 80% of the common stock of Company S by paying Rs.4,00,000 in cash to the shareholders of company S company. Prepare balance sheet of H using Consolidation method of accounting

Solution

Balance Sheet of H (Consolidation Method)

(Amount in Rs.)

	Company H
Current Assets	28,00,000
Other Assets	20,00,000
	48,00,000
Current Liabilities	27,00,000
Minority Interest	1,00,000
Common stock	14,00,000
Retained Earnings	6,00,000
Total	48,00,000

Note: Current assets = Rs.24,00,000 + Rs.8,00,000 – Rs.4,00,000
(paid for investment) = Rs.28,00,000

Minority interest = 20% of (Rs.3,00,000 + 2,00,000) = Rs.1,00,000

Note: Full Consolidation method will be dealt with in more detailed in our next chapter.

EQUITY METHOD VS. CONSOLIDATION METHOD

In Balance Sheet and Income Statement

Under equity method, the parent company reports its share of net income and net assets as equity in the earnings of the subsidiary and investment in the subsidiary respectively. But under consolidation method, all the assets, liabilities, revenues, expenses and cash flows of the subsidiary are incorporated in the accounts of the

parent company and if there is outside holding, they will exhibit as minority interest or holding.

Only assets and liabilities are changed by consolidation, the equity of the firm remains equal to the equity of the parent company. Similarly in case of income also, only the expenses and incomes are incorporated in the income statement of the parent company, the net income is unchanged.

In Ledger Accounts

Under equity method, the investment account and net income are only affected by the investment in subsidiary. But in consolidation method, all the accounts and notes to accounts are also affected.

In Cash Flows

Under equity method, only capital flows between parent company and Investee Company are reported. But in consolidation method, all the cash flows except those flows between parent and subsidiary are included in consolidated statements.

In Segment Reporting

Consolidation method combines the different operating and financial segments, where as in equity method the significant operating and financial segments are reported as off-balance sheet items.

EQUITY METHOD VS.-_CONSOLIDATION METHOD

Under ~~proportionate~~ consolidation method, the parent company includes its ~~share~~ share of each asset and liability account of the affiliate in the relevant account of the parent company. For example, if the XYZ company has ~~40~~80% ownership of a joint venture, XYZ includes ~~40~~80% of cash, inventories, receivable and debt in its balance sheet. Only stockholder's equity is remained unchanged. Similarly, XYZ company includes ~~40~~80% of each element of expense and revenue of joint venture in its income statement. But under equity method, the parent company reports its share of net income and net assets as equity in the earnings of the subsidiary and investment in the subsidiary respectively. However, the return on equity is same in both methods as the equity and income are unchanged in both the methods.

Effect on Ratios

Both consolidation and the equity method result in the same net income and same equity except in the some elements. Under consolidation method all the assets liabilities, revenues, expenses and cash flows of the subsidiary being added to the parent. Minority interest is subtracted out. The activities of the subsidiary i.e. all the investing, financing and operating activities, affect ~~the~~ every element in the consolidated financial statements. The cash flows between the parent and subsidiary are eliminated from the cash flows of the parent company. Under equity method, the parent company reports only its share of net income and assets. Thus, only investment account and net income are affected by the parent company results. Moreover, under this method, the capital flows between the parent and subsidiary are included in the cash flows of the parent.

Following example provides an understanding on the differences between equity method and consolidation method and their effect on ratios.

Illustration 12

Company A acquires 40% of company B share at Rs. 2,40,000. A comparison of equity and proportionate consolidation is as follows:

(Amount in Rs.)

	Pre-acquisition Balance sheet of Company A		Post-acquisition Balance sheet of Company A	
	Company A	Company B	Equity method	Proportionate Consolidation method
Current assets	10,000	2,000	10,000	10,800
Investments			2,400	
Other assets	20,000	8,000	20,000	23,200
Total assets	30,000	10,000	32,400	34,000
Equity shares	14,000	4,000	14,000	14,000
Reserves and surplus	6,000	2,000	6,000	6,000
Liabilities	10,000	4,000	10,000	11,600
Minority Interest				1,200
Total liabilities	30,000	10,000	32,400	34,000
Sales	40,000	7,000	40,000	42,800
Investments Expenses	(32,000)	(3,600)	(32,000)	(33,440)
Equity income			1,360	
Minority				(680)
Profit	8,000	3,400	9,360	9,360

Interpretation

From the above it can be seen that the net income reported under both the method is same. Under equity method the company A will report 40% of the income of the company B its sales and expenses will be unaffected. Under proportionate consolidation method to the sales and expenses of company A, 40% of company B sales and expenses is added to yield the same income.

Observe the following ratios based on the above financial statements.

	Equity method	Proportionate Consolidation method	Ratio effect
Net profit margin ROA (profit/sales) Return on Equity	$\frac{9,360}{40,000} = 0.234$ 53.6%	$\frac{9,360}{42,800} = 0.218$ 53.6%	Equity method is higher Ratio is the same
ROA (profit/total assets)	$\frac{9,360}{32,400} = 0.288$ 36%	$\frac{9,360}{34,000} = 0.275$ 30%	Equity method is higher
ROE	$\frac{9,360}{22,400} = 0.418$ 41.8%	$\frac{9,360}{22,400} = 0.418$ 41.8%	Same

(profit/total equity) Net Profit Margin	$0,000 = 0.418 \times 26.8\%$	$7,000 = 0.418 \times 22.8\%$	under Equity Method
Leverage ratio (total assets/total equity)	$\frac{32,400}{22,400} = 1.446$	$\frac{15,200}{20,000} = 0.76$	Proportionate Consolidation method is higher

- The equity method reports a higher net profit margin because for the same profit or net income its sales are less when compared to the **proportionate** consolidation method.
- ROA under equity method is higher because for the same the net income the total assets reported is less when compared to **proportionate** consolidation method.
- ROE is same for both the methods.
- Leverage ratio is higher in **proportionate** consolidation method because higher assets are reported for the same amount of equity when compared to equity method.

TRANSFER BETWEEN CATEGORIES AND THEIR EFFECT ON FINANCIAL STATEMENTS

Investments are reclassified i.e. transferred to another class of securities, if the management wants to change the classification of securities. Normally held-to-maturity securities cannot be reclassified except under exceptional circumstances like merger, acquisitions etc. Also, the transfers from available-for-sale to trading are normally not permitted. However, the transfer of any securities does occur, the securities must be accounted for at its fair value. This fair value reduces the risk of a company could conceal changes in fair value by transferring securities to another class that does not recognize fair value changes in income.

In case the transfer is from a trading portfolio, there is no further income statement effect as the fair market value based gains and losses have already been reported. In case the transfer is to the trading portfolio, the unrealized gains and the losses are to be recognized immediately depending on whether the transfer is from the available-for-sale or the held-to-maturity category, and the unrealized gains or losses arising there from are to be included in the accumulated other comprehensive income on the Balance Sheet after reporting it as an element of other comprehensive income, or would not have been reported at all prior to the transfer.

In case the debt security is being transferred from the held-to-maturity to the available-for-sale portfolio, the unrealized gain or the losses that have not been previously reflected in the investment account are required to be added to the appropriate accumulated other comprehensive income account at the date of the transfer and are required to be reported as other comprehensive income.

In case the security is being transferred from the available-for-sale to the held-for-maturity class, the unrealized holding gains or losses that have been previously accrued would have to be continued to be maintained in the accumulated other comprehensive income account, but now it would be amortized to income over the period till the date of maturity as an adjustment of the yield using the effective interest method.

The following table gives the clear picture of the above discussion:

Securities Transferred To → From ↓	Held-to-maturity	Available-for-sale	Trading
Held-to-maturity	–	Report unrealized Gain or Loss as accumulated	Recognize unrealized Gain or

		other comprehensive income in Statement of Equity	Loss immediately
Available-for-sale	Report unrealized Gain or Loss as accumulated other comprehensive income in Statement of Equity & amortize the gain or loss over remaining life of security	—	Recognize unrealized Gain or Loss immediately
Trading	Do not reverse unrealized Gain or Loss previously recognized in income	Do not reverse unrealized Gain or Loss previously recognized in income	—

Apart from the above, the most important effect of security classification on firm's reported financial performance is the result of management's ability to manipulate reported income and financial position by reclassifying securities from one category to another. For example reclassification of available-for-sale to trading securities results in reporting the unrealized gain in income. Management can also do the individual securities classification, they may classify some securities as trading for recognizing unrealized gain and some may left as available-for-sale for avoiding the unrealized loss on those securities. US GAAP restricts from selling held-to-maturity securities prior to maturity except under abnormal conditions. If the company sells a held-to-maturity security, as per US GAAP, it is required to carry remaining held-to-maturity securities at their market value, which increase the volatility of assets reported on the balance sheet. Therefore, the company's investing and financing decisions will be effected by the anticipated accounting effects on the financial statements.

Accounting and Reclassification of Securities

Illustration 13

Best Corporation Purchases the following Debt Securities as Investments in 2006

Issue	Face value Rs.	Price paid Rs.
Orchid Chemicals 8% bonds due 2004	4,00,000	3,80,000
Chinoy Pharmaceutical 9.90% bonds due on 2016	10,00,000	11,50,000
Anand Mining 6% Due 2001	2,00,000	1,30,000

*Accrued interest is ignored in these amounts; the normal entries for interest accrual and receipt are assumed.

Management has informed us that Best 's objectives differed among the various investments; the Orchid bonds are considered to be suitable as a long-term investment, with the intention that they will be held until maturity.

The Anand bonds are a speculation; the significant discount from par value was seen as very attractive, despite the low coupon rate. Management believes that the bonds were depressed because mining stocks and bonds have been out of favor,

but believes that the economic recovery will lead to a surge in market value, at which point the bonds will be sold for a quick profit.

The Chinoy Pharmaceutical bonds are deemed a good investment, but with a maturity date of 16 years in the future, management is unable to commit to holding these to maturity.

Based on the foregoing, the appropriate accounting for the three investments in bonds would be as follows:

Orchid Chemical 8% due 2010: Account for these as held-to-maturity; maintain at historical cost, with discount (Rs.20,000) to be amortized over term to maturity (assumed to be 4 years, for an amortization of Rs.5,000 per year).

Chinoy Pharmaceutical 9.90% due 2022: These securities are treated as available-for-sale, since they are classified neither the held-for-trading nor held-to-maturity securities.

These should be reported at fair market value at each Balance Sheet date, with any unrealized gain or loss included in the additional/contra equity account, unless an "Other-than-temporary" decline occurs.

Ananda Mining 6% due 2007: As an admitted speculation, these should be accounted for as part of the trading portfolio, and also reported at fair market value on the Balance Sheet. All adjustments to carrying value will be included in earnings each year, whether the fluctuations are temporary or permanent in nature.

Transfers between portfolio categories are to be accounted for at fair market value at the date of the transfer. Consider the following events:

- i. Best management decides in 2007, when the Chinoy Pharmaceutical bonds have a market (fair) value of Rs.12,09,000, that the bonds will be disposed of in the short-term, hopefully when the price hits Rs.12,10,000. The bonds are presently carried on the books at Rs.11,60,000, which was the fair value at the time the year end 2006 financial statements were being prepared. Based on this description, the bonds should be transferred to the trading portfolio at a "cost" of Rs.12,09,000. The entry to record this would be the following:

	Rs.	Rs.
Dr. Investment in debt securities— held-for-trading	12,09,000	
Dr. Unrealized gain on holding of debt securities as investment	10,000	
Cr. Investment in debt securities – (available-for-sale)		11,60,000
Cr. Gain on holding debt securities		59,000

The previously unrealized gain (reflected in the write-up of the investment from original cost, Rs.11,50,000, to the fair market value at year end 2006, Rs.11,60,000) is now realized" for financial reporting purposes, as is the further rise in value from Rs.11,60,000 to Rs.12,09,000 at the time the portfolio transfer takes place.

- ii. Assume that at year end 2006, the investment in the Chinoy Pharmaceutical bonds is still held, and the fair value has declined to Rs.12,04,000. Management's intentions regarding this holding have not changed since the decision to transfer to held-for-sale. The year-end adjustment will be

	Rs.	Rs.
Dr. Loss on holding debt securities	5,000	

Cr. Investment in debt securities – (held-for-trading)	5,000
--	-------

The market decline is reflected in earnings in 2007, since the bonds are in the held-for-trading portfolio.

- iii. Now, assume that in 2008, management determines that a major investment in plant renewal and expansion will likely be necessary by the year 2024, based on a detailed capital budget prepared. With this in mind, Best Corporation determines that the holding of Chinoy Pharmaceutical bonds would be an excellent vehicle to provide for these future cash needs, and accordingly concludes to hold these to maturity.

At the time this decision is made, the fair market value of the bonds is quoted at Rs.12,06,000. The entry to record the transfer from held-for-trading to held-to-maturity is as follows:

	Rs.	Rs.
Dr. Investment in debt securities – (held-for-trading)	2,000	
Cr. Gain on holding debt securities		2,000

The bonds are again transferred at fair market value, which in this case gives rise to a Rs.2,000 recognized gain.

- iv. In 2007, Best management also made a decision about its investment in Orchid Chemical bonds. These bonds, which were originally designated as held-to-maturity, were accounted for at amortized historical cost. Assume that the amortization in 2006 was Rs.4,000 (because the bonds were not held for a full year), so that the book value of the investment at year end 2006 was Rs.3,84,000. In 2007, at a time when the value of these bonds was Rs.3,96,000, management concluded that it was no longer certain that they would be held-to-maturity, and therefore transferred this holding to the available-for-sale portfolio. The entry to record this would be:

	Rs.	Rs.
Dr. Investment in debt securities – (available-for-sale)	3,96,000	
Cr. Unrealized gain on holding debt securities as investment		12,000
Cr. Investment in debt securities – (held-to-maturity)		3,84,000

The transfer is at fair market value, but since the bonds are being transferred into the available-for-sale category (for which unrealized gains and losses are recorded in an additional or contra equity account), the gain at this date, Rs.12,000, is not recognized in earnings, but rather will be reported in other comprehensive income.

- v. In 2008, for the same reason, the management determined to hold the Chinoy Pharmaceuticals bonds to maturity, and also reverses its prior decision regarding the Orchid Chemical bond holding.

It now professes an intention to hold these until their maturity, in 2010. At the date this decision is made, the Orchid bonds are quoted at Rs.3,90,000.

Assume that the fair market value at year-end 1999 was Rs.3,96,000, so no adjustment was needed at that time to the carrying value of the investment. Again the transfer will be recorded at fair market value.

	Rs.	Rs.
Dr. Investment in debt securities – held-to-maturity	3,90,000	

Dr. Unrealized gain on holding debt securities as investment	6,000	
Cr. Investment in debt securities – available-for-sale		3,96,000

The unrealized gain previously recognized in an equity account is partially eliminated, since fair value at the date of this transfer is less than the previously recorded amount. The change in this equity account must be reported as other comprehensive income for the period in which this portfolio reclassification occurs. The remaining balance in the additional/contra equity account (whether a net debit or credit) is accounted for as additional premium or discount, and is amortized over the remaining term to maturity.

GAAP mandates that the effective yield method be used, but for this example, assume that the discount will be amortized over the remaining two years on the straight-line basis (if this difference from the effective yield method is not material, then it is an acceptable practice). Thus, the actual discount as measured by the spread between the new carrying value, Rs.3,90,000, and face value to be received at maturity, Rs.4,00,000, plus the additional discount measured by the unrealized gain being reported currently in the equity section of Rs.6,000, gives a total discount amounting to Rs.16,000 to be amortized over the remaining two years. This Rs.16,000, when added to the Rs.4,000 discount amortized in 2007 (when the bonds were in the original held-to-maturity portfolio), equals Rs.20,000, which is the discount between the face value, Rs.4,00,000 and the price paid by Best Corporation (Rs.3,80,000).

ANALYSIS OF INVESTMENTS

Analysis of Non-Influential Securities

Analysis of investment securities is very important for an analyst. While analyzing the investment securities the analyst should keep the following three objectives in mind.

SEPARATING OPERATING FROM INVESTING ASSETS AND PERFORMANCE

While analyzing the investment activities, the operating performance should be separated from the investment performance of a company. This helps to analyse the operating performance clearly. For this purpose, an analyst should remove all gains relating to investing activities including interest and dividends and realized gains and losses while analyzing the operating performance. In case of assets also, the analyst should divide assets into operating and non-operating assets for determining the operating return on investment.

While classifying the investments into operating and financing also the analyst must study the nature of the company's business and objectives behind different investments. There is no rule of thumb for classification but the following can apply in most of the cases.

- Most of the financial institutions focus on financing and investing activities. Thus, all financing and investing income and assets are treated as operating activities.
- Some non-financial institutions also derive a significant income from the investment securities. For such companies, it is important to separate the performance of the financing activities from company's core business activities.
- Non-influential investments (i.e. below 20% holding) are normally considered as pure investments which are purely made with objective of

realizing dividends and capital gains. Still, the analyst should keep in mind that the purpose such holding because sometimes the companies invest purposefully below 20% for attracting investment into that company or may be business strategy.

Illustration 14

Consider the following data is taken from the annual reports of XYZ company:

Condensed Income Statement of XYZ Ltd

	(Rs. in crore)		
	2005	2006	2007
Sales and operating revenues	398.4	380.8	461
Investment Income	77.6	46.2	17.2
Total Revenues	631.2	427	478.2
Operating Costs	(336.4)	(357)	(430)
Pretax income	139.6	70	48.2
Year-to-year change		-69.6	-21.8
Percentage Change		-50%	-31%

Disaggregation of Operating and Investment Results of XYZ Ltd

	(Rs. in crore)		
	2005	2006	2007
Operating Income	62.0	23.8	31
Year to year change		-38.2	+ 7.2
Percentage Change		-62%	+ 30%
Investment Income	77.6	46.2	17.2
Year to year change		- 31.4	-29
Percentage Change		-40%	-63%

Observe that company's aggregate pretax income declined substantially in 2006 and 2007. However when we separate the operating results from investments activities, we find that the operating income is increased. Thus, the overall decrease is due to investment performance.

Thus segregation of operating income from investment provides the analysis of the firm's operating performance relative to other firms in its industry and can compare the company's investments with the industry's benchmark.

Analyst should be kept in mind that, the data given in financial statement should not be used to analyse investment performance.

EFFECT ON PORTFOLIO CLASSIFICATION

Classification of investment as per US GAAP effect both the firm's reported financial performance and financing and investment decisions. Analyst should analyse both these perspectives.

Effect on Reported Performance

Unrealized market value changes do not affect the income for securities in the held-to maturity and available-for-sale securities. But these changes are components of reported income for trading securities regardless whether they are sold. As per US GAAP, the transfer between the categories should be at current prices. This provision ensures that the firms' cannot avoid reporting unrealized losses by reclassification. But, still it is possible for managers to manipulate reported income through reclassification. For example reclassification of available-for-sale securities into trading securities, results in reporting income even though it is not realized.

Effect on Investment and Financing Decisions

Classification of debt securities into held-to-maturity securities may affect the firm's performance. As per US GAAP, held-to-maturity securities cannot be sold prior to maturity except under abnormal circumstances like significant deterioration in credit rating, change in tax law or regulatory requirements or a major acquisition or disposition. These sales could force the companies to carry the remaining securities at their market value rather than cost. Thus, if a company wants to sell its securities in anticipation of a rise in interest, it should assess the accounting effects before selling.

Box 2: Second Chance!!

In 1995, the year after SFAS 115, accounting for investment came, interest rates fell sharply, increasing prices of fixed income securities. Firms with large held-to-maturity portfolios could not realize these gains without taking the risk of having the rest of their securities classified as available for sale. As part of a special report issued in November 1995, the FASB offered firms an unprecedented second chance. Firms were allowed a six-week (from mid November to December 31, 1995) "window" to reclassify (and sell those reclassified) securities without "Tainting" the rest of the held-to-maturity portfolio. Many firms took advantage of this opportunity, realizing that they had classified too little of their debt portfolio as "available-for-sale", limiting their investment flexibility.

Source: *The Analysis and Use of Financial Statements* by Gerald I. White, C. Sondhi, Dov Fried.

ANALYSIS OF INVESTMENT PERFORMANCE

The analyst should go beyond the annual reports for analyzing the performance of investments. All the securities should be shown at current market value and all gains & losses should be shown to the period earned rather than the period realized. The analyst should track investment performance on a mark-to-market basis, for measuring the actual performance of the investment.

Mark-to-Market Investment Return

Generally the total return on a company's portfolio equals to the sum of dividends and interest income, realized gains and losses and unrealized gains and losses. Every year, dividends and interest income, realized gains and losses are reported. But, to determine mark-to-market investment return requires the unrealized gains and losses.

The Market Value Adjustment (MVA) is the difference between market value and cost at each balance sheet date. Then we can say that,

$$\text{Unrealized Gain and Losses} = \text{Increase/decrease in MVA}$$

Thus, at any time the actual ~~portpolio~~ portfolio performance is equal to the dividends and interest, realized gains and losses and changes in MVA. Thus,

While analyzing the performance of company's marketable securities, the analyst should compare the mark-to-market return with comparable risk ~~polios~~.

$$\begin{aligned} \text{Mark-to-Market Investment Return} = & \text{Dividends} + \text{Interest} + \text{Realized} \\ & \text{Losses and Gains} + \text{Unrealized} \\ & \text{Gains and Losses.} \end{aligned}$$

Illustration 15

The following investment portfolio is taken from the books of ABC Co's for the years 2006 and 2007

ABC & Co's Reported Portfolio

(Rs. in '000)

Financial Statement Analysis

Classification	2005			2006		
	Cost	MV	MVA	Cost	MV	MVA
Held-to-Maturity	1,068	1,173	105	1,131	1,278	147
Available-for-sale	969	903	(66)	894	924	30
Equity Securities	465	516	51	642	711	69

ABC & Co's Reported Investment Income

(Rs. in '000)

	Held-to- Maturity	Available-for- Sale	Equity Securities	Total
Dividend and Interest Income	117	99	36	252
Realized gains and losses	15	(33)	42	24
Reported Income	132	66	78	276

Calculate ABC Co's mark-to-market return in total and for each security classification

Solution**ABC & Co's Mark-to-Market Return**

(Rs. in '000)

	Held-to- Maturity	Available-for-Sale	Equity Securities	Total
Reported Income	132	66	78	276
Changes in MVA	42	96	18	156
Mark-to-Market Return	174	162	96	432

The total reported income of ABC & Co is Rs. 2,76,000 and the mark-to-market return is Rs. 4,32,000. The difference is due to unrealized gains in each category of investment in 2007. If these portfolios had experienced losses, the mark-to-market value would have been less than the reported income.

Analysis of Influential (Significant) Investments

While analyzing the intercorporate investments the analyst should take into account the following considerations:

RECOGNITION OF EARNINGS OF INVESTEE COMPANY

Consolidation method and equity method assumes that a rupee earned by a subsidiary is equivalent to a rupee earned for the parent, even though it is not received in cash. While disregarding the parent's tax liability from remittance of earnings by a subsidiary, the rupee-for-rupee equivalence of earnings cannot be taken for granted because of the following reasons:

- A regulatory authority can sometimes intervene in a subsidiary' dividend policy.
- Presence of powerful minority interest can reduce a parent's discretion in setting dividend or other policies.

Thus, analyst must keep in mind these factors in assessing whether a rupee earned by a subsidiary is equivalent of a rupee earned by the parent.

OFF-BALANCE SHEET ITEMS

The investment account is often called as a one-line consolidation. This is because it represents the percentage of investor company's share in the investee company equity. Behind this investment balance are the underlying assets and liabilities of the investee company. There may be a significant amount of unrecorded assets and liabilities of the investee company which are not reflected in the financial statements of the investor company (i.e., off-balance-sheet items). Analyst faces the problem of treatment of this significant off-balance-sheet items. He should decide whether financial ratio analysis be conducted only on the basis of reported financial statements or should be conducted based on the consolidated financial statements or should only take proportionate interest in the assets and liabilities of the investee company for the purpose of analysis. It is very important for the analyst should decide before beginning of the analysis process.

PROVISION FOR TAXES ON UNDISTRIBUTED SUBSIDIARY EARNINGS

If the undistributed earnings of the investee company are included in the pretax account income of a parent company, it is required a current provision for taxes. This provision depends upon the intention of the parent company. Generally the parent company provides a provision for taxes on the undistributed earnings transfer from the investee company. However, this may overcome, if significant evidence exists that the investee either has or will invest undistributed earnings permanently or will remit earning through a tax-free liquidation. Thus, the analyst should be aware that the decision of the management of the parent company.

ANALYSIS OF MINORITY INTEREST

If a company has significant but non-controlling ownership of less than 50% of a company's ownership, then it is called as minority interest. In other words the share of amount in income and assets of which does not belong to the parent company is termed as minority interest.

The balance of minority interest account is shown in the balance sheet of the parent company and the minority interest in net income is necessarily related. If the subsidiary company pays no cash dividend, then the change in a balance sheet equal to the minority interest of net income. If it pays, then the change in balance sheet equals to the minority interest in net income less cash dividends.

Illustration 16

The Aryan Ltd set up a 51% owned subsidiary, Aryan Conic Ltd. The following data is extracted from the books of Aryan Ltd's consolidated financial statements.

Aryan Ltd: Analysis of Minority Interest

	Rs.
Income Statement: Minority Interest	2,16,000
Balance Sheet – Liabilities: Minority Interest	10,22,000
Adjustment to operating cash flow	2,16,000
Financing Cash Flow	8,06,000

Derive Transactions relating to minorities from the above data.

Solution

- The minorities invested Rs. 8,06,000 in the subsidiary.
- The subsidiary earned a profit of Rs. 4,40,816 (i.e. 2,16,000/49%) during the year of which 49% is for minorities.
- The subsidiary paid no dividends. Thus, the minority interest at the end of the year was

	Rs.
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Original Investment	8,06,000
Minority share in net income	2,16,000
	10,22,000

Observe the above example the equity method of accounting is adopted for determining the minority interest. In some instances, minority interest is considered as equity for the purpose of analysis. The minority interest is also a residual claim on the assets of consolidated entity. Therefore, sometimes it is reported as a part of equity in the consolidated financial statements. From the point view of both creditors and stockholders of the parent company, minority interest has the features of a preferred shareholder. The creditors and stockholders of the parent company have no benefit from the assets of the subsidiary without respecting the claims of its creditors and minority holders. Thus minorities have special position and cannot be included in equity or liabilities.

DISCLOSURE REQUIREMENTS

The accounting, classification and disclosure requirements are different from one country to another country. The following disclosures are required under US GAAP (FAS 115) regarding investments:

Reporting Changes in Fair Value

Unrealized holding gains and losses for trading securities shall be included in earnings. Unrealized holding gains and losses for available-for-sale securities (including those classified as current assets) shall be excluded from earnings and reported as a net amount in a separate component of shareholders' equity until realized. Accounting for Income Taxes, provides guidance on reporting the tax effects of unrealized holding gains and losses reported in a separate component of shareholders' equity.

Dividend and interest income, including amortization of the premium and discount arising at acquisition, for all three categories of investments in securities shall continue to be included in earnings. Realized gains and losses for securities classified as either available-for-sale or held-to-maturity also shall continue to be reported in earnings.

DISCLOSURES

The following information should be disclosed about investments in equity and debt securities:

- Valuation basis used.
- Total portfolio market value.
- Method used to determine cost (e.g., FIFO, average cost, specific identification) in computing the realized gain or loss on sale of securities.
- Unrealized (holding) gains and losses for trading and available-for-sale securities.
- Reasons for selling or transferring securities.
- Gains and losses from transferring available-for-sale securities to trading included in the income statement.
- Market value and cost by major equity security.
- Fair value and amortized cost basis by major debt security type.
- Proceeds from selling available-for-sale securities, with associated realized gains and losses.

- Subsequent event disclosure in the form of significant changes in market value taking place after year-end but before the issuance of the financial statements.
- Name of companies owned when ownership is significant.
- Disclosure for debt securities classified as available for sale or held to maturity should include contractual maturity dates.

Financial institutions should disclose their holdings in equity securities, corporate debt securities, mortgage-backed securities, U.S. government securities, foreign government securities, and other debt securities. Financial institutions should disclose fair value and amortized cost of debt securities in maturity groupings, including within one year, in 1 to 5 years, after 5 to 10 years, and after 10 years.

~~For securities classified as available for sale and separately for securities classified as held to maturity, all reporting enterprises shall disclose the aggregate fair value, gross unrealized holding gains, gross unrealized holding losses, and amortized cost basis by major security type as of each date for which a statement of financial position is presented. In complying with this requirement, financial institutions shall include in their disclosure the following major security types, though additional types also may be included as appropriate:~~

- ~~a. Equity securities.~~
- ~~b. Debt securities issued by the US Treasury and other US government corporations and agencies.~~
- ~~c. Debt securities issued by states of the United States and political subdivisions of the states.~~
- ~~d. Debt securities issued by foreign governments.~~
- ~~d. Corporate debt securities.~~
- ~~e. Mortgage-backed securities.~~
- ~~f. Other debt securities.~~

~~For investments in debt securities classified as available for sale and separately for securities classified as held to maturity, all reporting enterprises shall disclose information about the contractual maturities of those securities as of the date of the most recent statement of financial position presented. Maturity information may be combined in appropriate groupings.~~

~~In complying with this requirement, financial institutions shall disclose the fair value and the amortized cost of debt securities based on at least 4 maturity groupings: (a) within 1 year, (b) after 1 year through 5 years, (c) after 5 years through 10 years, and (d) after 10 years. Securities not due at a single maturity date, such as mortgage-backed securities, may be disclosed separately rather than allocated over several maturity groupings; if allocated, the basis for allocation also shall be disclosed.~~

~~For each period for which the results of operations are presented, an enterprise shall disclose:~~

- ~~a. The proceeds from sales of available for sale securities and the gross realized gains and gross realized losses on those sales.~~
- ~~b. The basis on which cost was determined in computing realized gain or loss (that is, specific identification, average cost, or other method used).~~
- ~~c. The gross gains and gross losses included in earnings from transfers of securities from the available for sale category into the trading category.~~
- ~~d. The change in net unrealized holding gain or loss on available for sale securities that has been included in the separate component of shareholders' equity during the period.~~
- ~~e. The change in net unrealized holding gain or loss on trading securities that has been included in earnings during the period.~~

~~For any sales of or transfers from securities classified as held-to-maturity, the amortized cost amount of the sold or transferred security, the related realized or unrealized gain or loss, and the circumstances leading to the decision to sell or transfer the security shall be disclosed in the notes to the financial statements for each period for which the results of operations are presented. Such sales or transfers should be rare, except for sales and transfers due to the abnormal circumstances.~~

ANALYSIS OF SEGMENT REPORTING

If the companies have more than one line business areas, then it is difficult for the analysts to compare the company's performance with other companies. The aggregated financial data with different financial structures, risk attributes and indicators of performance gives unclear picture about the each segment. So an accounting standard came in the US in 1995 with an aim to assist financial statement users in analyzing and understanding the enterprise's financial statements by permitting better assessment of the enterprise's past performance and future prospects.

While segmentation, should consider the similarity of products or production processes or markets or marketing methods. A segment is not clearly defined under US GAAP. But as per SFAS 131, a reportable segment is a component of an enterprise that has at least 10% of any one of the following:

- a. Total Revenues.
- b. Combined operating profit or loss.
- c. Combine identifiable assets of all segments.

Companies also required that to disclose foreign operations if the segments are operating in more than one country. A reportable segment is one which should exceed 10% of either sales to unaffiliated customers as compared to consolidated revenues or identifiable assets as compared to consolidated assets. For each geographic segment area the items like sales, operating profit, identifiable assets and export sales from domestic operations should be reported clearly.

Segment reports are available in the annual report under the heading segment reporting. Additional information is also available in the area of management discussion and analysis. The M&D analysis provides further explanations and confirmation of the analysis of the segment data. The operating data provided in the segment reporting helps the analyst to breakdown the total operating performance into more easily understandable components.

Uses of Segment Data

Segment data is very useful for an analyst. The following are the benefits of segment data:

COMPUTATION OF TRENDS

Segment data is used for computation of trends. The trends can be determined if the profitability and the ratio of liabilities to assets is consistent form year to year. These trends are useful for comparing with the other firms in the same industry and with similar segments in other businesses to measures relative performance.

BETTER UNDERSTANDING ABOUT OPERATIONS

Segment data provides the analyst to get better understanding on the companies operating activities. Segment disclosures are useful for analyzing the sales growth and profitability.

FORECASTING OF FUTURE PERFORMANCE

If the analyst has the better understanding on the company's operations, he can apply the knowledge for predicting the future business conditions. As a result, he will be in a position to predict more accurate sales and earnings. Thus with the segment data, the analyst can improve his accuracy in forecasting.

Thus segment data useful to the analyst as a source of data for better understanding of the firm's sources of profitability and growth.

Limitations of Segment Data

The segment data has the following limitations, which obstructs the work of the analyst:

LACK OF DETAILED INFORMATION

The first limitation is lack of detailed information. The operating incomes is computed before interest expenses which may cause falsify profitability ratios. Another important issue is off balance sheet obligations. These liabilities actually reduce the net investment and segment return on assets. But these information is not available in segment reports.

DETERMINATION OF SEGMENT PROFIT

There may be inter segment sales and transfers. The segment profit provided in the segment statements may not be reliable because of these inter-segment transfers and transfer pricing.

LACK OF CASH FLOW DATA

Cash flow data is not provided in the segment reports. Lack of this cash flows information may handicap the work of analyst.

In addition to the above, changes in exchange rates, extraordinary items may make the analysis of segment data more difficult.

SEGMENTAL DISCLOSURES

As per the requirements of the SFAS-131, there are several disclosures that are required to be made regarding the enterprises reportable segments. These would be including the following:

i. General Information

This should include the explanation as to how the management would be identifying the enterprise's reportable segments, including whether there has been any aggregation. In addition to this, disclosure as to the types of services and products from which the reportable segment derives its revenues is also required.

ii. Certain Information about the Reported Segment Profit and Loss, Segment Assets and the Basis of Measurement

Under this, the enterprise would be disclosing the following about each of the reporting segments in case the specified amounts are reviewed by the chief operating decision maker:

- a. Revenues for the external customers.
- b. Intersegment revenues.
- c. Interest revenues and expenses. These are required to be reported separately unless the majority of the segments revenues are from the interest and the management relies primarily on the net interest revenue to assess the performance.
- d. Depreciation, depletion and amortization of expenses.
- e. Unusual items and extraordinary items.

- f. Equity in the net income of the investees that are accounted for adopting the equity method.
- g. Income tax expense or benefit.
- h. Significant non-cash items.
- iii. **Reconciliations**
The enterprise is required to reconcile the segment amounts that are disclosed to the corresponding enterprise amounts.
- iv. **Interim Period Information**
Though the reporting at the interim stage may not be as extensive as at the final stage it still would require the disclosure of certain of the segmental disclosures.

INTERNATIONAL ACCOUNTING ENVIRONMENT

Investments are classified into current investments and long-term investments as per international accounting standards. Companies hold long term investments are held by the company for the purpose of acquiring significant control on the other entity i.e. the investments are not either for trading or available for sales. These investments are called inter-corporate investments. There are three accounting standards relating to Inter-corporate investments. IAS 27 deals with the preparation and presentation of consolidated financial statements. IAS 28 deals with the accounting for investments in associates and IAS 31 comprises the financial reporting of interests in joint ventures.

Normally investments are classified into current investments and long-term ~~investments~~ investments. But the classification inter corporate investments is depends upon the control rather than percentage holding.

CURRENT INVESTMENTS

Current investments are those that are readily realizable and intended to be held for up to one year. These investments are valued at market or at the lower of cost or market values.

LONG TERM INVESTMENTS

Investments properties may be treated as normal property or as long term investments. Long term investments are valued at cost or at revalued amount, or for marketable equity securities at the lower of cost or market on a portfolio basis.

MINORITY, PASSIVE INVESTMENT

In this type of holding, the investor holds minority interest and does not held any control. These are called minority passive investments. These investments are valued at cost or market value or lower of cost or market value. Any realized gain or loss on these investments are shown in the income statement.

MINORITY, ACTIVE INVESTMENT

An investment made by the company with an intention to exercise significant control on another firm is treated as minority and active investment. If these investments are held for trading purpose, the mark-to-market method is used for accounting of these investments. If this investment is active, then equity method of accounting is used.

MAJORITY ACTIVE INVESTMENT

IF the investor holds more than 50% interest, then it is considered as majority holding. Generally it is assumed that the investment is active and the parent company actually exercises control. The company which holds majority of shares is called the parent company and the investee company is called the subsidiary. In this case consolidation of balance sheets is required. The shares held by the third parties are treated as minority interest. Minority interest are shown in consolidated balance sheet separately from both liabilities and stock holder's equity.

Investment in Subsidiaries (IAS 27)

If the parent company is preparing consolidated financial statements, the investment in subsidiary should be ~~accounted~~ either carried at cost or accounted for using the equity method or accounted for as available for sale of a financial asset. Investments in subsidiaries that are excluded from consolidated financial statements are also accounted at cost or as per equity method or as available for sale of a financial asset. You will learn in detail about the consolidation procedures and disclosure requirements relating to investment in subsidiaries in the next chapter.

Investment in Associates (IAS 28)

An associate is an enterprise, other than a subsidiary or joint venture, over which the investor has significant influence i.e. power to influence the financial decisions and operating policy decisions of another company. Investment in associate is generally valued under equity method. If the investment is held exclusively with a view to sell in the near future, then in that case, investment in associate is valued at cost.

Equity Method of Accounting

Under this method the investment is initially recorded at cost and the carrying amount is adjusted to recognize the investor's share of the profits or losses of the investee after the date of acquisition. Alternations for the investment in associate are sometimes necessary because of the revaluation of assets and liabilities in the investee company.

Cost Method of Accounting

Under this method the investment is valued at cost. Only realized income and realized losses and gains are recognized as earning for the purpose of income statement.

Disclosure Requirements

Equity method investments are reported as non-current assets in the investor's balance sheet. The investor company should disclose an appropriate listing and description of significant associates including the proportion of ownership interest and if different, the proportion of voting power held and the methods used to account for such investments.

Investment in Joint Ventures (IAS 31)

A jointly controlled entity is a joint venture which involves in the establishment of a corporation, partnership or other entity in which each venturer has an interest. The entity operates in the same way as other enterprises, except that a contractual arrangement between the ventures establishes joint control over the economic activity of the entity. Joint ventures may be in the form of jointly controlled operations; or jointly controlled assets and jointly controlled entities.

If the joint venture is in the form of jointly controlled operations, then joint venturer includes the share of assets, liabilities, expenses and incomes in their financial statements. Jointly controlled assets are accounted on a proportional basis. Jointly controlled entities are recognized in consolidated financial statements under proportionate consolidation method or under equity method.

Investment Type, Accounting Treatment and Financial Statement Effect

Investment Type	Accounting	Balance Sheet Effect	Income Statement Effect	Cash Flow Effect
Passive investments (<=20% ownership)	Market method	Investment is reported at current market value	Dividend and capital gain affect income	Div and sale proceeds are cash inflows Purchases are cash outflow
Significant influence	Equity method	Investment a/c equals	Dividend reduce	Div and sale proceeds are

(> 20% ownership)		percentage owned by investee company	investment a/c The proportionate share of the investee's income is included	cash inflows Purchases are cash outflow
In place of equity method where (> 20% of ownership)	Proportionate consolidation method	Replace investment a/c with proportion of assets and liabilities owned by investee company	Proportionate sales and expenses of investee company is included	
Control (> 50% ownership)	Consolidation method	B/s of investee and investor is combined	Income statement of investee and investor is combined	Sale/purchase of investments yields cash inflow/outflow

Disclosure Requirements

A venture should disclose the aggregate amount of the following in respect of its interest in joint ventures separately from other commitments:

- Any capital commitments of the ventures in relation to its interest in joint ventures and its share in the capital commitments that have been incurred jointly with other ventures and its share of the capital commitments of the joint ventures themselves.
- A venture should disclose a listing and description of interest in significant joint ventures and proportion of ownership interest held in jointly-controlled entities.
- A venture which reports its interest in jointly-controlled entities using the line by line reporting format for proportionate consolidation or the equity method should disclose the aggregate amounts of each of current assets, long-term assets, current liabilities, incomes and expense related to its interest in joint ventures.

INDIAN ACCOUNTING STANDARD

In India there are three standards relating to the investments. AS 13 deals with the accounting for investments which are the assets held by an enterprise for earning income by way of dividend etc. AS 23 deals with the investment in associates i.e. the investment has significant influence in the investee company. AS 27 deals with the financial reporting of 'interest in joint ventures'.

Accounting for Investments (AS 13)

Accounting Standard-13, which deals with the accounting for investments in the financial statements of enterprises and related disclosure requirements, is applicable to all enterprises is mandatory in nature. As per AS 13 investments are the assets held by an enterprise for earning income by way of dividend, interest, and rentals, for capital appreciation, or for other benefits to the investing enterprise.

CLASSIFICATION OF INVESTMENTS

As per AS-13, Investments are classified as long-term Investments and current investments. Current investment is an investment, which is readily available and is intended to be held for not more than one year from the date on which such investment is held. A long-term investment is an investment other than a current

investment even though it may be readily marketable. Hence ready marketability is not the sole criterion for classifying an investment into current or long-term investment.

As per AS-13, in the absence of a statutory requirement, such further classification should disclose, where applicable, investments in:

- a. Government or Trust securities.
- b. Shares, debentures or bonds.
- c. Investment properties.
- d. Others-specifying nature.

If there is a statute applicable to an enterprise, then the enterprise has to further classify Current and Long-term investments as per requirements of the statute applicable to it.

Schedule VI also requires the following disclosure of:

- i. Nature of investments.
- ii. Mode of valuation i.e., cost or market value.
- iii. Aggregate amount of company's quoted investments and market value thereof.
- iv. Aggregate amount of company's unquoted investments.

VALUATION OF INVESTMENTS

Current investments are carried in the financial statement at the lower of cost and fair value, i.e. unrealized losses are recognized and unrealized gains are not recognized under this method, which is in accordance with the prudence method of valuation. However, comparison of cost and fair value can be made on individual investment basis or on the basis of a category of investments (i.e., equity shares, preference shares etc.), but not on overall or global basis.

Long-term investments are usually carried at cost. However, where there is a decline, other than temporary (for example, if the company in which shares are invested became a sick company then decline in value of such investment is usually regarded as other than temporary decline.) in the value of a long-term investment, the carrying amount is reduced to recognize the decline and the resultant reduction is charged to profit and loss account.

RECLASSIFICATION OF INVESTMENTS

Transfer	Value
Where long-term investments are reclassified as current investments.	Transfers are made at the lower of cost and carrying amount at the date of transfer.
Where current investments are reclassified as long-term investments.	Transfers are made at the lower of cost and fair value at the date of transfer. Thereafter, the long-term investments are valued at that transfer price less provision for decline other than temporary.

DISCLOSURE REQUIREMENTS

As per AS-13, the following disclosures are to be made:

1. The accounting policies for determination of carrying amount of investments.
2. Classification of investments as specified in this standard.
3. The amounts included in profit and loss statement for:
 - Interest, dividends showing separately dividends from subsidiary companies, and rentals on investments showing separately such income

from current and long-term investments. Gross income should be stated, the amount of income tax deducted at source being included under Advance Taxes paid;

- Profits and losses on disposal of current investments and changes in the carrying amount of such investments;
- Profits and losses on disposal of long-term investments and changes in the carrying amount of such investments;
- Significant restrictions on the right of ownership, reliability of investments or the remittance of income and proceeds of disposal;
- The aggregate amount of quoted and unquoted investments, giving the aggregate market value of quoted investments; and
- Other disclosures as specifically required by the relevant statute governing the enterprise.

Investment in Associates (AS 23)

This standard applies to the Investment in Associates. An associate is an enterprise in which the investor has significant influence and which is neither a subsidiary nor a joint of the investor. As per this significant influence is the power to participate in the financial and/or operating policy decisions of the investee but not control over those policies control:

- a. The ownership, directly or indirectly through subsidiary (ies), of more than one-half of the voting power of an enterprise; or
- b. Control of the composition of the board of directors in the case of a company or of the composition of the corresponding governing body in case of any other enterprise so as to obtain economic benefits from its activities.

The existence of significant influence by an investor is usually evidenced in one or more of the following ways:

- a. Representation on the board of directors or corresponding governing body of the investee;
- b. Participation in policy making processes;
- c. Material transactions between the investor and the investee;
- d. Interchange of managerial personnel; or
- e. Provision of essential technical information.

ACCOUNTING

An investment in an associate is accounted for under the equity method from the date on which it falls within the definition of an associate. On acquisition of the investment any difference between the cost of acquisition and the investor's share of the equity of the associate is described as goodwill or capital reserve, as the case may be. Goodwill/capital reserve arising on the acquisition of an associate by an investor should be included in the carrying amount of investment in the associate but should be disclosed separately.

EQUITY METHOD AS PER AS 23

Under the equity method, the investment is initially recorded at cost, identifying any goodwill/capital reserve arising at the time of acquisition and the carrying amount is increased or decreased to recognize the investor's share of the profits or losses of the investee after the date of acquisition. Distributions received from an investee reduce the carrying amount of the investment. Adjustments to the carrying amount may also be necessary for alterations in the investor's proportionate interest in the investee arising from changes in the investee's equity that have not been included in the statement of profit and loss. Such changes

include those arising from the revaluation of fixed assets and investments, from foreign exchange translation differences and from the adjustment of differences arising on amalgamations.

DISCLOSURES

The following disclosures are required as per AS 23:

- An appropriate listing and description of associates including the proportion of ownership interest and, if different, the proportion of voting power held should be disclosed in the consolidated financial statements.
- Investments in associates accounted for using the equity method should be classified as long-term investments and disclosed separately in the consolidated balance sheet. The investor's share of the profits or losses of such investments should be disclosed separately in the consolidated statement of profit and loss. The investor's share of any extraordinary or prior period items should also be separately disclosed.
- The name(s) of the associate(s) of which reporting date(s) is/are different from that of the financial statements of an investor and the differences in reporting dates should be disclosed in the consolidated financial statements.
- In case an associate uses accounting policies other than those adopted for the consolidated financial statements for like transactions and events in similar circumstances and it is not practicable to make appropriate adjustments to the associate's financial statements, the fact should be disclosed along with a brief description of the differences in the accounting policies.

FINANCIAL REPORTING OF INTERESTS IN JOINT VENTURE (AS 27)

Generally speaking, a joint venture may be considered to have two meanings. It might mean or refer to a joint project set-up by two or more entities. Alternatively it may also refer to an entity that has been set-up by two or more entities for the purpose of carrying out any joint project. Although both AS-27 and IAS-31 define a joint venture as the former, but ordinarily both the meanings are used in actual practice. However, the key determining factor of whether an entity or a project is a joint venture or not lies in whether it is jointly controlled. As per AS-27, Joint control is the contractually agreed sharing of control over an economic activity. This is the ultimate test to be satisfied for an entity or project to be a joint venture.

FORMS OF JOINT VENTURE

The following are various forms of Joint venture as per IAS 31 and AS 27:

Jointly Controlled Operations: This type of a joint venture envisages the use of each of the venturer's assets and resources rather than the establishment of a separate entity. Each venturer would use its own assets and incurs its own expenses and liabilities. Profits and losses are shared among the venturers in a ratio agreed upon by them in the contractual agreement.

Jointly Controlled Assets: In this type of a joint venture, the co-venturers jointly control an asset (generally also jointly owned by them) acquired for the purpose of the joint venture, or contributing to the said joint venture.

Jointly Controlled Entities: A jointly controlled entity is a joint venture that involves the establishment of a company, firm or any other entity in which each venturer has an interest. The contractual agreement between the venturers provides for joint control over the established entity. Each venturer would have a share in the established entity's profits.

PREPARATION OF FINANCIAL STATEMENTS

The financial statements of the jointly controlled entity are prepared based on the proportionate consolidation method. The proportionate consolidation statements are usually drawn up to the same date as the financial statements of the venturer. When the reporting dates are different, the jointly controlled entity often prepares, for applying proportionate consolidation, statements as at the same date as that of the venturer. When it is impracticable to do this, financial statements drawn up to different reporting dates may be used provided the

difference in reporting dates is not more than six months. In such a case, adjustments are made for the effects of significant transactions or other events that occur between the date of financial statements of the jointly controlled entity and the date of the venturer's financial statements. The consistency principle requires that the length of the reporting periods, and any difference in the reporting dates, are consistent from period to period.

PROPORTIONATE CONSOLIDATION METHOD

Proportionate consolidation means that the consolidated balance sheet of the venturer includes its share of the assets that it controls jointly and its share of the liabilities for which it is jointly responsible. The consolidated statement of profit and loss of the venturer includes its share of the income and expenses of the jointly controlled entity. Many of the procedures appropriate for the application of proportionate consolidation are similar to the procedures for the consolidation of investments in subsidiaries, which are set out in Accounting Standard (AS) 21, Consolidated Financial Statements (discussed in the next chapter).

Disclosures Required to be made under AS 27

A venturer should disclose the aggregate amount of the following commitments in respect of its interests in joint ventures separately from other commitments:

- a. Any capital commitments of the venturer in relation to its interests in joint ventures and its share in the capital commitments that have been incurred jointly with other venturers; and
- b. Its share of the capital commitments of the joint ventures themselves.

A venturer should disclose a list of all joint ventures and description of interests in significant joint ventures. In respect of jointly controlled entities, the venturer should also disclose the proportion of ownership interest, name and country of incorporation or residence.

A venturer should disclose, in its separate financial statements, the aggregate amounts of each of the assets, liabilities, income and expenses related to its interests in the jointly controlled entities.

The following table shows the comprehensive view of applicability of various Accounting Standards for different types of investments:

Table

Type	Applicable Accounting Standard
1. Investments result in control i.e. > 50 % voting power or control of the composition of the board:	
a. Treatment of investments in subsidiary in separate Financial Statement of the Parent company.	AS-13
b. Treatment in consolidated financial statements of the parent company.	AS-21
2. Investments in Associates:	
a. Treatment of investments in Associates in separate Financial Statement of the investor.	AS-13
b. Treatment in consolidated financial statements of the investor	AS-23
3. Investments in Joint venture	AS-27
4. Other investments	AS-13

It is to be noted that AS-14 deals with amalgamation where the acquired company is dissolved. Hence, it does not apply to investments in subsidiaries, associates, or joint ventures.

SUMMARY

- Intercorporate investments are very common in this modern age. The accounting for these investments is based on the intention of the management for holding the investment in other company. As per US GAAP investments are classified into trading securities, held to maturity securities and available for sale securities.
- Cost method, market value method and lower of cost and market value methods are used for accounting of various investments. Trading securities are valued at fair market value, available for sale at fair value or the mark to market method and held for maturity are valued at amortized cost.
- Equity method of accounting or consolidation method of accounting or proportionate consolidation method of accounting is used for intercorporate investments. Proportionate consolidation method is not in practice in US. In other countries this method is used for investment in joint ventures.
- Classification of investment as per US GAAP effect both the firm's reported financial performance and financing and investment decisions. Analyst should analyse both these perspectives. While analyzing the investment activities, the operating performance should be separated from the investment performance of a company. This helps to analyse the operating performance clearly.
- If a company has significant but non-controlling ownership of less than 50% of a company's ownership, then it is called as minority interest. The balance of minority interest account is shown in the balance sheet of the parent company. In some instances, minority interest is considered as equity for the purpose of analysis
- Companies also required that to disclose foreign operations if it the segments are operating in more than one country. A reportable segment is one which should be exceed 10% of either sales to unaffiliated customers as compared to consolidated revenues or identifiable assets as compared to consolidated assets. Analysis of segment report gives the analyst good understanding about the company's operations.

Chapter IX

Business Combinations and Consolidation

After reading this chapter, you will be conversant with:

- Meaning and Definitions of Important Terms
- Types of Business Combinations
- Accounting for Combinations
- The Pooling Method
- The Purchase Method
- Consolidated Financial Statements
- Inter-company Transactions and Profit Confirmations
- Minority Interest; Changes in Minority Interest
- Other Issues in Business Combinations
- Summary of IAS-22: Business Combinations
- Summary of IAS-27: Consolidated Financial Statements and Accounting for Investments in Subsidiaries
- Summary of IAS-28: Accounting for Investments in Associates
- Indian Scenario
 - Statement of AS-14 (Revised): Accounting for Amalgamations
 - AS-21: Consolidated Financial Statements
 - AS-23: Accounting for Investments in Associates in Consolidated Financial Statements

Introduction

Many companies expand their operations by acquiring other businesses. The acquiring companies may seek diversification of their business, for a more stable supply of raw material for production. Diversification may also be result of an increase in the range of products or services on offers or for other business reasons. The accounting issues of the business start with the proper recording and reporting of the economic events as on the date of the business combination. The subsequent accounting for combination depends on the alternatives that are selected on the date of the combination.

MEANING AND DEFINITIONS OF IMPORTANT TERMS

Accounting Consolidation: This is the process of combining the financial statements of a parent company and one or more of their legally separate and distinct subsidiaries.

Acquisition: This involves one enterprise paying cash or issue stocks or debt for all or part of the voting stock of another enterprise. The acquired enterprise would remain intact as a separate legal entity. In case the parent-subsidiary relationship is accounted for as a purchase, it would be referred to as acquisition. In case the pooling method is adopted, the term “acquisition” cannot be used and the result would be a combination of interests.

Combination: This refers to any transaction, whereby one enterprise would be obtaining control over the assets and the properties of another enterprise, regardless of the resulting form of the enterprise that is emerging from the combination transaction.

Combined Financial Statements: These are the consolidated financial statements that are presented primarily for the benefit of the shareholders and the creditors of the parent company, the results of the operations and the financial position of a parent company and its subsidiary essentially as a group where a single enterprise with one or more branches or divisions.

Consolidation: This refers to the new enterprise that is formed to acquire two or more enterprises through an exchange of the voting stocks. The acquired enterprise then ceases to exist as a separate legal entity.

Control: This refers to the ownership by one enterprise, directly or indirectly of more than 50% of the outstanding voting shares of another enterprise.

Entity Concept: This indicates the method of preparing the consolidated financial statements of a parent company and the majority-owned subsidiary which involves the restatement of the net assets of the subsidiary to the fair value as on the date of the acquisition for both the majority and the minority interests.

Goodwill: This is the excess of the cost of a business acquisition that is accounted for by the purchase method over the fair value of the net assets thereof and it is required to be amortized over the useful life of the asset which is generally considered as up to 40 years.

Merger: It refers to one enterprise that acquires all the net assets of one or more other enterprises through an exchange of stock, payment of cash or other property or the issue of debt instruments.

Minority Interest: It is the remaining amount that is outstanding from the voting stock of a subsidiary that is not purchased by the acquiring enterprise.

Negative Goodwill: This is the result of the excess of the fair value of the asset over the cost of the purchase of the business. This amount would be representing the net excess of the fair value of the net assets of a business acquisition for a purchase after setting off the maximum amount against the fair value of the non-current assets that have been acquired except those that are considered as marketable securities.

Parent Company Concept: This refers to the method of preparing the consolidated financial statements of a parent and majority-owned subsidiary that involves the restatement of the net assets of the subsidiary to fair value at the date of acquisition for only the majority interest.

Pooling of Interest Method: This is the method of accounting that is used for a business combination that is predicated upon a mutual exchange and the continuation of the ownership interests in the combining entities. It would not be resulting in the establishment of a new basis of accountability.

Pre-acquisition Contingencies: These are the uncertainties that are existing at the date of the acquisition and are to be accounted for by adopting the purchase method which if resolved within one year of the acquisition would be resulting in the reallocation of the purchase price.

Purchase Method: This refers to the method of accounting that is used for a business combination that recognizes one combining entity would be acquired by another. It establishes a new basis of accountability for the acquiree.

Purchased Pre-acquisition Earnings: This is an account that is used to report the earnings of the subsidiary that are attributable to the percentage ownership that is acquired at the interim date in the current accounting period.

Reverse Acquisition: This is the acquisition which takes place when one entity, nominally the acquirer, issues so many shares to the former owners of the target that they become the majority owners of the successor entity.

Subsidiary: This is the enterprise that is controlled directly or indirectly by another enterprise.

Unrealized Inter-company Profit: This refers to the excess of the transaction price over the carrying value of the item usually inventory or plant assets, that is transferred from a parent to a subsidiary company or vice versa and not sold to an outside entity. For the purpose of the consolidated financial statements, the recognition must be deferred till the subsequent realization through a transaction with an unrelated party.

TYPES OF BUSINESS COMBINATIONS

From the legal point of view there are three types of business combinations which are as under:

MERGER

This takes place when one company acquires the assets of another company in exchange of cash, stock or other combinations. The acquiring company would continue to be in existence as a separate legal entity but the company that has been acquired ceases to be in existence as a separate legal entity and its stocks would be canceled and its books closed. The separate assets and liabilities would be recorded in the books of the acquiring company.

CONSOLIDATION

This would be resulting in a new firm with the idea of issuing the stock in exchange for the stock of two or more combining or consolidating companies. The firms that are acquired would generally cease to exist as a separate legal entity and thus the new firm would be recording the separate assets and liabilities of the acquired firms.

ACQUISITION

This would be the result in case a company acquires a majority of the common stock of another company and each company would be continuing to exist as per law. The acquiring company would be recording an "investment in acquired company's stock" in the combination entry.

From the above, it is clear that mergers and consolidations require that there is 100% ownership of the acquired company. But in the case of acquisition, the combination would be requiring only the majority of the ownership stocks. Apart from this, by maintaining the separate legal existence of the acquired company and not canceling its stock, the parent company could register a greater flexibility in the raising of the additional capital and not canceling its stock. The parent company has the advantage of raising a greater amount of additional capital by holding the shares of the acquired company as a collateral. The financial statements of the combinations in the nature of mergers and consolidations would be prepared using the normal accounting principles and all the assets and liabilities would be recorded and reflected in the books of the acquired company. This is because there is only one set of books.

The financial reporting for acquisitions would generally require the consolidation of the accounts from two sets of books, in order to prepare the financial reports for the economic entity that is newly formed in between the parent and the subsidiary companies.

Before we go into the details of accounting for business combinations, it is to be noted that USGAAP and International Accounting Standards now require the use of only purchase method of accounting. The Pooling method has been banned by under both. However, since accounting under Pooling method is still followed in a few countries we would discuss this for academic purpose.

ACCOUNTING FOR COMBINATIONS

There are two methods which are generally used for the business combinations:

- i. The Pooling Method.
- ii. The Purchase Method.

The purchase method that is used to account for the combinations is similar to that which is used in the acquisition of an asset group. The assets and liabilities that are acquired by the acquiring firm are to be revalued at their respective fair market values on the date of their combination. Any difference arising between the value of the consideration and the fair market value of the net assets, is to be considered as goodwill. The financial statements of the acquiring company would be reflecting the combined operations from the date of the combination.

On the contrary, **the pooling of interest method** is predicted on the assumption that neither of the entities has acquired the other and thus the pre-transaction book values of both the enterprises would be merely added together with minor adjustments under definite conditions. The basis of valuation being the book value of net assets on the books of acquired company – goodwill may not be created on the date of combination.

Both these methods are laid down under APB-16 and are applicable to the combination of entities that are not under the common control. In case the companies are combined under the common controls, the accounting would be similar to that prescribed under the pooling of interests method. Exceptions would arise in case there is a minority interest in a subsidiary that has been acquired and is required to be accounted for as a purchase. In the case of other transfers among the entities that are under the common control, and where the accounting similar to that adopted in the pooling method is suitable, any purchase costs in excess of the historical costs is required to be charged against the stockholder's equity.

In case a combination is required to be accounted for as a purchase, the assets that have been acquired and the liabilities that are assumed, are to be recorded at their fair values. In case the assets and the liabilities net to an amount other than the total cost of acquisition, the excess or the deficiency that arises is considered as goodwill or negative goodwill respectively. There is a chance of the occurrence of goodwill only when the purchase method is adopted, as in the case of the pooling method, the assets and the liabilities of the combining entities are required to be

carried forward at the pre-combination book values. This treatment would be in accordance with the theory that a pooling would not result in the acquisition of one business entity by another, hence a new basis of accountability cannot be established. In case the acquired entity is merged into the acquiring entity, or in case both the entities are consolidated into a new entity, all the assets and liabilities are required to be recorded directly into the books of the surviving organization. Based on whether the conditions stipulated under APB-16 are met, this transaction would be treated either as pooling or purchase. But in case the acquirer obtains a majority of all the common stock of the acquired entity, the assets and the liabilities of the acquired company would not be recorded in the books of the acquirer. In this case, the GAAP requires that the consolidated financial statements are prepared and either the pooling or the purchase method adopted based on the circumstances. In certain cases, it may be that the combined financial statements of the entities under the common control are also prepared. This process is very similar to the accounting for consolidations that is done using the pooling accounting method except that the equity accounts of the combined entities are carried forward intact. The major accounting issues that arise in the case of business combinations and consolidations are:

1. The proper accounting basis for the assets and liabilities of the combining entities.
2. The decision to treat a combination as a pooling or purchase method.
3. The elimination of inter-company balances and the transactions in the preparation of the consolidated or the combined statements.

Irrespective of the combination, whether it is a merger or a consolidation or an acquisition, there are only two methods of accounting that are applied to any business combination, i.e., the purchase method and the pooling method. These two methods are considered to be mutually exclusive and the selection of the accounting method is determined by the specific aspects of the facts that surround the combination.

Decision to Treat a Combination

According to APB-16 there are 12 criteria that are to be considered before the combination can be considered for accounting under the pooling of interests method.

The failure to meet any of these 12 categories would mean the non-applicability of this method. The major factors that are considered in this criteria are:

- a. The combining companies have an ownership interest that is independent of each other and is not recently a subsidiary or a division of any other company.
- b. The combination is to be affected by a single transaction or in accordance with a plan which would be lasting not more than 1 year.
- c. A minimum of 90% of the voting rights of the combinee company are to be acquired in exchange for the issuance of the combinator company's voting shares and all the shareholders have the same equity rights.
- d. There is no planned intent that exists to segment the operations or the acquired stockholders' interests after the date of the combination.

Box : The 12 Criteria

1. There is autonomy between the combining companies, meaning that a combining company was not a subsidiary or division of any combining company within two years before the initiation date. The initiation date is the earlier of the date the major provisions of the agreement (e.g., exchange ratio) are made public or issued in writing to the shareholders of one of the combining entities. A new company incorporated within two years qualifies unless it is a successor to a company not deemed autonomous. A company would still qualify under this criterion if it was a previously owned one that was divested because of a governmental regulation or dictate.

2. The combining companies are independent. A combining company is not independent if it owns 10% or more of another combining company's voting common stock at the initiation or consummation dates or at any time in between. If there is a change in the exchange ratio, a new initiation date is established. The consummation date is the date on which the net assets are transferred to the acquiring company. However, temporary assets (e.g., cash, trading securities) may be held to pay liabilities and contingent items. A pooling of interests does not apply when net assets are transferred or shares exchanged between companies under common control. An example is a partly owned subsidiary exchanging its common stock for that of its parent (referred to as a downstream merger). In this case, the purchase method would be used. The existence of a joint venture between the combining entities should not be taken into account in determining if the combining companies hold as inter corporate investments no more than 10% of another combining company's common stock. Hence, a joint venture relationship does not negate the independence criterion for a pooling.

Exception: A pooling is negated if the fair market value of an investment in a common joint venture constitutes in excess of 50% of the estimated fair value of one of the combining companies.

3. The combining companies are brought forth in a single transaction or within one year after the initiation date. A delay is permitted for a lawsuit or government intervention. For example, if the combination took 16 months, of which 5 months arose from litigation, this criterion is met.
4. The acquiring company issues voting common stock in exchange for substantially all (90% or more) of the voting common stock of the acquired business. The 90% rule is determined at the consummation date. The consummation date is usually the date the issuing company receives the transferred assets. The following shares of the combiners are excluded from the 90% minimum:
- Shares of the acquired company outstanding after the consummation date.
 - Shares owned by the issuer or its subsidiaries before the initiation date.
 - Shares acquired by the initiating company other than by issuing its own common stock between the initiation and consummation dates.

In ascertaining whether 90% of the combiner's stock has been transferred to the issuing corporation, the number of shares transferred is reduced by the equivalent number of shares (based on the exchange ratio) of the issuing company owned by the combiner before combination. This number of shares is then compared to 90% of the total outstanding shares of the combiner, to ascertain if the requirement is met.

Inter company investments among combining companies are excluded in determining if 90% or more of voting common stock is exchanged. However, the inter company investments are considered in determining the total voting common shares outstanding.

A lottery feature in connection with stock issuance by the acquirer does not violate the 90% criterion.

An acquiring company may pay cash or issue common stock for debt or preferred stock of an acquired business and qualify as a pooling only if the debt securities and preferred stock were not issued in an exchange for voting common stock of the acquired business within two years prior to the initiation date.

5. None of the combining companies change the equity interest of voting common stock in expectation of the combination in the two years before the initiation date or between the initiation and consummation dates. The voting common stock is considered altered if there are abnormal dividends after considering earnings and previous years' dividends.
6. Treasury stock is acquired by a combining company and is not to be used for business combination purposes between the initiation and consummation dates. Any treasury stock purchases must be a normal amount after taking into account previous experience. Otherwise, such purchase may be suspicious. A reacquisition of treasury stock within six months after consummation of the combination is presumed to be a part of the plan of combination. A systematic plan of buying treasury stock for a stock option or compensation plan is allowed.

Note: A planned transaction to reacquire treasury stock that is deferred until after the combination does not of itself negate this criterion.

7. The proportionate ownership percentage of each stockholder remains the same after combination as before combination. A pooling is negated if the issuer has a right of first refusal to repurchase shares issued in certain cases irrespective of the fact that the shares issued are identical to other outstanding shares. As a general rule, restrictions placed on the issuance of shares to the public to comply with governmental law do not preclude a pooling as long as after the combination the issuer has begun the registration process for the stock.
8. Voting rights of stockholders in the combined entity are not restricted in any way. For example, shares may not be placed in a voting trust.
9. The combination is complete at the consummation date, with no pending provisions. For example, there cannot be any provision for contingently issuable shares or asset distributions to former stockholders of the combined entity.

Exception: It is allowed to have contingently issuable shares to adjust for differences in amounts at the consummation date. Any differences adjust the combined stockholders' equity. This criterion is negated if there exist contingencies based on profits or market prices. This criterion is still satisfied if there is a settlement of a contingency such as arising from a tax credit or litigation.

There must be an absence of planned transactions for the following:

10. Repurchase of shares issued to effect the combination. However, the issuer may have the right of first refusal on a later resale of shares to effect the combination. Emerging Issues Task Force Issue Number 93-2 (Effect of Acquisition of Employer Shares for/by an Employee Benefit Trust on Accounting for Business Combinations) states that unallocated shares of a sponsoring entity held by an employee stock option plan are allowable treasury shares and are therefore consistent with pooling treatment.
11. Financial arrangement of benefit to former stockholders of the combining entities. An example is cosigning a loan for a stockholder who needs cash.
12. Disposal of a major part of the combined company's assets within two years after the combination. An example is the sale of a division. Exception: A disposal to comply with court or government dictate is allowable. According to Emerging Issues Task Force Issue Number 84-35 (**Business Combinations: Sale of Duplicate Facilities and Accrual of Liabilities**), the disposal of a duplicate warehouse would be permissible. **Note:** The disposal of a significant part of the assets or segment of a combining company within two years after consummation results in extraordinary gain or loss.

This can be better explained with the help of an example as under:

Illustration 1

Zee Corporation (whose balance sheet is presented as Table 1) is about to acquire four other entities: Arpan Ltd. (Table 2), Ankit Ltd. (Table 3), Arun Ltd. (Table 4), and Anish Ltd. (Table 5).

1. The acquisitions will take place as follows:
 - a. Arpan Ltd., is acquired by exchanging one Zee Corporation common share for each 15 of Arpan Ltd. common shares.
 - b. Ankit Ltd., is acquired by exchanging one Zee Corporation common share for each 75 of Ankit Ltd. common shares.
 - c. Arun Ltd., is acquired by paying Rs.42,50,000 in 90-day demand notes to retire the Rs.4.5 million bank loan, and by exchanging one Zee Corporation share for each 20 of Arun Ltd., common shares (except as noted in 8 below).
 - d. Anish Ltd., is acquired by exchanging a new issue of Rs.100 par, 7% preferred stock subject to a mandatory retirement plan (ending in 2004), plus common shares, for all Anish Ltd. common stock. Shareholders of Anish Ltd., will receive one share of Zee Corporation preferred and one share of Zee Corporation common for each 15 Anish Ltd., common shares.
2. The appraised value of each acquired firm is given as follows:

(Amounts in thousands)

	Assets Acquired (Rs.)	Liabilities Assumed (Rs.)	Net Asset Value (Rs.)
Arpan Ltd.	78,500	2,500	76,000
Ankit Ltd.	42,500	6,500	36,000
Arun Ltd.	37,000	2,500	34,500
Anish Ltd.	42,000	19,500	22,500

In each case, current assets are appraised to be worth book values as per the acquired firm's balance sheets.

3. Anish Ltd., originally issued 8% debentures on January 1, 2002 at par value. Zee Corporation purchased Rs.5.0 million (face value) of these debentures on January 1, 2004 at the market price of Rs.97.60. The discount has been regularly amortized to earnings.
4. Investments by Arpan Ltd., and Ankit Ltd., in the common shares of Zee Corporation were recorded at cost.
5. Each of the five companies in question has been in business for at least 5 years, and none has ever been a subsidiary of each other or any other company.
6. The acquisition agreement with Ankit Ltd., provides that, if earnings of the acquired subsidiary exceed certain amounts in each or any of the following 5 years, additional shares of Zee Corporation will be distributed to former Ankit Ltd., shareholders. Specifically, for each 50% earnings advance over 2005 levels (Rs.28,00,000 net), an additional 10% of shares are to be issued.
7. The agreement with Anish Ltd., provides that the purchase price of Rs.2,00,00,000 is protected against market declines for two years subsequent to the merger (i.e., if the value of securities distributed to Anish Ltd., shareholders is below Rs.20 million as of December 31, 2007) additional Zee Corporation common shares will be issued at that time, in an amount sufficient to bring the total value to the stipulated sum.

Financial Statement Analysis

8. Holders of 5,000 shares of Arun Ltd.'s stock angrily dissented to the merger plan, and Zee Corporation agreed to pay them Rs.25 for each share tendered instead of issuing common stock.
9. Common stock of the various firms was traded on stock exchanges or quoted in the over-the-counter market in 2002 at these prices.

	High		Low		Average		Ending	
	Rs.		Rs.		Rs.		Rs.	
Zee Corporation	512		388		495		492	
Arpan Ltd.	51	7/8	28	1/2	35	1/4	35	3/4
Ankit Ltd.	8	3/4	7	1/2	8		8	1/8
Arun Ltd.	28	1/2	14	3/8	20	1/8	20	1/2
Anish Ltd.	20	1/8	10	1/4	12	1/2	11	1/2

Table 1: Zee Corporation
Condensed Balance Sheet as on December 31, 2005

	Rs.	Rs.
Sundry current assets		7,50,00,000
Plant and equipment net	8,00,00,000	
Investment in Anish Ltd., 8% debentures	49,00,000	8,49,00,000
Total assets		15,99,00,000
Sundry liabilities		8,70,00,000
Common stock Rs.100 par	2,25,00,000	
Additional paid-in capital	1,22,00,000	
Retained earnings	3,82,00,000	7,29,00,000
Total liabilities and stockholders' equity		15,99,00,000

Table 2: Arpan Ltd.
Condensed Balance Sheet as on December 31, 2005

	Rs.	Rs.
Sundry current assets		39,00,000
Plant and equipment, net	3,85,00,000	
Investment in Zee's common stock (11,250 shares)	98,00,000	4,83,00,000
Total assets		5,22,00,000
Sundry liabilities		25,00,000
Common stock Rs.10 par	2,00,00,000	
Paid-in surplus	1,47,00,000	
Retained earnings	1,50,00,000	4,97,00,000
Total liabilities and stockholders' equity		5,22,00,000

**Table 3: Ankit Ltd.
Condensed Balance Sheet as on December 31, 2005**

	Rs.	Rs.
Sundry current assets		40,00,000
Plant and equipment net	1,74,00,000	
Investment in Zee's common stock (4,500 shares)	31,00,000	2,05,00,000
Total assets		2,45,00,000
Sundry liabilities		65,00,000
Common stock (no par), 3 million shares outstanding	1,45,00,000	
Retained earnings	35,00,000	1,80,00,000
Total liabilities and stockholders' equity		2,45,00,000

**Table 4: Arun Ltd.
Condensed Balance Sheet as on December 31, 2005**

	Rs.	Rs.
Sundry current assets		40,00,000
Plant and equipment, net		2,40,00,000
Total assets		2,80,00,000
Sundry liabilities		25,00,000
Bank term loan due 2008 (6%)		45,00,000
Common stock Re.1 par	10,00,000	
Premium on common stock	35,00,000	
Retained earnings	1,65,00,000	2,10,00,000
Total liabilities and stockholders' equity		2,80,00,000

**Table 5: Anish, Ltd.
Condensed Balance Sheet as on December 31, 2005**

	Rs.	Rs.
Sundry current assets		1,25,00,000
Plant and equipment, net		2,20,00,000
Total assets		3,45,00,000
Sundry liabilities		70,00,000
8% debentures due January 1, 2016		1,25,00,000
Common stock Rs.10 par	50,00,000	
Paid-in capital	62,00,000	
Retained earnings	38,00,000	1,50,00,000
Total liabilities and stockholders' equity		3,45,00,000

All balance sheets date before recording of the mergers.

The first task is to determine which of the four mergers qualify for pooling treatment. The first company to be acquired, Arpan Ltd., is to be obtained in exchange for only the issuing corporation's shares (which suggests a pooling); but prior to the merger Arpan Ltd., does own some of Zee Corporation's shares, seemingly in violation of the second of APB-16's criteria. According to that requirement, each entity must be independent of the other.

An exception is provided for inter corporate investments of less than 10% of the total of outstanding voting shares. Therefore, the 5% of Zee's shares held by Arpan will not preclude the use of pooling accounting. Although in some instances an investment of nominally less than 10% will become an impediment the situation with Arpan Ltd., poses no problem. Since all other pooling criteria are also satisfied. The merger must be handled as a pooling.

The Ankit Ltd., case is more complex. At first the 2% of Zee shares owned by Ankit Ltd., would appear, as in the Arpan Ltd., case, to be no problem since the 10% rule under the second pooling criterion is not violated.

However, this requirement interacts with the fourth APB-16 pooling criterion (the rule that at least 90% of an acquired entity's common stock outstanding at the consummation date must be exchanged for the issuing corporation's shares, excluding shares that were acquired entity). Using the exchange ratio, the issuing company's shares held by the acquired entity are converted into the equivalent number of acquired entity shares. This number cannot exceed 10% of the total shares of the acquired entity being exchanged.

In the current example, Ankit Ltd., holds 4,500 Zee Corporation's shares, which at the stated exchange ratio of 1:75, are equivalent to 3,37,500 Ankit Ltd., shares, or 11.25% of Ankit's outstanding shares. In other words, a significant part of Ankit Ltd. is being obtained by Zee Corporation using Ankit's own asset (its investment in the acquirer company), rather than by issuing new shares. This violates the "all of one time for the issuer's stock" requirement embodied in the fourth criterion and precludes the application of pooling accounting. (Incidentally, the same test applied to the Arpan Ltd., merger has this result: 11,250 shares x 1:15 exchange ratio = 1,68,750 equivalent Arpan Ltd. shares, which is only 8.44% of Arpan's outstanding stock.)

The merger of Ankit Ltd. would also fail to qualify for pooling treatment because the agreement provides for contingent consideration based on future earnings. The Arun Ltd. merger involves both cash and stock, raising a possible red flag since poolings are, generally, purely stock swaps among the parties to the completion. However, the "only-stock" rule relates only to that which is issued by the acquirer for the acquired entity's voting stock; cash or other means of payment may be given its exchange for other securities (non-voting equity or debt) of the acquired entity. Care must be exercised in dealing with this exception, since a transaction prohibited by the pooling of interest's criteria cannot be finessed by making it a transaction with two steps. For example, if more than 10% of the acquired company's shares are retired in exchange for debt within two years before the merger, this debt cannot then be paid-off in cash by the acquirer as part of the merger arrangement. Instead, the issuing company's common stock would have to be given to these creditors/ex-stockholders.

In the Arun Ltd. case, cash is used to retire the bank loan, which was not incurred in connection with a repurchase of Arun Ltd., common shares. Therefore, this is not a violation of any of the pooling criteria.

The cash exchanged for the 1/2% common stock holding of dissenting owners of Arun also poses no problem, since substantially all of Arun Ltd., common shares (i.e., at least 90%) are obtained in exchange for Zee's common stock. Accordingly, the Arun Ltd. merger qualifies for pooling treatment.

Finally, consider the Anish Ltd. merger. Common shares of Anish Ltd., are being obtained in exchange for a package of preferred and common Zee Corporations shares, and additional common shares may be issued in the future if the market value of the shares originally given falls below a specified threshold. Also, the acquirer owns a large block of the acquired entity's debentures prior to the initiation of the merger.

The debenture ownership is not a problem since it is not an inter-corporate investment in the sense of a voting common stock be used as payment for substantially all the common shares of the acquired entity. Also, the contingent future share issuance, violating the ninth criterion, would be enough to obviate the pooling method. Thus, the Anish Ltd., merger must be accounted for as a purchase.

THE POOLING METHOD

Under this method, it assumes a combination of the stockholders' interest. The basis of the valuation under this method would be the pooling of book values of the assets that are acquired by the acquiring company. Therefore, there may not be any goodwill that is created at the date of the combination when this method is adopted. The financial statements of the acquiring company would be inclusive of the prior years' restatement presented in order to include the operations and the financial position of the pooled company for all the years for which such statements are presented.

Accounting under Pooling Method

CARRYFORWARD AT BOOK VALUE

Net assets of the acquired business are carried forward at book value. No assets or liabilities are added or withdrawn by the acquirer or acquired.

The concept of book value of the investment is a basic principle of accounting for business combinations and will be used in many different computations.

Illustration 2

The book value of the net assets of Hritik Company may be computed by two different methods.

1. Subtract the book value of the liabilities from the book values of the assets
 $\text{Rs.1,12,600} - \text{Rs.6,600} = \text{Rs.1,06,000}$
2. Add the book values of the components of Hritik Company stockholders' equity
 $\text{Rs.50,000} + \text{Rs.15,000} + \text{Rs.41,000} = \text{Rs.1,06,000}$

Solution

Harsha Company and Hritik Company Balance Sheets as of January 1, 2006 (Immediately Before Combination)

	Harsha Company Rs.	Hritik Company Rs.
Assets		
Cash	30,900	37,400
Accounts receivable	34,200	9,100
Inventories	22,900	16,100
Equipment	2,00,000	50,000
Less: Accumulated depreciation	(21,000)	(10,000)
Patents	-0-	10,000
Total assets	2,67,000	1,12,600
Liabilities and Equity		
Accounts payable	4,000	6,600
Bonds payable	1,00,000	-0-
Capital stock (Rs.10 par)	1,00,000	50,000
Additional paid-in capital	15,000	15,000
Retained earnings	48,000	41,000
Total liabilities and equity	2,67,000	1,12,600

TREATMENT OF EQUITY

Retained earnings and paid-in-capital of the acquired business are brought forth at book value. While total stockholders' equity does not change, the equity components do change. Any necessary adjustments are made to paid-in-capital. If paid-in-capital is inadequate to absorb the difference, retained earnings would be reduced for the balance. A deficit in retained earnings for a combining company is retained in the combined entity. Net income of the acquired company is carried forth for the entire year regardless of the acquisition date.

EXPENSES INCURRED

Expenses of the pooling are charged against earnings immediately. Expenses include, consulting charges, finders' fees, costs to provide information to stockholders, registration fees, and costs incurred to combine operations of the prior separate companies.

TREATMENT OF GAIN OR LOSS

A gain or loss from disposing of a major part of the assets of the acquired business within two years after combination is treated as an extraordinary item (net of tax).

Journal Entry typically under Pooling of Interest Method is:

Investment Account	Dr.
To Common Stock Account	
To Additional Paid-in capital Account	
To Retained Earnings Account	

Pooling of interest does not result in any new asset such as goodwill etc. as in the case of purchase method. The non-recurring intercompany transactions should be eliminated in the year of pooling. However, non-recurring intercompany transactions related to long-term assets and liabilities need not be eliminated, but their nature and impact on earnings per share is disclosed.

Under this method, the stockholders' equities of the separate companies are combined (added). The combined entity's outstanding common stock at par value may not equal those of the separate companies' combined amounts of common stock. If this occurs, do the following: If the combined entity's outstanding common stock at par value is less than those of the separate companies' combined amounts of common stock, increase paid-in-capital.

Uniting of Stockholders' Equity Under Pooling Accounting

Under this method, it would involve the uniting of or pooling of stockholders' equities of the combining firms. The comparison of the par and the stated value of the surviving company's common stock is required to be made with the total par or the stated value of the common stock capital of the combining companies before the date of consolidation. This process would be referred to as the determination of the mix of the pooled stockholders' equity and must be performed prior to the making of the date of the combination entries.

The determination of the mix of the pooled stockholders' equity is required to be performed before the date of the combination entries. For the purpose of determining the mix of the pooled stockholders' equity, it would be necessary under the pooling to use book values of the net assets, to record the combination.

This can be better shown with the help of an example as under:

Illustration 3

To illustrate this process, we will use the information from our comprehensive example of Harsha Company and Hritik Company. Note that the companies have the following equity accounts immediately before the combination.

(Amount in Rs.)		
	Harsha	Hritik
Capital stock (Rs.10 par)	1,00,000	50,000
Additional paid-in capital	15,000	15,000
Retained earnings	48,000	41,000
Totals	1,63,000	1,06,000

Pooling requires the continuation of at least Rs.65,000 of contributed capital from Hritik Company (Rs.50,000 Capital Stock + Rs.15,000 Additional Paid-in Capital). The “mix” of the contributed capital items in Harsha Company’s date of combination entry will be based on the par of the stock given up by Harsha Company. If the par of the stock issued by the issuer (Company Harsha) is greater than the present par on the books of the combinee company (Company Hritik), the following sequence should be used as each item is fully extinguished.

1. Total par value outstanding of combinee (Company Hritik).
2. Additional paid-in capital of combinee (Company Hritik).
3. Additional paid-in capital of issuer (Company Harsha).
4. Retained earnings of combinee (Company Hritik).
5. Retained earnings of issuer (Company Harsha).

If the par issued is less than the present par in the books of the combinee, the excess of the prior par over the new par is added to additional paid-in capital.

[The company name in parentheses provides the company source for determining the amount of the entry].

Merger and Consolidation Legal Forms

Case 1

Par value of common stock issued by Harsha Company is Rs.30,000

(Amount in Rs.)

	Total SE before pooling	Activity	Total SE after pooling
Capital Stock	1,50,000	+ 30,000 – 50,000	1,30,000
APIC	30,000	+ 20,000	50,000
RE	89,000		89,000
Total	2,69,000	-0-	2,69,000

The entry in Harsha’s book would be as follows:

	Rs.	Rs.
Net assets of Hritik Dr.	1,06,000	
To Capital stock (Co. Harsha)		30,000
To Additional Paid-in Capital [15,000 + (50,000 – 30,000)]		35,000
To Retained Earnings (Co. Hritik)		41,000

Explanation

The book values of Hritik’s specific assets and liabilities would be listed separately. To reflect the equity swap, capital stock is credited for the par value of common stock issued by Harsha Company, but not for the par value of common stock on Hritik Company books.

The credit to additional paid-in capital consists of two amounts: (1) the carryover of APIC from Hritik Company’s books, plus (2) the excess of the par value of common stock on Hritik Company’s books over the par value of common stock issued and recorded by Harsha Company. Note that there is a continuation of Rs.65,000 of contributed capital from Hritik Company (Rs.30,000 capital stock plus Rs.35,000 additional paid-in capital).

Finally, the credit to retained earnings is simply a carryover from Hritik Company’s books.

Case 2

Par value of common stock issued by Harsha Company is Rs.60,000.

(Amount in Rs.)

	Total SE before pooling (Rs.)	Activity	Total SE after pooling (Rs.)
Capital Stock	1,50,000	+ 60,000	1,60,000
		–50,000	
APIC	30,000	–10,000	20,000
RE	89,000		89,000
Total	2,69,000	-0-	2,69,000

Entry in Harsha's book would be as follows:

	Rs.	Rs.
Net assets of Hritik Dr.	1,06,000	
To Capital stock (Co. Harsha)		60,000
To Additional Paid-in Capital (Co. Hritik)		5,000
[15,000 + (50,000 – 60,000)]		
To Retained Earnings (Co. Hritik)		41,000

Explanation

The credits to capital stock and retained earnings are derived the same way as those in Case 1. However, the credit to APIC is different because in Case 2 the par value of common stock issued and recorded by Harsha Company is Rs.10,000 greater than the par value of common stock in Hritik Company's books. This results in a Rs.10,000 decrease in the APIC carried over from Hritik Company's books. Therefore, the total amount credited to APIC on Company Harsha's books is Rs.5,000 (Rs.15,000 – Rs.10,000). Once again there is a continuation of contributed capital from Hritik Company (Rs.60,000 capital stock plus Rs.5,000 additional paid-in capital).

Case 3

Par value of common stock issued by Harsha Company is Rs.75,000.

(Amount in Rs.)

	Total SE before pooling	Activity	Total SE after pooling
	Rs.	Rs.	Rs.
Capital Stock	1,50,000	+ 75,000	1,75,000
		–50,000	
APIC	30,000	–25,000	5,000
RE	89,000		89,000
Total	2,69,000	-0-	2,69,000

Entry in Harsha's book would be as follows:

(Amount in Rs.)

Net assets of Hritik Dr.	1,06,000	
Additional Paid-in Capital (Harsha Co.) Dr.		
15,000 + [(50,000 – 75,000)]	10,000	
To Capital stock (Harsha Co.)		75,000
To Retained Earnings (Hritik Co.)		41,000

Explanation

The credits to capital stock and retained earnings are derived the same way as in Case 1. However, additional paid-in capital is debited in Case 3 because the par of common stock issued by Harsha Company is greater than the total contributed capital presently in Hritik Company's books. The difference between the par of common stock issued by Harsha Company and the present par value of Hritik

Company's capital stock is Rs.25,000 (Rs.75,000 – Rs.50,000). This amount first extinguishes the Rs.15,000 additional paid-in capital carried over from Hritik Company's books and results in Rs.10,000 (Rs.25,000 – Rs.15,000) reduction of Harsha Company's additional paid-in capital.

Note that there is a continuation of Rs.65,000 of contributed capital from Hritik Company (Rs.75,000 capital stock minus Rs.10,000 debt to APIC).

Acquisition Legal Form

If Company Hritik is maintained as a separate legal entity (i.e., an acquisition), consolidated financial statements will have to be prepared. The combination entries will include an "Investment in Hritik Stock" account rather than the specific net assets of Hritik Company. The combination entry on Harsha's books for Case 1 would be as follows:

	Rs.	Rs.
Investment in Company Hritik's Co. Common stock Dr.	1,06,000	
To Capital stock (Harsha Co.)		30,000
To Additional paid-in capital (Hritik Co.)		35,000
To Retained earnings (Hritik Co.)		41,000

Subsequent cases would be treated similarly based on the par of the stock issued. It is important to note that in 100% acquisitions all of the final amounts and accounts in the consolidated financial statements would be the same as if the business combination were treated as a merger or consolidation.

THE PURCHASE METHOD

With the banning of the Pooling method by USGAAP, new rules have been issued in SFAS 141 and SFAS 142 that establish requirements for accounting for combinations. Under this statement purchase accounting must be applied which will result in recognition of goodwill. This method is similar to the accounting treatment that is adopted for the acquisition of a group of asset. The fair market value of the consideration that is given by the firm acquiring the assets is used as the basis of valuation for such combinations. The assets and the liabilities of the firms that are acquired are to be revalued at their respective fair market values at the date of such combinations. In case of any difference that arises in the value of the consideration that is given and the fair market value of the net assets that are obtained it is considered as goodwill. The financial statements of the acquiring company reflect the combined operations from the date of the combination.

Accounting under Purchase Method

DETERMINATION OF FAIR VALUES

The purchase method requires to determine the fair market value of the acquired company's identifiable tangible, intangible assets and the liabilities at the date of combination.

The determination of these fair market values is crucial for the proper application of the purchase method. The mentioned below list indicates how the various assets and liabilities are evaluated:

- i. **Marketable Securities:** These are valued at their current net realizable values.
- ii. **Receivables:** These are valued at the present value amounts that are to be received and determined by using the current interest rates, less allowances for the uncollectible accounts.
- iii. **Inventories:** In the case of inventories, the finished goods would be valued at their estimated selling prices less the sum of the costs of disposal and a normal profit; the work-in-progress inventory would be valued at the estimated selling prices less the sum of the costs of completion, costs of disposal; and the normal profit and raw material inventory is required to be valued at their current replacement costs.

- iv. **Plant and Equipment:** In case the plant and machinery is to be used in the operations, it would be valued at the current replacement costs for similar capacity unless the expected future use of the assets indicates a lower value to the acquirer and in case the plant or equipment is expected to be sold, it would be valued at the fair value less the cost to sell.
- v. **Identifiable Intangible Assets and other Assets:** Under this category, assets such as land, natural resources and non-marketable securities would be included and are required to be considered at their appraised value.
- vi. **Liabilities:** This would include the notes and accounts payable, long-term debts, pensions, warranties, claims payable, etc., and are to be considered at the present value of the amounts that are to be paid based on the appropriate current interest rate.

COST ALLOCATION

Where the legal form of combination is a merger or consolidation, the acquirer records all the acquired assets and assumed liabilities at their fair values. If the actual costs exceeds the fair values of the tangible and identifiable intangible net assets acquired, this excess is recorded as an intangible asset referred to as goodwill. Where the cost of the acquisition is actually less than the fair value of the net assets acquired, referred to as “bargain purchases”, the deficiency of cost under fair value is first allocated as a pro rata reduction of the amounts that otherwise would be assigned to the acquired assets other than cash and cash equivalents, trade receivables, inventory, financial instruments that are required to be carried in the balance sheet at fair value, assets to be disposed of by sale, and deferred income tax assets.

DETERMINATION OF GOODWILL

The excess of cost over the fair market value of net tangible assets is assigned to goodwill, which is to be no longer amortized over the period but will be subjected to periodical evaluation for impairment. Note: If contingent consideration is given based on the acquired company's future profits, the value of the additional consideration increases the original cost of the acquisition. This usually increases the value of the goodwill recorded. The excess of the fair market value of net tangible assets over the cost is remaining after cost allocation is considered as negative goodwill. Negative goodwill is immediately recognized as extraordinary gain. If however, where there are contingent consideration issues, the negative goodwill will be carried as a deferred credit on the balance sheet until the contingency is resolved. Any remaining balance is evaluated for impairment.

TREATMENT OF DIRECT COSTS

Direct costs of the acquisition (e.g., legal, accounting, consulting, engineering evaluation, appraisal, and finders' fees) are an element of the acquisition cost and are charged to the investment in subsidiary account. Indirect and general costs (internal costs) are expensed as incurred. If the acquirer pays fees to an investment banker for advice and assistance, such costs should usually be considered a direct cost of the acquisition and therefore an element of the purchase price. The costs of registering and issuing any securities to effect the combination are accounted for as any other issue cost; that is, the issuance cost for debt is deferred and amortized over the term of the debt using the interest method, and the cost of issuing stock (e.g., underwriting fees) is a reduction of paid-in-capital. Liabilities and commitments for the costs of closing an acquired company's plant are considered direct costs of the acquisition. They are recorded at the present value amounts to be paid. However, the costs of closing a duplicate plant of the acquirer are not part of the acquisition cost.

OTHER ADJUSTMENTS

- Goodwill of the acquired business is not brought forth.
- None of the stockholders' equity accounts of the acquired company (e.g., retained earnings) is shown on the acquirer's books.
- Net income of the acquired business is recognized from the acquisition date to year-end.

CONTINGENT CONSIDERATION

Any business combination providing for contingent consideration must be accounted for as a purchase. A pre acquisition contingency (asset or liability) is a contingency of a company that is accounted under the purchase method. An example of a contingent (uncertain) liability is a pending lawsuit. The "preacquisition contingencies" during the allocation period should be recorded as a cost element of the investment. The allocation period ends when the acquirer no longer needs information. In general, the allocation period does not exceed one year from the consummation date. If the contingency is resolved after one year, it is reported in current year earnings. Reacquisition contingencies are includable in allocating purchase cost. The allocation basis is based on the fair market value of the reacquisition contingency. If fair market value is not reliably ascertainable, the following criteria are followed: Information available prior to the end of the allocation period indicates that it is probable that an asset existed, a liability had been incurred, or an asset had been impaired at the consummation date. It must be probable that one or more future occurrences will confirm the existence of the asset, liability, or impairment. The amount of the asset or liability can be reasonably estimated. Adjustments required by a preacquisition contingency taking place after the end of the allocation period must be included in net income.

Illustration 4

On 31st December 2004, Pink Company acquired Blue Company and issued 2,00,000 shares of Rs.20 (par) each in exchange of net assets of the Blue Company. Purchase method of the accounting is used for this business combination. On 31st December 2004, the market value of common stock of Pink Company was Rs.36 per share. Following expenses were incurred by Pink Company in this connection:

Consultancy fee: Rs.3,20,000

Registration fee: Rs.1,60,000

If no goodwill is involved in the purchase then what amount should Pink capitalize as the cost of acquiring Blue's net assets?

Solution

Fair market value of the net assets is to be used as the valuation basis for the combination when purchase method is used. In the given illustration, the net assets of Blue Company is having an implied fair market value of Rs.72,00,000 which is arrived as 2,00,000 shares x Rs.36 = Rs.72,00,000. The direct cost of acquisition should be included as part of the cost of a company acquired, and the cost of registering equity securities should be a reduction of the issue price of the securities (i.e., additional paid-in capital) in a business combination accounted for by the purchase method. Therefore, the consultancy fee of Rs.3,20,000 should be capitalized and the registration fee of Rs.1,60,000 is to be deducted from additional paid-in capital. Total capitalization value will be

$\text{Rs.}(72,00,000 + 3,20,000) = \text{Rs.}75,20,000.$

Illustration 5

On 31st March 2005, Sun company was merged into Moon Company. As per the condition, Moon Company issued 4,00,000 shares of its common stock of Rs.10 each when its market value was Rs.18 per share in exchange of all outstanding

shares of Sun Ltd. The stockholders' equity section in the balance sheet of these companies immediately before the merger was as follows:

If the merger qualifies for treatment as a purchase then on 31st March, 2005, what amount should be reported in the consolidated balance sheet as the value of additional paid-in capital?

	Rs.	Rs.
	Moon	Sun
Common stock	60,00,000	30,00,000
Additional paid-in capital	26,00,000	3,00,000
Retained earnings	50,00,000	17,00,000
	1,36,00,000	50,00,000

Solution

In a business combination accounted for as a purchase, the fair market value of the net assets is used as the valuation basis for the combination. In this case, the net assets of the subsidiary have an implied fair market value of Rs.72,00,000 which is the value of the common stock issued to Sun's shareholders (4,00,000 x Rs.18). Since Rs.72,00,000 is the basis for recording this purchase, the common stock issued is recorded at Rs.40,00,000 (4,00,000 shares x Rs.10 par value per share) and additional paid-in capital is recorded at Rs.32,00,000 (Rs.72,00,000 – Rs.40,00,000). Therefore, in March 31, 2005 consolidated balance sheet, additional paid-in capital should be reported at Rs.58,00,000 (Rs.26,00,000 + Rs.32,00,000).

Illustration 6

Purchase accounting is the most appropriate method for accounting a business combination. Which of the following should be deducted in determining the combined corporation's net income for the current period?

	Direct costs of acquisition	General expenses related to acquisition
a.	Yes	No
b.	Yes	Yes
c.	No	Yes
d.	No	No

Solution

The direct costs of acquisition should be included as part of the cost of a company acquired in a business combination accounted for by the purchase method. General expenses related to the acquisition, however, are deducted as incurred in determining the combined corporation's net income for the current period. Thus option (c) is correct.

Illustration 7

P Corp., acquired 100% of the outstanding common stock of S Corp., in a purchase transaction. The cost of the acquisition exceeded the fair value of the identifiable assets and assumed liabilities. The general guidelines for assigning amounts to the inventories acquired provide for,

- Raw materials to be valued at original cost.
- Finished goods to be valued at estimated selling prices, less both costs of disposal and a reasonable profit allowance.
- Work-in-process to be valued at the estimated selling prices of finished goods, less both costs to complete and costs of disposal.
- Finished goods to be valued at replacement cost.

Solution

Finished goods inventories should be valued at estimated selling prices less the costs of disposal and a reasonable profit allowance for the selling effort of the acquiring corporation. Thus option (d) is correct. As raw materials should be valued at current replacement rather than the original cost, option (a) is incorrect. Work-in-process should be valued at the estimated selling prices of finished goods less the costs to complete, the costs of disposal, and a reasonable profit allowance which signifies that option (c) is incorrect. Finished goods are valued at estimated selling prices less the costs of disposal and a reasonable profit allowance, not replacement cost which nullifies option (b).

Illustration 8: A Case of Goodwill

Sun Corp. acquired all the common stock of Moon Inc. on January 01, 2006 at a cost of Rs.64 million. The purchase consideration was consisted of Rs.30 million in cash and the balance was in the form of a long term note to Moon Inc. shareholders as existed before the day of acquisition. Following is the balance sheet of Moon Inc. as existed just before the acquisition.

Balance Sheet of Moon Inc. immediately prior to the acquisition

Liabilities	Book Value (Rs. in '000)	Fair Value (Rs. in '000)	Assets	Book Value (Rs. in '000)	Fair Value (Rs. in '000)
Shareholders Equity	(18,200)	43,550	Cash	2,000	2,000
Long term Debt	92,000	83,000	Accounts receivable	24,400	24,000
Guarantee of debt	—	150	Inventory	17,000	19,500
Current liabilities	52,400	52,400	Other current assets	1,000	1,000
			Property, plant and equipment	77,000	104,800
			Customers list	—	2,800
			Patents	4,800	7,800
			In process research and development	—	17,200
	126,200	179,100		126,200	179,100

Solution

Computation of goodwill is as follows:

Purchase Price	Rs.	Rs.	Rs.
Less			64,000,000
Cash	2,000,000		
Accounts receivable	24,000,000		
Inventory	19,500,000		
Other current assets	1,000,000		
Less current liabilities	(52,400,000)		
Net working capital		(5,900,000)	
Property, plant and equipment		104,800,000	
Customers list		2,800,000	
Patents		7,800,000	
In process research and development		17,200,000	
Long term Debt		(83,000,000)	
Guarantee of debt		(150,000)	43,550,000
Goodwill			20,450,000

Financial Statement Analysis

The fair value allocated to the in-process research and development must be immediately expenses, and all other assets and liabilities are recorded by Sun Corp. at the allocated the values with the excess recognized as goodwill. The following journal entry is to be made in the books of Sun Corp.

Dr. Cash	2,000,000	
Dr. Accounts receivable	24,000,000	
Dr. Inventory	19,500,000	
Dr. Other current assets	1,000,000	
Dr. Property, plant and equipment	104,800,000	
Dr. Customers list	2,800,000	
Dr. Patents	7,800,000	
Dr. Goodwill	20,450,000	
Dr. In process research and development expense	17,200,000	
Cr. current liabilities		52,400,000
Cr. Long term Debt		83,000,000
Cr. Guarantee of debt		150,000
Cr. Cash		30,000,000

Illustration 9: A Case of Negative Goodwill

Harrison Corp. acquired all the common stock of Singer Inc. on January 01,2006 at a cost of Rs.1,600,000 in cash. Singer Inc. an earlier successful company, incurred losses in the last two years due to declining sales and other problems. Singer Inc's balance sheet at the date of acquisition was as follows:

Balance Sheet of Singer Inc. Immediately Prior to the Acquisition

Liabilities	Book Value (Rs. in '000)	Fair Value (Rs. in '000)	Assets	Book Value (Rs. in '000)	Fair Value (Rs. in '000)
Shareholders Equity	(1,960)	3,140	Cash	1,600	1,600
Long term Debt	22,310	22,310	Accounts receivable	7,200	6,800
Current liabilities	5,750	5,750	Inventory	3,700	3,600
			Property, plant and equipment	13,600	14,400
			Net Operating carryforwards	–	4,800
	26,100	31,200		26,100	31,200

Singer Inc. has provided a valuation allowance for the deferred income tax assets attributable to the net operating loss carryforward. Since Harrison Corp. is in the same line as Singer Inc. and is highly profitable, it plans to continue Singer's operations.

The cost of acquisition is Rs.1,600,000. The value of the acquisition is much higher and the acquirer is able to negotiate a bargain purchase. Since the fair value of acquisition is more than the cost paid for it, the bargain purchase gives rise to negative goodwill.

Solution

Computation of negative goodwill is as follows:

(Amount in Rs.)

Cash	1,600,000		
Accounts receivable	6,800,000		
Inventory	3,600,000		
Less current liabilities	(5,750,000)		
Net working capital		6,250,000	
Property, plant and equipment		14,400,000	
Net Operating loss carryforward		4,800,000	
Less			
Long term Debt		(22,310,000)	3,140,000
Purchase Price			1,600,000
Negative Goodwill (excess of fair value over cost)			1,540,000

The entry to record the purchase before allocating negative goodwill is as follows:

Dr. Cash	Rs.1,600,000	
Dr. Accounts receivable	Rs.6,800,000	
Dr. Inventory	Rs.3,600,000	
Dr. Property, plant and equipment	Rs.14,400,000	
Dr. Deferred income tax asset	Rs.4,800,000	
Cr. current liabilities		Rs.5,750,000
Cr. Long term Debt		Rs.22,310,000
Cr. Cash		Rs.1,600,000
Cr. Negative Goodwill		Rs.1,540,000

Under USGAAP (SFAS 141), this negative goodwill is first used to offset all acquired assets other than cash and cash equivalents, trade receivables, inventory, financial instruments that are required to be carried on the balance sheet at fair value, assets to be disposed of by sale, and deferred income tax assets, on a prorate basis.

Dr. Negative Goodwill	Rs.1,540,00	
Cr. Property, Plant and Equipment		Rs.1,540,000

And where the negative goodwill is too large, the residual negative goodwill after absorption by assets acquired other than cash and cash equivalents, trade receivables, inventory, financial instruments that are required to be carried on the balance sheet at fair value, assets to be disposed of by sale, and deferred income tax assets is to be recognized as extraordinary item in the income statement.

IMPAIRMENT OF GOODWILL

As against the earlier practice of amortization of Goodwill, the new practice is to test goodwill for impairment. This necessitates developing a mechanism to ensure that the amount presented in the ongoing statement would not exceed the goodwill's estimated fair value at any point of time. On the argument that it is computationally impossible to forecast undiscounted cash flows from the use and eventual disposition of goodwill that has an indefinite value, it was concluded that goodwill impairment cannot be effected by the same mechanical approach as applied in the case of long-lived assets.

Goodwill impairment testing comprises of two steps. The first step is the assessment of impairment. This is done by comparing the fair value of the reporting unit taken as a whole to its carrying (book) value. If the fair value of the reporting unit exceeds its book value, it implies no impairment of goodwill has taken place.

However, if the carrying value exceeds fair value, then the second step must be performed. This step tests the goodwill for impairment and assess the quantum of impairment. This step requires comparing the recorded value of the goodwill to its implied fair value which is computed in the same manner as when completing a business combination's 'purchase price allocation'. This process requires allocating the fair value of the reporting unit to all the unit's assets and liabilities including unrecognized intangibles and the residue being goodwill. If this implied (residual) value of the goodwill is less than its carrying value, the excess is written off as impairment expense. No other adjustments are required to carrying value of other assets and liabilities.

Entries Required under Both the Methods

The table below would better explain the entries required to be passed under each of the combination forms, i.e. merger, consolidation and acquisition for which the stock is given. The legal form would primarily depend on whether the combined entity is retaining as a separate legal existence or would it transfer its assets and liabilities to the combining company in which case the other combining company would be canceling the remaining stock held by it in the former. The purchase versus the pooling method is independent of the legal form. The accounting for the combination whether by adopting the purchase method or the pooling of interest method would be determined by the specific aspects of the combination transaction specified in APB-16.

Purchase-Pooling Matrix

	Accounting Method	
Legal form	Purchase	Pooling
Merger (A Co. + B Co. = A Co.)	Assets (FMV of B) Dr. To Liabilities (FMV of B) Capital stock (Co. A) To APIC (Co. A)	Assets (BV of B) Dr. To Liabilities (BV of B) To Capital stock (Co. A) To APIC (Co. B) Dr. Retained earnings (Co. B)
Consolidation (A Co. + B Co. = C Co.)	Assets (FMV of both A and B) Dr. To Liabilities (FMV of A and B) To Capital stock (Co. C) (Co. C)	Assets (BV of Dr. both A and B) To Liabilities (BV of A and B) To Capital stock (Co. C) APIC APIC (both A and B) Retained earnings (both A and B)
Acquisition (A Co. + B Co. Consolidated statements of A and B)	Investment in B (FMV) Dr. To Capital stock (Co. A) APIC (Co. A)	Investment Dr. in B (BV) To Capital Stock (Co. A) APIC (Co. B) Retained earnings (Co. B)

Purchase Method vs Pooling Method

	Purchase Method	Pooling Method
Effect on Assets	Assets are reflected at market value and hence reported generally higher than their book value.	Assets are reflected at book value and hence reported a values lower than as reported under purchase method.
Effect on Net Income	Since the assets are reflected at market value, this has the effect of inflating the depreciation resulting in lower income relative to pooling method.	Since the assets are reflected at book values, the depreciated value of assets is lower than depreciation computed on Market values and hence the income is higher than under purchase method.
Effect on equity	The equity under purchase method is higher since the book values are replaced with purchase price.	The equity relative to the purchase method is lower.
Effect on Profit margin ratio	Lower under purchase method	Higher under Pooling method
Effect on Return Equity	Lower under purchase method.	Higher under Pooling method

CONSOLIDATED FINANCIAL STATEMENTS

The consolidation of financial information into a single set of financial records is required whenever one of the companies in the group has directly or indirectly a controlling financial interest in the other enterprise. In other words, Where a company acquires more than 50% of the outstanding voting stock, it necessitates the preparation of consolidated financial statements. In many combinations, the consolidation process is carried out only at the date of the business combination to bring together all accounts into a single set of financial records, and all but one of the companies is dissolved as a legal corporation. This is in the case of mergers where a one time consolidation process occurs. In other combinations, as in case of acquisitions the consolidation process repeats whenever financial statements must be prepared, and the companies retain their legal identities as separate entities and continue to maintain their own individual accounting systems.

The process of consolidation involves the elimination of investment account in the consolidated financial statements. This is required to be replaced with the specific assets and liabilities of the investee corporation. However, the financial statements need not be consolidated if the investment is more than 50% in case:

- i. The control is likely to be temporary.
- ii. The investee operates in a foreign country that has severe restrictions on the financial transactions of the business or is subject to political or economic uncertainty that would be casting significant doubt on the parent's ability to control the subsidiary.
- iii. The investee is undergoing legal reorganization or is bankrupt.

In these cases, the investments are required to be reported as part of the unconsolidated subsidiary in the Balance Sheet of the investor with its balance being determined by adopting the cost method unless the parent can demonstrate that it has a significant influence in which case it would be the equity method that would be adopted.

The concept of the consolidated financial statements is that the resources of two or more of the companies would be under the control of the parent company. The consolidated statements are presumed to be prepared as if the group of legal entities were one economic entity. The advantage of the preparation of consolidated statements is that they are presumed to be more useful and meaningful to the owners, managers, and creditors of the parent company especially so for the fair presentation of the finance related companies. For the benefit of the minority ownership and the creditors of the subsidiary company the individual company statements are to be continued.

The accounting principles that are used to record and report the events for a single legal entity are required to be expanded to include more than one company but all the other accounting principles are required to be applied in the same manner as the case would be for an individual company. The consolidation process would be involving the elimination of the reciprocal items that are shown in the books of both the parent company as well as the subsidiary company. This form of elimination would be required to avoid any double accounting of such items which would be leading to misstatement of the records of either the parent's or the subsidiary's accounts.

The consolidated financial statements are prepared using the trial balances of the subsidiary companies. The eliminating worksheet entries are prepared to reflect the results of the operations of the two separate companies and the financial position as one consolidated financial entity. The entire consolidation process takes place only on a worksheet and no consolidation entities are ever recorded in the books of either the subsidiary company or the parent company.

The consolidated balance sheets are prepared on the date of completion of the combination in order to determine the initial financial position of the economic entity. The inter-company transaction that takes place between the subsidiary and the parent company is also eliminated for the purpose of such consolidation. The investments that are made in the subsidiary's stock are also eliminated from the asset's side of the Balance Sheet of the parent company and at the same time the share capital of the subsidiary would be reduced to a same extent from its balance sheet. The remaining accounts are then required to be combined to prepare the consolidated financial statements. The preparation of the financial statements after the date of the completion of the combination would become more difficult because the parent's and the subsidiary company's balance sheets would be involving reciprocal, inter-company accounts that are required to be eliminated.

Consolidation on Date of Combination

POOLING ACCOUNTING

The preparation of a consolidated balance sheet for a pooling acquisition follows the basic principles discussed in the section on recording the pooling combination. Book values are reported as the basis of the net assets of the combined companies and the continuity of the acquired stockholders' equity is reflected in the carry forward of the capital "mix" from the values shown on the acquired company's books.

Illustration 10

Let us understand this with the help of an example.

**Balance sheet of Harsha Company and Hritik Company
as on December 31, 2005**

	Harsha Company (Rs.)	Hritik Company (Rs.)
Assets		
Cash	30,900	37,400
Accounts receivable	34,200	9,100
Inventories	22,900	16,100
Equipment	2,00,000	50,000
Less: Accumulated depreciation	(21,000)	(10,000)
Patents	-0-	10,000
Total assets	2,67,000	1,12,600
Liabilities and Equity		
Accounts payable	4,000	6,600
Bonds payable	1,00,000	-0-
Capital stock (Rs.10 par)	1,00,000	50,000
Additional paid-in capital	15,000	15,000
Retained earnings	48,000	41,000
Total liabilities and equity	2,67,000	1,12,600

For the purposes of this section, the following assumptions will be made.

- i. On January 1, 2006 Harsha Company acquired a 90% interest in Hritik Company in exchange for 5,400 shares of Rs.10 par value stock of Harsha Company.
- ii. All criteria for a pooling have been met and the combination is treated as a pooling of interests.

The workpaper for a consolidated balance sheet at the date of combination is presented below. Note that the first two columns are trial balances of Harsha Company and Harsha Company immediately after the combination was recorded by Hritik Company.

Solution

1. *Investment Entry Recorded in Harsha Company's Books.*

The following entry was made by Harsha Company to record its 90% acquisition-pooling of Hritik Company:

	Rs.	Rs.
Investment in Stock of Hritik Company Dr.	95,400	
To Capital stock		54,000
To Additional paid-in capital		4,500
To Retained earnings		36,900

The investment entry reflects the capital "mix" for a pooling of less than a 100% investment. The following schedule shows the mix for a 90% combination accomplished by the issuance of 5,400 shares of Harsha Company's Rs.10 par value stock.

	Hritik Company	Harsha Company's percentage share	Harsha's share of Hritik's equity
	Rs.	%	Rs.
Capital stock	50,000	90	45,000
Additional paid-in capital	15,000	90	13,500
Retained earnings	41,000	90	36,900
	1,06,000		95,400

The Rs.54,000 (5,400 shares x Rs.10 par) in new capital issued by Harsha Company represents Rs.45,000 from Hritik Company's Capital Stock and Rs.9,000 of the Rs.13,500 share of Hritik Company's additional paid-in capital. Note the remaining Rs.4,500 of capital and Rs.36,900 of Hritik Company's Retained Earnings are carried over to Harsha Company's books in the combination date entry. The Rs.10,600 of Hritik's capital that is not carried over to Harsha will eventually be shown as minority interest on the consolidated balance sheet.

2. *Elimination Entry on Workpaper.*

Pooling accounting uses book values as a basis of valuation; therefore, no "differential" will ever occur in a pooling. The reciprocal accounts in a pooling consolidated balance sheet are the "Investment in Stock of Hritik Company" account from the parent's books and the stockholders' equity accounts from the subsidiary's books. Again, note that only 90% of the equity of Hritik Company is being eliminated; the 10% remainder will be recognized as minority interest.

**Harsha Company and Hritik Company Consolidated
Working Papers**

For Date of Combination - January 1, 2006
Pooling Accounting (90% Interest)

	Harsha Company Rs.	Hritik Company Rs.	Adjustments and Eliminations Rs.		Minority Interest Rs.	Consolidated balances Rs.
			Debit	Credit		
Cash	30,900	37,400				68,300
Accounts receivable	34,200	9,100				43,300
Inventories	22,900	16,100				39,900
Equipment	2,00,000	50,000				2,50,000
Accumulated depreciation	(21,000)	(10,000)				(31,000)
Investment in stock of Hritik Company	95,400			(a) 95,400		
Patents	—	10,000				10,000
Total assets	3,62,400	1,12,600				3,79,600
Accounts payable	4,000	6,600				10,600
Bonds payable	1,00,000	—		—	—	1,00,000
Capital stock	1,54,000	50,000	(a) 45,000		5,000	1,54,000
Additional paid-in capital	19,500	15,000	(a) 13,500		1,500	19,500
Retained earnings	84,900	41,000	(a) 36,900		4,100	84,900
Minority interest	10,600	10,600		—		
Total liabilities and equity	3,62,400	1,12,600	95,400	95,400		3,79,600

		Rs.	Rs.
(a) Capital stock – Hritik Company	Dr.	45,000	
Additional paid-in capital – Hritik Company	Dr.	13,500	
Retained earnings – Hritik Company	Dr.	36,900*	
To investment in stock of Harsha Company– Harsha Company			95,400
Rs.50,000 x 90% = Rs.45,000			
Rs.15,000 x 90% = Rs.13,500			
Rs.41,000 x 90% = Rs.36,900			
*(Rs.36,900 = 90% x Rs.41,000)			

Illustration 11

On June 30, 2005, Srinil, Inc. issued 6,30,000 shares of its Rs.5 par common stock, for which it received 1,80,000 shares (90%) of Swapnil Corp.'s Rs.10 par common stock, in a business combination appropriately accounted for as a pooling of interests. The stockholders' equities immediately before the combination were:

	Srinil Inc.	Swapnil
	Rs.	Rs.
Common stock	65,00,000	20,00,000
Additional paid-in capital	44,00,000	16,00,000
Retained earnings	61,00,000	54,00,000
	1,70,00,000	90,00,000

Both corporations continued to operate as separate businesses, maintaining accounting records with years ending December 31. For 2005, net income and dividends paid from separate company operations were –

	Srinil Inc. Rs.	Swapnil Rs.
Net income		
Six months ended June 30, 2005	10,00,000	3,00,000
Six months ended December 31, 2005	11,00,000	5,00,000
Dividends paid April 1, 2005	13,00,000	–
October 1, 2005	–	3,50,000

- In the June 30, 2005 consolidated balance sheet, common stock should be reported at what amount?
- In the June 30, 2005 consolidated balance sheet, what amount is to be reported as additional paid-in capital?
- In the June 30, 2005 consolidated balance sheet, what should be the retained earnings?
- In the 2005 consolidated income statement, what should be reported as net income.
- In the December 31, 2005 consolidated balance sheet, what should be the total minority interest?

Solution

- In a pooling of interests, the book values of the previous company's assets and liabilities are carried forward. Therefore, Srinil will record its investment at Rs.81,00,000 (90% x Rs.90,00,000) and stockholders' equity accounts must be credited at the same amount. The new common stock issued must be recorded at its par value (6,30,000 x Rs.5 = Rs.31,50,000). Srinil's share of the subsidiary's retained earnings (90% x Rs.54,00,000 = Rs.48,60,000) is carried forward to the extent possible. Therefore, APIC must be recorded at Rs.90,000 [Rs.81,00,000 – (Rs.31,50,000 + Rs.48,60,000)]. The journal entry is –

	Rs.	Rs.
Investment in stock of Swapnil Corp. Dr.	81,00,000	
To Common stock		31,50,000
To Additional Paid-in Capital		90,000
To Retained earnings		48,60,000

Thus, common stock should be reported at Rs.96,50,000 (Rs.65,00,000 + Rs.31,50,000). The Rs.9,00,000 of the subsidiary's equity that is not carried over (Rs.90,00,000 – Rs.81,00,000) will be reported as minority interest.

- b. The journal entry to record Srinil Inc., investment is

	Rs.	Rs.
Investment in stock of Swapnil Dr.	81,00,000	
To Common stock		31,50,000
To Additional Paid-in Capital		90,000
To Retained earnings		48,60,000

Therefore, additional paid-in capital will be reported at Rs.44,90,000 (Rs.44,00,000 + Rs.90,000).

- c. The journal entry to record Srinil Corp.'s investment is

	Rs.	Rs.
Investment in stock of Swapnil Dr.	81,00,000	
To Common stock		31,50,000
To Additional Paid-in Capital		90,000
To Retained earnings		48,60,000

Therefore, retained earnings should be reported at Rs.1,09,60,000 (Rs.61,00,000 + Rs.48,60,000).

- d. As per APB-16, business combinations accounted for by the pooling-of-interests method should report net income as if the combination took place at the beginning of the year. Therefore, the consolidated income would be Rs.28,20,000.

Separate income of Srinil (Rs.10,00,000 + 11,00,000)		Rs.21,00,000
Separate income of Swapnil (Rs.3,00,000 + Rs.5,00,000)	Rs.8,00,000	
x Post % of ownership	x.90	7,20,000
Consolidated income		Rs.28,20,000

Note that the earnings figures given are for separate company operations, so Srinil's earnings include no income from its investment in Swapnil. If Srinil's earnings had included such income, the amount would have to be calculated and eliminated from Srinil's earnings before pooling the earnings of the two companies.

- e. The percentage of the subsidiary's stockholders' equity not owned by the parent company represents the minority interest's share of the net assets of the subsidiary. On December 31, 2005 the subsidiary's stockholders' equity is Rs.91,50,000.

	Rs.
June 30, 2005 stockholders' equity	90,00,000
Income for 6 months ended December 31, 2005	5,00,000
Dividends paid on October 1, 2005	(350,000)
December 31, 2005 stockholders' equity	91,50,000

Since the parent's share is 90%, the minority interest is 10% of Rs.91,50,000 or Rs.9,15,000.

Consolidation on Date of Combination

PURCHASE ACCOUNTING

Illustration 12

Let us understand this with the help of an example.

Balance sheet of Harsha Company and Hritik Company as on December 31, 2005

	Harsha Company (Rs.)	Hritik Company (Rs.)
Assets		
Cash	30,900	37,400
Accounts receivable	34,200	9,100
Inventories	22,900	16,100
Equipment	2,00,000	50,000
Less: Accumulated depreciation	(21,000)	(10,000)
Patents	-0-	10,000
Total assets	2,67,000	1,12,600
Liabilities and Equity		
Accounts payable	4,000	6,600
Bonds payable	1,00,000	-0-
Capital stock (Rs.10 par)	1,00,000	50,000
Additional paid-in capital	15,000	15,000
Retained earnings	48,000	41,000
Total liabilities and equity	2,67,000	1,12,600

The assumptions for this illustration are:

- On January 1, 2006, Harsha Company acquires a 90% interest in Hritik Company in exchange for 5,400 shares of Rs.10 par value stock having a total market value of Rs.1,20,600.
- The purchase method of accounting is used for the combination.

The workpaper for a consolidated balance sheet at the date of acquisition is presented below. The first two columns are the trial balances from the books of Harsha Company and Hritik Company immediately following the acquisition.

Solution

- Investment Entry in Harsha Company's Books:*

The entry to record the 90% purchase-acquisition in Harsha Company's books was:

	Rs.	Rs.
Investment in stock of Hritik Company Dr.	1,20,600	
To Capital Stock		54,000
To Additional Paid-in Capital		66,600

(To record the issuance of 5,400 shares of Rs.10 par value stock to acquire a 90% interest in Hritik Company).

Although common stock is used for the consideration in our example. Harsha Company could have used debentures, cash, or any other form of consideration acceptable to Hritik Company's stockholders to make the purchase consideration.

2. *Difference between Investment Cost and Book Value*

The difference between the investment cost and the parent company's equity in the net assets of the subsidiary is computed as follows:

	Rs.	Rs.
Investment cost		1,20,600
– Book value % at date of combination		
Hritik Company's capital stock	50,000	
Additional paid-in capital	15,000	
Retained earnings	41,000	
Total	1,06,000	
Parent's share of ownership	x 90%	
Parent's share of book value		95,400
Excess of cost over book value		25,200

**Harsha Company and Hritik Company Consolidated Working Papers
For Date of Combination – January 1, 2006
Purchase Accounting (90% Interest).**

	Balance Sheet 1/1/06	Harsha Company Rs.	Hritik Company Rs.	Adjustments and eliminations Rs.			Minority Interest Rs.	Consolidated balances Rs.
				Debit	Credit			
Cash	30,900	37,400	–	–	–	–		68,300
Accounts receivable	34,200	9,100	–	–	–	–		43,300
Inventories	22,900	16,100	(b)	900	–	–		39,900
Equipment	2,00,000	50,000	(b)	9,000	–	–		2,59,000
Accumulated depreciation	(21,000)	(10,000)	–	–	(b)	1,800		(32,800)
Investment in stock of Hritik Company	1,20,600				(a)	1,20,600		–
Difference between cost and book value	–	–	(a)	25,200	(b)	25,200		–
Excess of cost over fair value (goodwill)	–	–	(b)	14,400	–			14,400
Patents	–	10,000	(b)	2,700	–			12,700
Total assets	3,87,600	1,12,600			–			4,04,800
Accounts payable	4,000	6,600			–			10,600
Bonds payable	1,00,000	–			–			1,00,000
Capital stock	1,54,000	50,000	(a)	45,000	–		5,000	1,54,000
Additional paid-in capital	81,600	15,000	(a)	13,500	–		1,500	81,600
Retained earnings	48,000	41,000	(a)	36,900	–		4,100	48,000
Minority interest	–	–	–	–	–		10,600	10,600 MI
Total liabilities and equity	3,87,600	1,12,600	–	1,47,600	–	1,47,600	–	4,04,800

This difference is due to several undervalued assets and unrecorded goodwill. The parent company will recognize 90% of the difference between the fair market values and book values of the subsidiary's assets. The allocation is presented as:

Item	Book value (BV)	Fair Market Value (FMV)	Difference between BV and FMV	Ownership percentage	Percentage share of difference between BV and FMV
	Rs.	Rs.	Rs.		Rs.
Cash	37,400	37,400	-0-		
Accounts receivable (net)	9,100	9,100	-0-		
Inventories	16,100	17,100	1,000	90%	900
Equipment	50,000	60,000	10,000	90%	9,000
Accumulated depreciation	(10,000)	(12,000)	(2,000)	90%	(1,800)
Patents	10,000	13,000	3,000	90%	2,700
Accounts payable	(6,600)	(6,600)	-0-		
Total	1,06,000	1,18,000	12,000		

	Rs.
Amount of difference between FMV and book value share allocated to revaluation of net assets	10,800
Total differential	25,200
Remainder allocated to goodwill	14,400

The equipment has a book value of Rs.40,000 (Rs.50,000 less 20% depreciation of Rs.10,000). An appraisal concluded with a judgment that the equipment's replacement cost was Rs.60,000 less 20% accumulated depreciation of Rs.12,000 resulting in a net fair value of Rs.48,000.

3. *Elimination Entries on Workpaper*

The basic reciprocal accounts are the investment in subsidiary account on the parent's books and the subsidiary's stockholder equity accounts. Only the parent's share of the subsidiary's accounts may be eliminated as reciprocal accounts. The remaining 10% portion is allocated to the minority interest. The entries below include documentation showing the company source for the information. Those aids will help you trace the numbers. The workpaper entry to eliminate the basic reciprocal account is:

a.

		Rs.	Rs.
Capital stock – Hritik Co.	Dr.	45,000*	
Additional paid-in capital – Hritik Co.	Dr.	13,500*	
Retained earnings – Hritik Co.	Dr.	36,900*	
Differential	Dr.	25,200	
To Investment in stock of Hritik Co. Harsha Co.			1,20,600
*(Rs.36,900 = 90% x Rs.41,000);			
(Rs.50,000 x 90% = Rs.45,000);			
(Rs.15,000 x 90% = Rs.13,500)			

Note that only 90% of Hritik Company's stockholders' equity accounts are eliminated. Also, an account called "Differential" is debited in the workpaper entry. The differential account is a temporary account to record the difference between the cost of the investment in Hritik Company from the parent's books and the book value of the parent's interest (90% in our case) from the subsidiary's books.

The next step is to allocate the differential to the specific accounts by making the following workpaper entry:

b.

		Rs.	Rs.
Inventories	Dr.	900	
Equipment	Dr.	9,000	
Patents	Dr.	2,700	
Goodwill	Dr.	14,400	
To Accumulated depreciation			1,800
To Differential			25,200

This entry reflects the allocations prepared in Step 2 and recognizes the parent's share of the asset revaluations.

The minority interest column is the 10% interest of Hritik Company's net assets owned by outside, third parties. Minority interest must be disclosed because 100% of the book values of Hritik Company are included in the consolidated statements although Harsha Company controls only 90% of the net assets. An alternative method to "prove" minority interest is to multiply the net assets of the subsidiary by the minority interest share as follows:

$$\text{Stockholders' equity of Hritik Company (Rs.1,06,000) x Minority interest \% (10\%) = Rs.10,600.}$$

The Rs.10,600 would be reported on the credit side of the consolidated balance sheet between liabilities and stockholders' equity.

The principle used to prepare the consolidated balance sheet is called the parent company concept. This is the method used most often in about 90% of actual cases of consolidations. An alternative approach is known as the entity concept. The two differ in the amount of the asset revaluations recognized on the consolidated balance sheet. Under the parent company concept, just the parent's share of the revaluation is shown and the minority interest is reported at its share of the subsidiary's book value. If the entity concept were used, the net assets of Hritik Company would be included in the consolidated balance sheet at 100% of their fair values at the date of acquisition and minority interest would be reported at its shares of the fair value of the subsidiary. In our example, minority interest under the entity concept would have been total fair market value of net assets of Hritik Company (Rs.1,18,000) x Minority interest (10%) = Rs.11,800.

Our example does not include any other inter-company accounts as of the date of combination. If any existed, they would be eliminated to fairly present the consolidated entity. Several examples of other reciprocal accounts will be shown later in this module for the preparation of consolidation financial statements subsequent to the date of acquisition.

Consolidated Subsequent to Acquisition

The concepts behind the preparation of the consolidated statements as applied subsequent to the date of the consolidation are the same as those applied for on the date of the acquisition as well. The income statement and the statement of the retained earnings are to be added and reflected in the results of the operations since the date of acquisition in the case of the purchase accounting or at the beginning of the period in case of pooling method of accounting. Further, some additional accounts may be required to be eliminated as a result of the inter-company transactions between the parent and the subsidiary companies. The financial statements of the consolidated entity are required to be prepared by using the same accounting principles that would be adopted in the case of a single unconsolidated enterprise. The only difference that may arise may be a result of the reciprocal accounts reflected in the books of both the companies which are required to be eliminated against each other before the two corporations may be presented as one consolidated entity.

An expanded version of the consolidated worksheet is necessary in the income statement and the retained earnings statement is also required to be prepared. A format called the “three statement layout”, which is an integrated vertical array of the income statement, the retained earnings and the balance sheet is also required to be prepared. The net income of the period is carried to the retained earnings statements and the ending retained earnings are required to be carried down to the balance sheet. In case a consolidated balance sheet is required to be prepared, then the eliminating entries must include the nominal accounts made directly against the balance of the retained earnings that are presented as part of the Balance Sheet.

The equity method is typically used to account for a majority-owned unconsolidated subsidiary when the parent has effective control over the subsidiary. In rare circumstances, a majority-owned subsidiary may not be controlled by the parent. In such instances, the parent would use the cost method to account for the investment. Regardless of which method is used, the consolidated financial statement will be identical. The parent will include its share of the subsidiary earnings after acquisition as part of consolidated retained earnings. When the parent carries its investment at cost, the investment will be adjusted to equity for purposes of the consolidated financial statements.

If a parent purchases a subsidiary in more than one block of stock, each acquisition is on a step-by-step basis, and consolidation does not take place until control exists. Any goodwill or negative goodwill is determined at each step-by-step transaction. When control is accomplished, we must adjust to the equity method any prior step acquisition accounted for by the cost method. In consequence, the parent's share of the subsidiary's undistributed earnings for the period before achieving control increases the parent's investment account.

The retained earnings of a subsidiary at the acquisition date are not included in the consolidated financial statements. In consolidation by purchase when the equity method is used, the parent includes its share of changes in subsidiary retained earnings on the books. In consolidation by purchase under the cost method, there are three elements of subsidiary retained earnings: retained earnings at acquisition, changes in retained earnings after acquisition but before the current period, and net income of the current period. Retained earnings at acquisition will be offset in the elimination of the investment account since the consolidated entity has no interest in pre-acquisition earnings. Changes in retained earnings after acquisition but prior to the current period will not be provided for in the elimination of the investment account under the cost method. The consolidated entity is entitled to its portion of this element of retained earnings. On a practical basis, this amount can be arrived at by considering the difference between retained earnings at acquisition and retained earnings at the beginning of the current year. Net income of the current

period in retained earnings depends on whether a consolidated income statement is to be prepared (and, therefore, the books are open) or whether no income statement is to be prepared (and, therefore, the books are closed). Where the books are open, after the minority interest in net income of the current period is provided for, the consolidated portion of net income of the current period results from extension of worksheet balances. In effect, where the books are closed, the consolidated portion of net income of the current period becomes a part of retained earnings after acquisition but prior to the current period.

Consolidated financial statements do not reflect capitalized earnings in the form of stock dividends by subsidiaries after acquisition. There may occur the acquisition of stock directly from an investee. The target company is selling some of its own capital stock to another company. In this case, the amount paid for the capital stock increases the stockholders' equity prior to determining the acquirer's stock interest. If a subsidiary is disposed of during the year, the parent should report its equity in the subsidiary's earnings before the disposal date as a separate line item in the consolidated income statement in conformity with the equity method.

A parent may transfer a wholly owned subsidiary's net assets to itself and liquidate the affiliate, or it may transfer its interest in a number of partly owned subsidiaries to a new wholly owned subsidiary. A transfer or exchange between entities under common control should be reflected at historical cost in a similar way as in a pooling. In other words, the acquirer records the net assets acquired at their book values.

In the discussion that follows, it is assumed that equity method is used to record changes in the value of its investment and the elimination process would result in statements being presented under that concept.

INTER-COMPANY TRANSACTIONS

GAAP requires that in the preparation of consolidated financial statements, all inter company transactions must be eliminated so that only those transactions between the consolidated entity and its outside parties are included in the financial statements.

Three general types of inter-company transactions may take place between the parent and the subsidiary company. The inter-company transactions would require special handling because the profit and loss from these events must be properly presented on the consolidated financial statements.

The three types of inter-company transactions are:

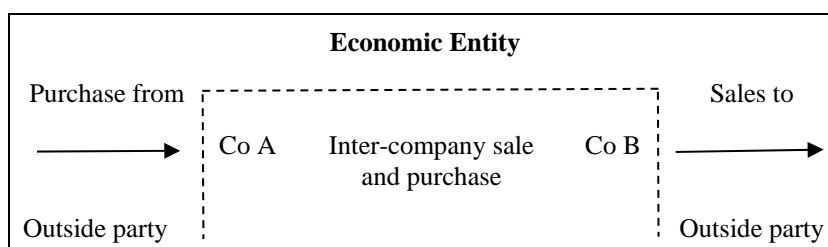
- Inter-company sales of merchandise.
- Transaction of the fixed assets.
- Inter-company debt/equity transactions.

The transactions would give rise to unrealized profit also known as unconfirmed profits shown in the trial balance only and not in the consolidated financial statements. The inter-company bond transactions may require the recognition of gains or losses in the consolidated financial statements which does not form a part of the trial balance of either the parent company or subsidiary company. We can discuss the above mentioned transactions in detail as under.

1. Inter-company Inventory Transactions

The unrealized profits as part of the ending inventory arise as a result of the inter-company sales above the cost not resold to the third parties by the end of the year. Thus the profits made on selling the corporation's books would be overstated as the transaction would not be at an arm's length. The inventory that is recorded in the books of the purchaser would also be

overstated to such extent. This can be better understood with the help of an illustration as under:



Companies A and B are two separate legal entities and will each record the sale or purchase of goods. From a consolidated or economic entity viewpoint, however, the inter-company transaction is a transfer of assets which cannot result in revenue recognition until these goods are sold to a third party. Assuming a sale from Company A to Company B (a “downstream” inter-company sale), the sale income of Company A cannot be recognized until the goods are sold to third parties by Company B. In addition, the ending inventory of Company B is overstated by the amount of profit in the inventory acquired from Company A. Once inter-company sales have been sold to third parties, the earning process is verified by an arm’s length transaction with third parties. Thus, recognition of previously unrecognized profit must be made at that time.

2. **Inter-company Fixed Assets Transactions**

The unrealized profits on the fixed assets would be arising as a result of the sale of fixed assets over the depreciated costs between the two companies. From the purpose of consolidation, the transaction would be representing the internal transfer of the assets and the gains or losses that arise therein must be recognized. Therefore, such gains or losses must be eliminated and the carrying value of the asset that is transferred must be returned to its initial book value. In the periods that follow, the depreciation would be overstated as an over valued asset is being depreciated in the books of the company showing the assets. This overstatement of the depreciation must be eliminated in the process of consolidation.

3. **Inter-company Bond Transactions**

Various items must be eliminated when one consolidated company buys the bonds of another consolidated company. These would be the investments in the bonds and the bonds payable, the interest income and the interest expense, and the interest payable and interest receivable. The inter-company gains and losses would not be arising in the case of direct inter-company bond purchases. The book value would remain the same on both the books and the interest account would be reciprocal. APB-21, does not require the use of the effective interest method for the debt transactions between the parent and the subsidiary companies. The straight-line method of amortization of the premiums or the discounts can be adopted:

The following circumstances result in gains and losses on inter-company bond holdings:

- a. When outstanding bonds exist and are purchased by a parent or subsidiary company.
- b. From a third-party.
- c. For an amount that is different from the carrying amount of the issuer.

For the purpose of consolidation such bonds would be considered as retired. But the bonds would still be recorded as liabilities in the books of the issuer and must be disclosed as investment in the books of the purchasing corporation. An eliminating entry could be made to recognize the gains or the losses on the consolidated "retirement of debt" in the year in which the inter-company bond purchase takes place. This gain or loss that arises as a result of such transaction would be considered as an extraordinary item in terms of the provisions laid down under the USGAAP.

Illustration 13

The following example would better explain the concept of the subsequent financial statements:

On December 31, 2006. Harsha Company acquired 90% of the stock of Hritik Company in exchange for 5,400 shares of Rs.10 par value stock having a total market value of Rs.1,20,600. The purchase method of accounting is used for the combination.

On January 1, 2006 Hritik Company's assets and liabilities had the following book and fair values.

	Book value Rs.	Fair value Rs.
Cash	37,400	37,400
Accounts receivable (net)	9,100	9,100
Inventories	16,100	17,100
Equipment	50,000	60,000
Accumulated depreciation	(10,000)	(12,000)
Patents	10,000	13,000
Accounts payable	(6,600)	(6,600)
	1,06,000	1,18,000

Financial statement data of the two companies as of December 31, 2006 (the end of the first year after combination) are presented below:

During 2006 Harsha Company sold merchandize to Hritik Company that orginally cost Harsha Company Rs.15,000 and the sale was made for Rs.20,000. On December 31, 2006, Hritik Company's inventory included merchandize purchased from Harsha Company at a cost of Rs.12,000 to Hritik Company.

Also during 2006, Harsha Company acquired Rs.18,000 of merchandize from Hritik Company. Hritik Company uses a normal markup of 25% above its cost. Harsha Company's ending inventors includes Rs.10,000 of the merchandize acquired from Hritik Company.

Hritik Company reduced its inter-company account payable to Harsha Company to a balance of Rs.4,000 as on December 31, 2006, by making a payment of Rs.1,000 on December 30. This Rs.1,000 payment was still in transit on December 31, 2006.

On January 2, 2006. Hritik Company acquired equipment from Harsha Company for Rs.7,000. The equipment was originally purchased by Harsha Company for Rs.5,000 and had a book value of Rs.4,000 at the date of sale to Hritik Company. The equipment had an estimated remaining life of 4 years as of January 2, 2006.

On December 31, 2006 Hritik Company purchased for Rs.44,000 50% of the outstanding bonds issued by Harsha Company. The bonds were to mature on December 31, 2006 and were originally issued at par. The bonds pay interest annually on December 31 of each year and the interest was paid to the prior investor immediately before Hritik Company's purchase of the bonds.

The consolidated worksheet for the preparation of consolidated financial statements as of December 31, 2006, is provided below. The investment account balance at the statement date should be reconciled to ensure the parent company made the proper entries under the method of accounting used to account for the investment. As noted earlier Harsha Company is using the partial equity method, without amortizations. The amortizations of the excess of cost over book value will be recognized only on the worksheets. The proof of investment account in Harsha Company is:

Harsha Company and Hritik Company Consolidated Working papers						
Year Ended December 31, 2006						
Purchase Accounting 90% owned subsequent, equity Method	Harsha Company	Hritik Company	Adjustments and eliminations		Minority Interest	Consolidated balances
	Rs.	Rs.	Debit	Credit	Rs.	Rs.
Income Statements for year ended December 31, 2005						
Sales	7,50,000	4,20,000 (a)	38,000			11,32,000
Cost of sales	5,81,000	2,66,000 (b)	5,000	(a) 38,000		8,15,000
		(h)	1,000			
Gross margin	1,69,000	1,54,000				3,17,000
Depreciation and interest expense	28,400	16,200 (h)	2,000	(d) 750		45,850
Other operating expenses	1,17,000	1,28,400 (h)	300			2,45,700
Net income from operations	23,600	9,400				25,450
Gain on sale of equipment	3,000	(d)	3,000			
Gain on bonds				(e) 6,000		6,000
Equity in subsidiary's income	8,460	(f)	8,460			
Minority income (.10 x Rs.7,400)					740	(740)
Net income	35,060	9,400	57,760	44,750	740	30,710
Statement of Retained Earnings for year ended December 31, 2006						
January 1, 2006 Retained earnings						
Harsha Company	48,000					48,000
Hritik Company		41,000 (g)	41,000			
Add: net income (from above)	35,060	9,400	57,760	44,750	740	30,710
Total	83,060	50,400	98,760	44,750	740	78,710
Deduct dividends	15,000	4,000		(f) 3,600	400	15,000
Balance December 31, 2006	68,060	46,400	98,760	48,350	340	63,710
Balance Sheet December 31, 2006						
Cash	45,300	6,400 (l)	1,000			52,700
Accounts receivable (net)	43,700	12,100		(l) 1,000		50,800
				(c) 4,000		
Inventories	38,300	20,750 (g)	1,000	(b) 5,000		54,050
				(h) 1,000		
Equipment	195,000	57,000 (h)	10,000	(d) 2,000		260,000
Accumulated depreciation	(35,200)	(18,900)		(d) 250		(58,350)
				(g) 2,000		
				(h) 2,000		
Investment in stock of Hritik Company	125,460			(f) 4,860		
				(g) 1,20,600		
Goodwill		(g)	16,000			12,960
Investment in bonds of Harsha Company		44,000		(e) 44,000		
Patents		9,000 (g)	3,000	(h) 300		11,700
Total assets	4,12,560	1,30,350				3,86,900
Accounts payable	8,900	18,950 (c)	4,000			23,850
Bonds payable	1,00,000	(e)	50,000			50,000
Capital stock	1,54,000	50,000 (g)	50,000			1,54,000
Additional paid-in capital	81,600	15,000 (g)	15,000			81,600
Retained earnings (from above)	68,060	46,400	98,760	48,350	340	63,710
Minority interest				(g) 13,400	340	13,740
Total liabilities and equity	412,560	130,350	48,760	48,760		386,900

Investment in Stock of Hritik Company

	Rs.		Rs.
Original cost	1,20,600	% of Hritik Company's dividends declared (90% x Rs.4,000)	3,600
% of Hritik Company's income (90% x Rs.9,400)	8,460		
		Balance (December 31, 2006)	1,25,460

Any errors will require correcting entries before the consolidation process is continued. Correcting entries will be posted to the books of the appropriate company; eliminating entries are not posted to either company's books.

The difference between the investment cost and the book value of the net assets acquired was determined and allocated in the preparation of the date of combination consolidated statements.

Solution

The following adjusting and eliminating entries will be required to prepare consolidated financials as of December 31, 2006. Note that a consolidated income statement is required and, therefore, the nominal accounts are still "open". The number or letter in parentheses to the left of the entry corresponds to the key used in the worksheet.

Step 1: Complete the transaction for any intercompany items in transit at the end of the year.

	Rs.	Rs.
Cash Dr.	1,000	
To Accounts receivable		1,000

This adjusting entry will now properly present the financial positions of both companies and the consolidation process may be continued.

Step 2: Prepare the eliminating entries.

a.

	Rs.	Rs.
Sales Dr.	38,000	
To Cost of goods sold		38,000

Total intercompany sales of Rs.38,000 include Rs.20,000 in a downstream transaction from Harsha Company to Hritik Company and Rs.18,000 in an upstream transaction from Hritik Company to Harsha Company.

b.

	Rs.	Rs.
Cost of goods sold Dr.	5,000	
To Inventories		5,000

The ending inventories are overstated because of the unrealized profit from the intercompany sales. The debt to cost of goods sold is required because a decrease in ending inventory will increase cost of goods sold to be deducted on the income statement. Supporting computations for the entry are:

	In ending inventory of	
	Harsha Company Rs.	Hritik Company Rs.
Inter company sales not resold at selling price	10,000	
Cost basis of remaining intercompany merchandise		12,000
From Hritik to Harsha ($\div 125\%$)	(8,000)	
From Harsha to Hritik ($\div 133 \frac{1}{3}\%$)		(9,000)
Unrealized profit	2,000	3,000

When preparing consolidated workpapers for 2007 (the next fiscal period), an additional eliminating entry will be required if the goods in 2006's ending inventory are sold to outsiders during 2006. The additional entry will recognize the profit for 2007 that was eliminated as unrealized in 2006. This entry is necessary since the entry at the end of 2006 was made only on the worksheet. The 2007 entry will be:

c.

	Rs.	Rs.
Retained earnings Hritik Company (January 1, 2007) Dr.	2000	
Retained earnings Harsha Company (January 1, 2007) Dr.	3,000	
To Cost of goods sold (2007)		5,000
Accounts payable Dr.	4,000	
To Accounts receivable		4,000

This eliminates the remaining inter-company receivable/payable owed by Hritik Company to Harsha Company. This eliminating entry is necessary to avoid overstating the consolidated entity's balance sheet. The receivable/payable is not extinguished and Hritik Company must still transfer Rs.4,000 to Harsha Company in the future.

d.

	Rs.	Rs.
Gain on sale of equipment Dr.	3,000	
To Equipment		2,000
To Accumulated depreciation		250
To Depreciation expense		750

Eliminates the gain on the intercompany sale of equipment, eliminates the overstatement of equipment, and removes the excess depreciation taken on the gain. Supporting computations for the entry are:

	Cost	At date of intercompany sale accumulated depreciation	Depreciation expense for 2006	End-of period accum. depr.
	Rs.	Rs.	Rs.	Rs.
Original basis (to seller – Harsha Company)	5,000	1,000	1,000	2,000
New basis (to buyer – Hritik Company)	7,000	-0-	1,750	(1,750)
Difference	2,000		750	250

If the intercompany sale had not occurred Harsha Company would have depreciated the remaining book value of Rs.4,000 over the estimated remaining life of 4 years. However, since Hritik Company's acquisition price (Rs.7,000) was more than Harsha Company's basis in the asset (Rs.4,000), the depreciation recorded in the books of Hritik Company will include part of the inter-company unrealized profit. The equipment must be reflected on the consolidated statements at the original cost to the consolidated entity. Therefore, the "write-up" of Rs.2,000 in the equipment, the excess depreciation of Rs.750, and the gain of Rs.3,000 must be eliminated and the ending balance of accumulated depreciation must be shown at what it would have been if the inter-company equipment transaction had not occurred. In future periods, a retained earnings account will be used instead of the gain account; however, the other concepts will be extended to include the additional periods.

e.

	Rs.	Rs.
Bonds payable Dr.	50,000	
To Investment in bonds of Harsha Company		44,000
To Gain on extinguishment of debt		6,000

This entry eliminates the book value of Harsha Company's debt against the bond investment account of Hritik Company. To the consolidated entity, this transaction must be shown as a retirement of debt even though Harsha Company has the outstanding intercompany debt to Hritik Company. SFAS-4 specifies gains or losses on debt extinguishment, if material, should be shown as an extraordinary item. In future periods, Hritik Company will amortize the discount, thereby bringing the investment account up to par value and a retained earnings account will be used in the eliminating entry instead of the gain account.

f.

	Rs.	Rs.
Equity in subsidiary's income – Dr. Harsha Company	8,460	
To Dividends declared – Hritik Company		3,600
To Investment in stock of Hritik Company		4,860

This elimination entry adjusts the investment account back to its balance at the beginning of the period and also eliminates the subsidiary income account.

The elimination is computed as follows:

	Rs.	Rs.
Hritik's net income of Rs.9,400 x Harsha's 90% share		Rs.8,460
Hritik's dividends paid of Rs.4,000 x Harsha's 90% share		Rs.3,600
Harsha's investment in Hritik at Dec 31,2006		Rs.125,460
Harsha's original recorded investment in Hritik		Rs.120,600
		Rs.4,860

g.

	Rs.	Rs.
Goodwill	16,000	
Inventories	1,000	
Equipment	10,000	
Patent	3,000	
Common stock – Hritik Company	50,000	
Additional paid- in capital – Hritik Company	15,000	
Retained Earnings – Hritik Company	41,000	
To Accumulated Depreciation		2,000
To Minority interest		13,400
To Investment in stock of Hritik Company – Harsha Company		1,20,600

This entry eliminates Hritik Company's stockholders' equity at the beginning of the year, January 1, 2006. Note that the changes during the year were eliminated in entry (f) above.

h.

		Rs.	Rs.
Cost of goods sold	Dr.	1,000	
Depreciation expense	Dr.	2,000	
Other operating expenses – Patent amortization	Dr.	300	
To Inventories			1,000
To Accumulated depreciation			2,000
To Patents			300

This elimination entry amortizes the revaluations to fair market value made in entry (g). The inventory has been sold and therefore becomes part of the cost of goods sold. Goodwill is not amortised but will be tested annually for possible impairment. The remaining revaluation will be amortized as follows:

	Amortization revaluation Rs.	Annual Period	Amortization Rs.
Equipment (net)	8,000	4 years	2,000
Patents	3,00	10 years	300

The amortizations will continue to be made on future worksheets. For example, at the end of the next year (2007), the amortization entry (i) would be as follows:

		Rs.	Rs.
Retained earnings – Harsha Company (January 1, 2007)	Dr.	3,300	
Depreciation expense	Dr.	2,000	
Other operating expenses – Patent amortization	Dr.	300	
To Inventories			1,000
To Accumulated depreciation			4,000
To Patents			600

The initial debit of Rs.3,300 to retained earnings is an aggregation of the prior period's charges to income statement accounts (Rs.1,000 + Rs.2,000 + Rs.300). During subsequent years, some authors prefer reducing the allocated amounts in entry (g) for prior period's charges. In this case, the amortization entry in future periods would reflect just that period's amortizations.

The minority interest's share in the subsidiary's net income is to be shown as a deduction in the consolidated income statement since 100% of the subsidiary's revenues and expenses are consolidated even though the parent company owns less than 100% interest

	Rs.
Hritik Company's reported income	9,400
Less unrealized profit on upstream inventory sale	(2,000)
Hritik Company's income for consolidation purpose	7,400
Minority interest share	10%
Minority share of Hritik net income	740

Illustration 14

When the pooling of interest method is used for accounting a business combination:

- a. Income is combined only from date of combination, not for prior periods presented.
- b. Income is combined for all periods presented.
- c. After the combination, balance sheet amounts are carried at fair market value.
- d. Direct acquisition costs are recorded as part of the cost of the investment.

Solution

According to GAAP, business combinations accounted for by the pooling of interests method should report net income as if the combination took place at the beginning of the year. Combined financial statements for prior years are to be furnished for comparison. Thus option (b) is correct. As income is to be reported from the beginning of the year and should also be combined for all prior years presented, option (a) is incorrect. Book values prior to combination of subsidiary companies are carried forward under the pooling of interest method. As per APB-16 all expenses relating to effecting a business combination accounted for by the pooling of interests method should be deducted in determining the net income of the resulting combined corporation for the period in which the expenses were incurred. Thus option (d) is incorrect.

MINORITY INTEREST

The parent company would often be acquiring at less than 100% but more than 50% of the stock that is outstanding of the subsidiary. Whether it is the pooling method or the purchase method that is adopted, the consolidated financial statements would be including all the assets, liabilities, revenues and expenses of these less than wholly owned subsidiaries. The percentage of the stock that is not owned by the parent company would be representing the minority interest's share in the net assets of the subsidiary. The minority interests would be a line item deduction on the income statement for the portion of its share of the income of the subsidiary and under the part company concept, would be shown on the consolidated balance sheet after the long-term debt but before the stockholders' equity.

In adjusting for the minority interest in the consolidated entity's equity and earnings, the following guidelines should be observed:

- i. The entire subsidiary's shareholders' equity is eliminated in the basic eliminating entry. The minority interest's share is presented separately.
- ii. The entire amount of inter-company reciprocal items is eliminated. For example, all receivables/payables and sales/cost of sales with a 90% subsidiary are eliminated.
- iii. For inter-company transactions in inventory and fixed assets, the possible effect on minority interest depends on whether the original transaction affected the subsidiary's income statement. Minority interest is adjusted only if the subsidiary is the selling entity. In this case, the minority interest is adjusted for its percentage ownership of the common stock of the subsidiary. The minority interest is not adjusted for unrealized profits on downstream sales. The effects of downstream transactions are confirmed solely to the parent's (i.e., controlling) ownership interests.

The minority interest's share of the subsidiary's income is shown as a deduction on the consolidated income statement since 100% of the sub's revenues and expenses are combined, even though the parent company owns less than 100%

interest. For our example, the minority interest deduction on the income statement is computed as follows:

	Rs.
Hritik Company's reported income	9,400
Less: Unrealized profit on an upstream inventory sale	(2,000)
Hritik Company's income for consolidated financial purposes	7,400
Minority interest share	x 10%
Minority interest on income statement	740

The consolidation process can be summarized as follows:

- Take the income of all the items that lie horizontally and at the foot show the adjustments, minority interests and the consolidated columns down to the net income line.
- Take the amounts on the net income line in the adjustments, minority interests and the consolidated balance sheet columns down to the retained earnings line across the consolidated balances column. Foot and cross foot are the retained earnings statement.
- Take the amounts of the ending retained earnings in each of the four columns down to the ending retained earnings line in the Balance Sheet. Foot the minority interests column and place its total in the consolidated balance columns. Take all the balance sheet items across to the consolidated balances column.

Changes in Minority Interest

The parent's ownership interest can change as a result of the purchases or the sales of the subsidiary's common shares by the parent or as a result of the capital transactions of the subsidiary. The latter circumstance would generally be handled precisely as has been demonstrated by adopting the equity method. In case there is a change in the parent's relative book value interest in the subsidiary, the gains or the losses that are arising there from are to be treated as they are incurred in an entity's own treasury stock transactions.

The gains are required to be credited to the paid-up share capital or to the retained earnings. But the SEC requires that when the subsidiary sells the shares to outside interests at a price that is greater than the parent's carrying amount, the parent company is to recognize the gain on such a transaction. In case the parent's share of the ownership increases through the purchase of the additional stock, it is required simply to debit the investment account and credit the cash for the cost. There may be a problem at the time of consolidating the financial income statements when there is a change in the ownership that occurs in the middle of the period. The consolidated statements are to be prepared based on the ending ownership levels.

SPECIAL ITEMS

COMBINED FINANCIAL STATEMENTS

Combined financial statements is the term used to describe the financial statements prepared for the companies owned by the same parent company or individual. These statements are prepared when a common parent has several subsidiaries and they are not consolidated. The consolidated financial statements are prepared by combining the financial statements of all the separate companies based on their classifications. The inter-company transactions, balances and the profits or losses are required to be eliminated in the manner similar to that adopted in the consolidated statements.

PUSH-DOWN ACCOUNTING

This would be describing the method that is used in a purchase combination involving the one time adjustment to revalue the subsidiary's assets and liabilities and is required to be made directly in the books of the subsidiary. This method is recommended by the SEC staff involved with the accounting of all the wholly-owned subsidiaries and it is recommended where a controlling interest exists.

This method of accounting emphasizes that the subsidiary would have to record the entry revaluing all the assets and the liabilities with a balancing entry to facilitate evaluation of the capital account. The revaluation of the capital account is eliminated during the consolidation against the investment in the subsidiary account. This method did not have any effect on the presentation of the consolidated financial statements or on separate financial statements of the parent company. But the subsidiary's financial statements are required to be prepared at the fair value rather than at their historical costs. The advocates of this method believe that a change in the ownership through a purchase combination would justify the use of a new basis for the acquired entity. Thus the new basis is required to be pushed down or directly recorded in the books of the acquired company.

REVERSE ACQUISITIONS

The reverse acquisitions occur when one entity issues so many shares to the former owners of another entity that they become the majority owners of the resultant combined enterprise. As a result the legal and the accounting treatments of the transactions would be divulged with the normal acquiree being the acquirer for financial reporting purposes. Often, the normal acquirer would be adopting the acquiree's name thus altering the users of the statements in accordance with the nature of the organization's change. This does not necessarily occur and in any event, it would be critical that the financial statements contain sufficient disclosures so that the users would not be misled. This is important particularly in the periods immediately following the transaction and especially when the presentation is required of comparative financial statements which include some periods prior to the acquisition as the comparability would be affected.

In case of a typical reverse acquisition, which is also known as a shell enterprise and a publicly held dormant company, merges with an operating company, which often is non-public, the objective for the operating company would be that the operating company would be going public without the usual time consuming and expensive registration process. But in the case of reverse acquisitions, they are not to be limited to such situations and there are to be many other transactions that would be involving two public or non-public companies and the normal acquirer may be having substantial operations of its own though the scope may be lesser or may have a lesser growth potential than those of the normal acquirees.

SPIN-OFFS

In case the entity disposes off a wholly or a partially owned subsidiary or of an investee by transferring it unilaterally to the entity's shareholders, the accounting for the same would be depending on the percentage of the company that is owned. In case the percentage is low say about 25% or so the transfer to the stockholder would be viewed as a dividend in kind and is to be accounted for at the fair value of the property. But in the case of the entity whose shares are in majority or are wholly owned, the effect is not merely to transfer a passive investment but to vest them with the parent's shareholders. This transaction would be considered as a true spin-off transaction and not merely as a property dividend. The APB-29 requires that the spin-offs and other similar non-reciprocal transfers to the owners are to be accounted for at the recorded book values of the assets and the liabilities that are transferred.

In case the operations begin spin-offs are distributed during a physical period, it may be necessary to estimate the results of the operations of the elapsed period prior to the spin-offs in order to ascertain the net book value as on the date of the

transfer. In other words the operating results of the subsidiary are required to be disposed off and are to be included in the reported results of the parent through the actual date of the spin-off. In most cases the subsidiary being the spin-off would be having a positive net book value. This net worth would be representing the cost of the non-reciprocal transfer to the owners and in a manner similar to dividends, would be reflected as a charge against the parent's retained earnings. For aspects other than a culmination of an earnings process, the spin-off is required to be recorded as a credit to the parent's paid-in capital. In effect the stockholders have made a capital contribution to the parent company by accepting that the operations would be having a negative book value.

Other capital transactions would not be presented in the income statement but only in the statement of changes in the stockholders' equity and also in the statement of cash flows.

SUMMARY OF IAS-22

Business Combinations

This Standard is to be applied in accounting for business combinations but excludes:

- a. Transactions among enterprises under common control; and
- b. Interests in joint ventures and the financial statements of joint ventures (refer IAS-31).

If applied early, IAS-36 Impairment of Assets, IAS-37 Provisions, Contingent Liabilities and Contingent Assets and IAS-38 Intangible Assets must be adopted at the same time.

Business combinations is the bringing together of separate enterprises into one economic entity as a result of one enterprise uniting with or obtaining control over the net assets and operations of another enterprise. The names and descriptions of the combining enterprises; the method of accounting for the combination; the effective date of the combination for accounting purposes; and any operations resulting from the business combination which the enterprise has decided upon, will have to be disclosed in the period during which the combination has taken place. A business combination under IAS-22 is either an "acquisition" or a "uniting of interests". A business combination is accounted for as an acquisition, unless an acquirer cannot be identified. An acquirer can be identified in virtually all business combinations the shareholders of one of the combining enterprises obtain control over the combined enterprise. The classification of a business combination is based on an overall evaluation of all relevant facts and circumstances of the particular transaction. The guidance given in IAS-22 provides examples of important factors to be considered, not a comprehensive set of conditions to be met. Single characteristics of a combined enterprise such as voting power or relative fair values of the combining enterprises is not evaluated in isolation in order to determine how a business combination is to be accounted for.

UNITING OF INTERESTS

A uniting of interests is an unusual business combination in which an acquirer cannot be identified. It is a combination in which the shareholders of the combining enterprises combine control over the whole, or effectively the whole, of their net assets and operations to achieve a continuing mutual sharing in the risks and benefits attached to the combined entity such that neither party can be identified as the acquirer. Such combinations must be accounted for by the pooling of interests method.

The primary criteria for the application of the Uniting of Interests method are:

- a. The substantial majority of voting common shares of the combining enterprises are exchanged or pooled;

- b. The fair value of one enterprise is not significantly different from that of the other enterprise;
- c. The shareholders of each enterprise maintain substantially the same voting rights and interests in the combined entity, relative to each other, after the combination as before.

An enterprise classifies a business combination as an acquisition, unless all of these three characteristics are present. Even if all of the three characteristics are present, an enterprise classifies a business combination as a uniting of interests only if the enterprise can demonstrate that an acquirer cannot be identified.

In applying the pooling of interests method, the financial statement items of the combining enterprises for the period in which the combination occurs and for any comparative periods disclosed are included in the financial statements of the combined enterprises as if they had been combined from the beginning of the earliest period presented. The financial statements of an enterprise do not incorporate a uniting of interests to which the enterprise is a party if the date of the uniting of interests is after the date of the most recent balance sheet included in the financial statements. Any difference between the amount recorded as share capital issued plus any additional consideration in the form of cash or other assets and the amount recorded for the share capital acquired is adjusted against equity. Expenditures incurred in relation to a uniting of interests are recognized as expenses in the period in which they are incurred. No goodwill is recognized and the carrying amounts on the books of the combining companies are carried forward.

For a business combination which is a uniting of interests, the disclosures in the period during which the combination has taken place shall include:

- a. Description and number of shares issued, together with the percentage of each enterprise's voting shares exchanged to effect the uniting of interests;
- b. Amounts of assets and liabilities contributed by each enterprise; and
- c. Sales revenue, other operating revenues, extraordinary items and the net profit or loss of each enterprise prior to the date of the combination that are included in the net profit or loss shown by the combined enterprise's financial statements.

ACQUISITIONS

It is a business combination of purchase in which one of the enterprises known as the acquirer obtains control over the net assets and liabilities of another enterprise known as the acquiree, in exchange of the transfer of assets or incurrence of liability or issue of equity. An acquisition is accounted for by using the purchase method of accounting. From the date of acquisition, an acquirer incorporates into the income statement the results of operations of the acquiree; and recognizes in the balance sheet the identifiable assets and liabilities of the acquiree and any goodwill or negative goodwill arising on the acquisition. Assets and liabilities of the acquired company are included in the consolidated financial statements at fair value (acquirer's purchase price). When the acquisition agreement provides for an adjustment to the purchase consideration contingent on one or more future events, the amount of the adjustment is included in the cost of the acquisition as at the date of acquisition if the adjustment is probable and the amount can be measured reliably. The cost of the acquisition is adjusted when a contingency affecting the amount of the purchase consideration is resolved subsequent to the date of the acquisition, so that payment of the amount is probable and a reliable estimate of the amount can be made. For a business combination which is an acquisition, the disclosures in the period during which the acquisition has taken place shall include the percentage of voting shares acquired; and the cost of acquisition and a description of the purchase consideration paid or contingently payable. In an

acquisition, if the fair values of the identifiable assets and liabilities or the purchase consideration can only be determined on a provisional basis at the end of the period in which the acquisition took place, such fact with the reasons are to be disclosed. When there are subsequent adjustments to such provisional fair values, the same ought to be disclosed with explanations of those adjustments in the financial statements of the period concerned.

An acquisition is accounted for at its cost, being the amount of cash or cash equivalents paid or the fair value, at the date of exchange, of the other purchase consideration given by the acquirer in exchange for control over the net assets of the other enterprise, plus any costs directly attributable to the acquisition. Identifiable assets and liabilities that are recognized above are those of the acquiree that existed at the date of acquisition and they are recognized separately as at the date of acquisition if, and only if it is probable that any associated future economic benefits will flow to, or resources embodying economic benefits will flow from, the acquirer; and if a reliable measure is available of their cost or fair value. Liabilities are not recognized for future losses or other costs expected to be incurred as a result of the acquisition, whether they relate to the acquirer or the acquiree. Liabilities are not recognized at the date of acquisition if they result from the acquirer's intentions or actions subject to the *exceptions* described below:

At the date of acquisition, the acquirer recognizes a provision that was not a liability of the acquiree at that date if, and only if, the acquirer has:

- a. At, or before, the date of acquisition, developed the main features of a plan that involve terminating or reducing the activities of the acquiree and that relates to:
 - i. Compensating employees of the acquiree for termination of their employment;
 - ii. Closing facilities of the acquiree;
 - iii. Eliminating product lines of the acquiree; or
 - iv. Terminating contracts of the acquiree that have become onerous because the acquirer has communicated to the other party at, or before, the date of acquisition that the contract will be terminated;
- b. By announcing the main features of the plan at, or before, the date of acquisition, raised a valid expectation in those affected by the plan that it will implement the plan; and
- c. By the earlier of three months after the date of acquisition and the date when the annual financial statements are approved, developed those main features into a detailed formal plan identifying at least:
 - i. The business or part of a business concerned;
 - ii. The principal locations affected;
 - iii. The location, function, and approximate number of employees who will be compensated for terminating their services;
 - iv. The expenditures that will be undertaken; and
 - v. When the plan will be implemented.

Note: If provisions for terminating or reducing activities of the acquiree were recognized under the exception clause above, these provisions are reversed if, and only if the outflow of economic benefits is no longer probable; or the detailed formal plan is neither implemented in the manner set out in the detailed formal plan nor is within the time established in the detailed formal plan. Such a reversal is reflected as an adjustment to goodwill or negative goodwill (and minority interests if appropriate), so that no income or expense is recognized in respect of it.

With respect to the allocation of cost of acquisition under the *benchmark treatment*, the identifiable assets and liabilities are measured at the aggregate of:

- a. The fair value of the identifiable assets and liabilities acquired as at the date of the exchange transaction to the extent of the acquirer's interest obtained in the exchange transaction; and
- b. The minority's proportion of the pre-acquisition carrying amounts of the identifiable assets and liabilities of the subsidiary.

Any goodwill or negative goodwill is accounted for under this standard. Fair value is the amount for which an asset could be exchanged or a liability settled between knowledgeable willing parties in an arm's length transaction. Minority interest is that part of the net results of operations and of net assets of a subsidiary attributable to interests which are not owned by the parent directly or indirectly through subsidiaries. Assets and liabilities, which are acquired but which do not satisfy the criteria for separate recognition when the acquisition is initially accounted for, are recognized subsequently as and when they satisfy the criteria. The carrying amounts of assets and liabilities acquired are adjusted when, subsequent to acquisition, additional evidence becomes available to assist with the estimation of the amounts assigned to those assets and liabilities when the acquisition was initially accounted for. The amount assigned to goodwill or negative goodwill also needs to be adjusted, when necessary, to the extent that the adjustment does not increase the carrying amount of goodwill above its recoverable amount and if such adjustment is made by the end of the first annual accounting period commencing after acquisition. Otherwise the adjustments to the identifiable assets and liabilities are recognized as income or expense.

Under the allowed alternative treatment the identifiable assets and liabilities are measured at their fair values as at the date of acquisition. Any goodwill or negative goodwill is accounted for under this Standard, any minority interest is stated at the minority's proportion of the fair values of the identifiable assets and liabilities recognized. If the fair value of an intangible asset cannot be measured by reference to an active market, the amount recognized for that intangible asset at the date of the acquisition is limited to an amount that does not create or increase negative goodwill that arises on the acquisition.

Any excess of the cost of the acquisition over the acquirer's interest in the fair value of the identifiable assets and liabilities acquired as at the date of the exchange transaction is described as goodwill and recognized as an asset. Goodwill is carried at cost less any accumulated amortization and any accumulated impairment losses. Goodwill should be amortized by recognizing it as an expense over its useful life on a systematic basis with a rebuttable presumption that the useful life of goodwill will not exceed twenty years from initial recognition. Consistent with the amortization requirements for intangible assets in IAS-38, Intangible Assets, if there is persuasive evidence that the useful life of goodwill will exceed 20 years, an enterprise should amortize the goodwill over its estimated useful life and test goodwill for impairment at least annually in accordance with IAS-36, Impairment of Assets; and disclose the reasons why the presumption that the useful life of goodwill will not exceed 20 years from initial recognition is rebutted and also the factor(s) that played a significant role in determining the useful life of goodwill. The revised Standard does not permit an enterprise to assign an infinite useful life to goodwill. In amortizing goodwill, the straight-line basis is used unless there is persuasive evidence that another amortization method is more appropriate in the circumstances. The amortization period reflects the best estimate of the period during which future economic benefits are expected to flow to the enterprise. The amortization method used reflects the pattern in which the future economic benefits arising from goodwill are expected to be consumed. The amortization period and the amortization method are reviewed at least at each financial year end. If the expected useful life of goodwill is significantly different

from previous estimates, the amortization period is changed accordingly. If there has been a significant change in the expected pattern of economic benefits from goodwill, the method is changed to reflect the changed pattern. Such changes are accounted for as changes in accounting estimates under IAS-8 by adjusting the amortization charge for the current and future periods.

The disclosures for goodwill in the financial statements will include:

- a. The amortization period(s) adopted;
- b. If goodwill is amortized over more than twenty years, the reasons why the presumption that the useful life of goodwill will not exceed twenty years from initial recognition is rebutted. In giving these reasons, describe the factor(s) that played a significant role in determining the useful life of the goodwill;
- c. If goodwill is not amortized on the straight-line basis, the basis used and the reason why that basis is more appropriate than the straight-line basis;
- d. The line item(s) of the income statement in which the amortization of the goodwill is included;
- e. A reconciliation of the carrying amount of goodwill at the beginning and end of the period showing:
 - i. The gross amount and the accumulated amortization (aggregated with accumulated impairment losses) at the beginning of the period;
 - ii. Any additional goodwill recognized during the period;
 - iii. Any adjustments resulting from subsequent identification or changes in value of identifiable assets and liabilities;
 - iv. Any goodwill derecognized on the disposal of all or part of the business to which it relates during the period;
 - v. Amortization recognized during the period;
 - vi. Impairment losses recognized during the period (if any);
 - vii. Impairment losses reversed during the period (if any);
 - viii. Other changes in the carrying amount during the period (if any); and
 - ix. The gross amount and the accumulated amortization (aggregated with accumulated impairment losses) at the end of the period.

Any excess, as at the date of the exchange transaction, of the acquirer's interest in the fair values of the identifiable assets and liabilities acquired over the cost of the acquisition, is recognized as negative goodwill which is reported as a deduction from the assets of the reporting enterprise, in the same balance sheet classification as goodwill. The benchmark and allowed alternative treatments for negative goodwill in IAS-22 are replaced by a single treatment. Under the revised Standard, negative goodwill should always be measured and initially recognized as the full difference between the acquirer's interest in the fair values of the identifiable assets and liabilities acquired less the cost of acquisition. This means that allocating the excess of the fair values of identifiable assets and liabilities acquired over the cost of acquisition to reduce the fair values of identifiable assets acquired (the old IAS-22's benchmark treatment) is no longer permitted. To the extent that negative goodwill relates to expectations of future losses and expenses that are identified in the acquirer's plan for the acquisition and can be measured reliably, but which do not represent identifiable liabilities at the date of acquisition, that portion of negative goodwill is recognized as income in the income statement when the future losses and expenses are recognized. To the extent that negative goodwill does not relate to identifiable expected future losses and expenses that can be measured reliably at the date of acquisition, negative goodwill is recognized as income in the income statement. In the event of the latter, if the amount of negative goodwill does not exceed the fair values of acquired identifiable non-monetary assets, then it is recognized as income on a systematic

basis over the remaining weighted average useful life of the identifiable acquired depreciable/amortizable assets; and if the amount of negative goodwill is in excess of the fair values of acquired identifiable non-monetary assets then it is recognized as income immediately.

The disclosures for negative goodwill in the financial statements will include:

- a. To the extent that negative goodwill relates to expectations of future losses and expenses, which do not represent identifiable liabilities, disclose a description of, the amount and the timing of the expected future losses and expenses;
- b. The period(s) over which negative goodwill is recognized as income;
- c. The line item(s) of the income statement in which negative goodwill is recognized as income;
- d. A reconciliation of the carrying amount of negative goodwill at the beginning and end of the period showing:
 - i. The gross amount of negative goodwill and the accumulated amount of negative goodwill already recognized as income, at the beginning of the period;
 - ii. Any additional negative goodwill recognized during the period;
 - iii. Any adjustments resulting from subsequent identification or changes in value of identifiable assets and liabilities;
 - iv. Any negative goodwill derecognized on the disposal of all or part of the business to which it relates during the period;
 - v. Negative goodwill recognized as income during the period, showing separately the portion of negative goodwill recognized as income;
 - vi. Other changes in the carrying amount during the period (if any); and
 - vii. The gross amount of negative goodwill and the accumulated amount of negative goodwill already recognized as income, at the end of the period.

The Standard restricts the recognition at the date of acquisition of a provision for restructuring costs to those cases where the restructuring is an integral part of the acquirer's plan for the acquisition and, among other things, the main features of the restructuring plan were announced at, or before, the date of acquisition so that those affected have a valid expectation that the acquirer will implement the plan. Recognition criteria for such a provision are based on those in IAS-37, Provisions, Contingent Liabilities and Contingent Assets, except that the revised Standard requires a detailed formal plan to be in place not later than 3 months after the date of acquisition or the date when the annual financial statements are approved, if sooner (IAS-37 requires the detailed formal plan to be in place at the balance sheet date). This difference from IAS-37 acknowledges that an acquirer may not have enough information to develop a detailed formal plan by the date of acquisition. It does not undermine the principle that no restructuring provision should be recognized if there is no obligation immediately following the acquisition. The revised Standard also places strict limits on the costs to be included in a restructuring provision. For example, such provisions are limited to costs of restructuring the operations of the acquire, not those of the acquirer.

DIFFERENCES BETWEEN USGAAP AND IAS

The following differences existed between USGAAP and IAS. Over the years, the legitimacy of the pooling of interests method has frequently been questioned. USGAAP in 2001, required that all business combinations be accounted for using the purchase method, thereby eliminating the pooling method. On similar lines, IAS in 2001 eliminated the Pooling of interest method and recommended the use

of only Purchase method of accounting for business combinations. With USGAAP debarring the Pooling method, and pronouncing SFAS 141 and 142, the following differences that existed earlier do not exist anymore:

- i. Under IAS, Goodwill arising from acquisition should be amortized on a systematic basis over its useful life. There is a rebuttable presumption that the useful life of goodwill will not exceed twenty years from initial recognition. Factors such as nature of foreseeable life of the acquired business, effects of product obsolescence, expected actions by competitors, the stability and foreseeable life of the industry are to be taken into account to estimate the useful life of goodwill. Under USGAAP, acquisition of goodwill must be capitalized and amortised over no more than 40 years.
- ii. Under IAS 22, In-process research and development acquired in a business combination is capitalized where as, Under U.S. GAAP, the amount of the purchase price allocated to in-process research and development acquired in a business combination is expensed.
- iii. Under IAS 22 the inability to identify the acquirer in a business combination is the overriding condition that must be met to use the pooling-of-interests method. In contrast, U.S. GAAP requirements specify 12 conditions that must be met in order for an enterprise to use the pooling-of-interests method to account for a business combination. If the 12 conditions are met, the pooling-of-interests method is required. It is likely that fewer business combinations would qualify to use the pooling-of-interests method under IAS 22 because an acquirer can be identified in most combinations. As a result, most business combinations would be accounted for by the purchase method under IAS 22.

SUMMARY OF IAS-27

Consolidated Financial Statements and Accounting for Investments in Subsidiaries

This Standard is to be applied in the preparation and presentation of consolidated financial statements for a group of enterprises under the control of a parent; and in the accounting for investments in subsidiaries in a parent's separate financial statements. Control for the purpose of the Standard is the power to govern the operating and financial policies of an enterprise so as to obtain benefits from its activities. IAS-27 does not deal with:

- a. Accounting for business combinations and their effects on consolidation (refer IAS-22);
- b. Accounting for investments in associates (refer IAS-28); and
- c. Accounting for investments in joint ventures (refer IAS-31).

A parent company has to present consolidated financial statements, but a parent that is wholly-owned subsidiary; or is virtually wholly-owned and obtains the approval of the owners of the minority interest need not present consolidated financial statements. The reasons for such non-presentation of consolidated financial statements along with the bases on which the subsidiaries are accounted in its separate financial statements, and the name and registered office of its parent that publishes consolidated financial statements have to be disclosed. A parent company is an enterprise that has one or more subsidiaries, and a subsidiary is defined as a company controlled by another enterprise (the parent). If a parent has one or more subsidiaries, consolidated financial statements are required. Minority interest is defined to be that part of the net results of operations and of net assets of a subsidiary attributable to interests which are not owned by the parent directly/indirectly through subsidiaries. They should be presented separately in the consolidated balance sheet distinct from the parent stockholders' equity and liabilities, as well as in the income of the group consisting of the parent and its subsidiaries.

All subsidiaries, foreign and domestic, are to be consolidated by the parent responsible for issuing financial statements except in the case of a subsidiary where either the control is intended to be temporary because the subsidiary is acquired and held exclusively with a view to its subsequent disposal in the near future; or the subsidiary operates under severe long-term restrictions which significantly impair its ability to transfer funds to the parent. Intragroup balances and transactions and resulting unrealized profits must be eliminated. The resulting unrealized intragroup losses should also be eliminated unless the cost cannot be recovered.

When the financial statements of a subsidiary used in preparing the consolidation are drawn up to a date, which is different from that of the parent, adjustment is to be made for the effects of significant transactions or other events that occur between the two dates of financial statement preparation. In such an event the difference between the said dates should not exceed three months. Consolidated financial statements are prepared using uniform accounting policies for like transactions and other events in similar circumstances. If such uniform practices are not practicable in the given circumstances, that fact is to be reported with the proportion of the items in the consolidated financial statements that have been disclosed with varying accounting policies. From the date that an enterprise ceases to fall within the definition of a subsidiary, account for it either as an *associate* under IAS-28 – Accounting for Investment in Associates or as an investment property under IAS-40.

In a parent's separate financial statements, investments in subsidiaries that are included in the consolidated financial statements are either accounted for using the equity method as per IAS-28 or carried at cost or revalued amounts under the parent's accounting policy for long-term investments. Investments in subsidiaries that are excluded from consolidation are accounted for in the parent's separate financial statements as if they are investments in accordance with IAS-40.

The key disclosures include:

- The name, country, ownership, and voting percentages for each significant subsidiary.
- The reasons for not consolidating a subsidiary.
- The nature of the relationship between the parent and a subsidiary of which the parent does not own, directly or indirectly through subsidiaries, more than half of the voting power of a consolidated subsidiary.
- The nature of relationship and the name of an enterprise in which more than one half of the voting power is owned, directly or indirectly through subsidiaries, but which, because of the absence of control, is not a subsidiary and is excluded from consolidation.
- The effect of acquisitions and disposals of subsidiaries during the period on the financial position at the reporting date; the results for the reporting period; and the corresponding amounts for the preceding period.
- A description of the method used to account for subsidiaries in the parent's separate financial statements.

Special Purpose Entities

A Special Purpose Entity (SPE) is consolidated when the substance of the relationship between an enterprise and the SPE indicates that the SPE is controlled by that enterprise. The application of the control concept requires, in each case, judgment in the context of all relevant factors. In the context of an SPE, control

may arise through the predetermination of its activities. The following circumstances, for example, may indicate a relationship in which an enterprise controls an SPE and consequently consolidate the SPE:

- a. In substance, the activities of the SPE are being conducted on behalf of the enterprise according to its specific business needs so that the enterprise obtains benefits from the SPE's operation;
- b. In substance, the enterprise has the decision-making powers to obtain the majority of the benefits of the activities of the SPE or, by setting up an "autopilot" mechanism, the enterprise has delegated these decision-making powers;
- c. In substance, the enterprise has rights to obtain the majority of the benefits of the SPE and therefore may be exposed to risks incident to the activities of the SPE; or
- d. In substance, the enterprise retains the majority of the residual or ownership risks related to the SPE or its assets in order to obtain benefits from its activities.

Any change in accounting policy caused by consolidation of SPE's is accounted for according to the transition requirements of IAS-8.

SUMMARY OF IAS-28

Accounting for Investments in Associates

IAS-28 (Revised) should not be applied until IAS-36 Impairment of Assets is adopted. This Standard is to be applied in accounting by an investor for investments in associates.

An associate is an enterprise, other than a subsidiary or joint venture, over which the investor has significant influence. Significant influence means the power to participate in financial and operating policy decisions devoid of control over those policies. Such influence is presumed to exist if the investor owns more than 20 percent of the associate. The primary disclosures will include a listing and description of significant associates, including the methods used to account for associates, proportion of ownership interest, and if different, the proportion of voting power held. The investor's share of the contingencies and capital commitments of an associate for which it is also contingently liable; and those contingencies that arise because the investor is severally liable for all the liabilities of the associate also have to be reported.

An investment in an associate is accounted for in consolidated financial statements under the equity method except when the investment is acquired and held exclusively with a view to its disposal in the near future in which case, the cost method is to be employed. The equity method is a method of accounting whereby the investment is initially recorded at cost and adjusted thereafter for the post acquisition change in the investor's share of the net assets of the investee. The income statement reflects the investor's share of the net results of the operations of the investee. The other method, the cost method is a method of accounting whereby the investment is recorded at cost. The income statement reflects the income from the investment only to the extent that the investor receives distributions from accumulated net profits of the investee arising subsequent to the date of acquisition. Under the equity method, the investor recognizes its proportionate share of the associate's reported net profit or loss whether or not remitted as a dividend, along with share of any extraordinary or prior period items. The investor must amortize any goodwill implicit in the investment. Equity-method investments are reported as non-current assets in the investor's balance sheet, and the carrying amount of an equity-method investment should be reduced to recognize non-temporary impairment.

Where an associate is accounted for using the equity method, unrealized profits and losses resulting from transactions between an investor or its consolidated subsidiaries and associates are eliminated to the extent of the investor's interest in the associate. Unrealized losses are not eliminated to the extent that the transaction provides evidence of an impairment of the asset transferred. The equity method will however be discontinued from that date when either it ceases to have significant influence but retains its investment either in whole or in part; or if the associate becomes subject to severe long-term restrictions that significantly impair its ability to transfer funds to the investor. The carrying value of the investment at that date is regarded as cost thereafter.

If the investment in the associate is accounted for in the separate financial statements of the investor that issued consolidated financial statements, associates can be reported either using the equity method or cost method (whichever is used in the investor's consolidated statements); or at cost or revalued amounts under the accounting policy for long-term investments. If the investor does not issue consolidated financial statements, the investment in the associate is accounted for in the separate financial statements of the investor either using the equity method/the cost method, whichever would be appropriate if the investor issued consolidated financial statements; or at cost or revalued amounts under the accounting policy for long-term investments. Wherever the cost or revalued amount under the accounting policy for long-term investments is adopted in its separate financial statements, and if the equity method would have been the appropriate accounting method for the associate if the investor had issued consolidated financial statements, the effect, had the equity method been applied is to be disclosed.

INDIAN SCENERIO

When we speak of business combinations and Consolidation, accounting aspects of these are governed by,

- AS 14 dealing with Accounting for Amalgamations.
- AS 21 dealing with Consolidated Financial Statements.
- AS 23 dealing with Accounting for Investment in Associates in Consolidated Financial Statements.

Summary of AS 14

In India, AS 14 contemplates two types of amalgamations namely, amalgamation in the nature of merger and amalgamation in the nature of purchase. Amalgamation in the nature of mergers where there is a genuine pooling of interests including assets, liabilities and shareholder's interest. Amalgamation in the nature of acquisitions which results when one company acquires the other are accounted for under purchase method.

The conditions that are required to be fulfilled to be eligible under pooling of interest method are:

- i. All the assets and liabilities of the transferor company become, after amalgamation, the assets and liabilities of the transferee company.
- ii. Shareholders holding not less than 90% of the face value of the equity shares of the transferor company (other than the equity shares already held therein, immediately before the amalgamation, by the transferee company or its subsidiaries or their nominees) become equity shareholders of the transferee company by virtue of the amalgamation.
- iii. The consideration for the amalgamation receivable by those equity shareholders of the transferor company who agree to become equity shareholders of the transferee company is discharged by the transferee company wholly by the issue of equity shares in the transferee company, except that cash may be paid in respect of any fractional shares.

- iv. The business of the transferor company is intended to be carried on, after the amalgamation, by the transferee company.
- v. No adjustment is intended to be made to the book values of the assets and liabilities of the transferor company when they are incorporated in the financial statements of the transferee company except to ensure uniformity of accounting policies.

Under the Pooling of interests method, the assets, liabilities and reserves of the transferor company are recorded at their existing carrying amount. The difference between the amount of equity shares and securities issued by the transferor company and share capital of the transferor company is adjusted to the reserves of the transferee company.

When even one of the above conditions are not satisfied, the amalgamation is accounted for under Purchase method. The transferee company has the option of either incorporating assets and liabilities of the transferee company at their existing carrying amounts or allocating the consideration to individual identifiable assets and liabilities of the transferor company on the basis of their fair values at the date of amalgamation. The determination of fair values may be dependent on the intentions of the transferee company. Under this method, reserves of the transferor company, other than statutory reserves are not included in the reserves of the transferee company. Statutory reserves of the transferor company are recorded in the financial statements of the transferee company with a entry to 'Amalgamation Adjustment Account' to comply with relevant statute. In case subsequently such statutory reserves are not required, these are reversed.

In the Purchase method, the excess of the amount of consideration over the value of net assets of the transferor company should be recognized as goodwill and amortized over its useful life not exceeding five years. For this purpose,

- Non-cash elements are recorded at their fair value.
- Securities are valued at values fixed by statutory authorities.
- In case of other assets, market values which are indicative fair values are considered. Where the market values are not readily available, the book values may be considered.

The terms of schemes of amalgamation may provide for the payment of additional amounts contingent upon one or more future events. Such contingent consideration should be included in the consideration if the payment is probable and a reasonable estimate of the amount can be made.

Summary of AS 21

AS 21, is to be applied when preparing and presenting of Consolidated Financial Statements for a group of enterprises under the control of the parent. Control has been defined to mean the ownership directly or indirectly through subsidiaries, of one or more than one half of the voting power of an enterprise; or the control of composition of the board of directors in the case of a company or of the composition of the corresponding governing body in case of any other enterprise so as to obtain economic benefits from its activities.

Consolidated financial statements normally include consolidated balance sheet, consolidated statement of profit and loss, and notes, other statements and explanatory material that form an integral part thereof. Consolidated cash flow statement is presented in case a parent presents its own cash flow statement. The consolidated financial statements are presented, to the extent possible, in the same format as that adopted by the parent for its separate financial statements.

In preparing consolidated financial statements, the financial statements of the parent and its subsidiaries should be combined on a line by line basis by adding together like items of assets, liabilities, income and expenses. In order that the consolidated financial statements present financial information about the group as that of a single enterprise, the following steps should be taken:

- a. the cost to the parent of its investment in each subsidiary and the parent's portion of equity of each subsidiary, at the date on which investment in each subsidiary is made, should be eliminated;
- b. any excess of the cost to the parent of its investment in a subsidiary over the parent's portion of equity of the subsidiary, at the date on which investment in the subsidiary is made, should be described as goodwill to be recognized as an asset in the consolidated financial statements;
- c. when the cost to the parent of its investment in a subsidiary is less than the parent's portion of equity of the subsidiary, at the date on which investment in the subsidiary is made, the difference should be treated as a capital reserve in the consolidated financial statements;
- d. minority interests in the net income of consolidated subsidiaries for the reporting period should be identified and adjusted against the income of the group in order to arrive at the net income attributable to the owners of the parent; and
- e. minority interests in the net assets of consolidated subsidiaries should be identified and presented in the consolidated balance sheet separately from liabilities and the equity of the parent's shareholders. Minority interests in the net assets consist of:
 - i. the amount of equity attributable to minorities at the date on which investment in a subsidiary is made; and
 - ii. the minorities' share of movements in equity since the date the parent subsidiary relationship came in existence.

Where the carrying amount of the investment in the subsidiary is different from its cost, the carrying amount is considered for the purpose of above computations.

OTHER POINTS

Intragroup balances and intragroup transactions and resulting unrealized profits should be eliminated in full. Unrealized losses resulting from intragroup transactions should also be eliminated unless cost cannot be recovered. Intragroup balances and intragroup transactions, including sales, expenses and dividends, are eliminated in full. Unrealized profits resulting from intragroup transactions that are included in the carrying amount of assets, such as inventory and fixed assets, are eliminated in full. Unrealized losses resulting from intragroup transactions that are deducted in arriving at the carrying amount of assets are also eliminated unless cost cannot be recovered.

The results of operations of a subsidiary are included in the consolidated financial statements as from the date on which parent-subsidiary relationship came in existence.

An investment in an enterprise should be accounted for in accordance with Accounting Standard (AS) 13, Accounting for Investments, from the date that the enterprise ceases to be a subsidiary and does not become an associate. The carrying amount of the investment at the date that it ceases to be a subsidiary is regarded as cost thereafter.

Minority interests should be presented in the consolidated balance sheet separately from liabilities and the equity of the parent's shareholders. Minority interests in the income of the group should also be separately presented.

Summary of AS 23

AS 23 sets down the principles and procedures for recognising, in the consolidated financial statements, the effects of the investments in associates on the financial position and operating results of a group.

An enterprise is an *associate* when the investor has significant influence and which is neither a subsidiary nor a joint venture of the investor. *Significant influence* denotes the power to participate in the financial and/or operating policy decisions of the investee but not control over those policies.

Significant influence may be gained by share ownership, statute or agreement. As regards share ownership, if an investor holds, directly or indirectly through subsidiary (ies), 20% or more of the voting power of the investee, it is presumed that the investor has significant influence, unless it can be clearly demonstrated that this is not the case.

The existence of significant influence by an investor is usually evidenced in one or more of the following ways:

- a. Representation on the board of directors or corresponding governing body of the investee;
- b. participation in policy-making processes;
- c. material transactions between the investor and the investee;
- d. interchange of managerial personnel; or
- e. provision of essential technical information.

An investment in an associate should be accounted for in consolidated financial statements under the equity method. The *equity method* is a method of accounting whereby the investment is initially recorded at cost, identifying any goodwill/capital reserve arising at the time of acquisition. The carrying amount of the investment is adjusted thereafter for the post acquisition change in the investor's share of net assets of the investee. The consolidated statement of profit and loss reflects the investor's share of the results of operations of the investee.

However, the equity method may not be adopted when:

- a. the investment is acquired and held exclusively with a view to its subsequent disposal in the near future; or
- b. the associate operates under severe long-term restrictions that significantly impair its ability to transfer funds to the investor.

In such cases investment shall be accounted for under AS 13, Accounting for Investments.

Consolidation procedures used in the acquisition of a subsidiary are adopted on the acquisition of an investment in an associate. On acquisition of the investment any difference between the cost of acquisition and the investor's share of the equity of the associate is described as goodwill or capital reserve, as the case may be. Goodwill/capital reserve arising on the acquisition of an associate by an investor should be included in the carrying amount of investment in the associate but should be disclosed separately.

In using equity method for accounting for investment in an associate, unrealised profits and losses resulting from transactions between the investor (or its consolidated subsidiaries) and the associate should be eliminated to the extent of the investor's interest in the associate. Unrealized losses should not be eliminated if and to the extent the cost of the transferred asset cannot be recovered.

If, under the equity method, an investor's share of losses of an associate equals or exceeds the carrying amount of the investment, the investor ordinarily discontinues recognizing its share of further losses and the investment is reported at nil value. Additional losses are provided for to the extent that the investor has incurred obligations or made payments on behalf of the associate to satisfy obligations of the associate that the investor has guaranteed or to which the investor is otherwise committed. If the associate subsequently reports profits, the investor resumes including its share of those profits only after its share of the profits equals the share of net losses that have not been recognized.

SUMMARY

- Merger takes place when one company acquires the assets of another company in exchange of cash, stock or other combinations. The acquiring company would continue to be in existence as a separate legal entity but the company that has been acquired ceases to be in existence as a separate legal entity and its stocks would be canceled and its books closed. The separate assets and liabilities would be recorded in the books of the acquiring company.
- Consolidation results in a new firm whereby the stock of one firm is issued in exchange for the stock of two or more combining or consolidating companies. The firms that are acquired would generally cease to exist as a separate legal entity and thus the new firm would be recording the separate assets and liabilities of the acquired firms.
- Acquisition results when a company acquires a majority of the common stock of another company and each company would be continuing to exist as per law. The acquiring company would be recording an “investment in acquired company’s stock” in the combination entry.
- There are two methods which are generally used for the business combinations: Pooling Method and Purchase Method.
- The pooling method assumes a combination of the stockholder’s interest. The basis of the valuation is the pooling of book values of the assets acquired by the acquiring company. No goodwill is created at the date of the combination when this method is adopted.
- In the purchase method it would be required to determine the fair market value of the acquired company’s identifiable tangible, intangible assets and the liabilities at the date of combination.

Chapter X

Analysis of Multinational Operations

After reading this chapter, you will be conversant with:

- Accounting Issues Relating to Foreign Transactions
- Translation of Transactions of a Foreign Entity
- Comparison of Remeasurement and Translation
- Hyperinflationary Economies and Accounting Methods
- International treatment of effect of changes in Foreign Exchange Rates
- Indian Accounting Standard on Effect of Changes in Foreign Exchange Rates

Introduction

International trade is expanded significantly because of various changes in the economies of countries in the various parts of world. Many companies are now establishing their manufacturing units in other countries for economic considerations such as low cost labour or materials. This trend is expanded to service sector also. Thus, it becomes obvious for the companies to invest, borrow or lend in foreign currencies for their expansion purpose.

MNCs conduct business activities where the local reporting regulations may be different from those governing parent company financial statements. Foreign transactions are carried out in different economic conditions and in different currencies whose exchange rates ~~are~~ fluctuate frequently. These changes affect actual and reported operating performance, financial position and cash flows. MNCs prepare consolidated financial statements for their domestic and foreign operations based on different estimates and measurements of subsidiary companies. Subsidiary companies prepare their financial statements in their local currency and the parent company must be translated ~~these~~ into its domestic currency for the purpose of consolidation.

Important Terms

Foreign Currency: A currency other than the functional currency of the company is referred as foreign currency.

Foreign Currency Transactions: Transactions whose terms are denominated in a currency other than the entity's functional currency are termed as foreign currency transactions. Foreign currency transactions arise in the following circumstances. When an enterprise

- a. buys or sells on credit goods or services whose prices are denominated in foreign currency,
- b. borrows or lends funds and the amounts payable or receivable are denominated in foreign currency,
- c. is a party to an unperformed forward exchange contract, or
- d. for other reasons, acquires or disposes ~~of~~ assets, or incurs or settles liabilities denominated in foreign currency.

Functional Currency: An entity's functional currency is the currency of the primary economic environment in which the company operates, that is, the currency of the environment in which an entity primarily generates and expends cash.

Local Currency: The currency in which a company prepares its financial statements is termed as local currency.

Reporting Currency: The currency in which the multinational company prepares its consolidated financial statements is termed as reporting currency.

Foreign Currency Translation: The process of expressing in the reporting currency of the enterprise those amounts that are denominated or measured in a different currency.

Transaction Date: The date at which a transaction is recorded in accounting records in conformity with generally accepted accounting principles.

Transaction Gain or Loss: Transaction gains or losses result from a change in exchange rates between the functional currency and the currency in which a foreign currency transaction is denominated. They represent an increase or decrease in,

- a. the actual functional currency cash flows realized upon settlement of foreign currency transactions, and
- b. the expected functional currency cash flows on unsettled foreign currency transactions.

Historical exchange rate: It is the rate at which a transaction was actually settled. For example, the rate which was used to convert the domestic currency into the foreign currency for settling the payment for a machinery bought by the company. In cases where no actual currency conversion takes place, it is the rate prevailing at the time the original transaction took place. For example, if the machinery in the above example was bought by a foreign subsidiary, there would have been no conversion of currency. In that case, the historical rate would have been the rate prevailing when the machinery was bought.

Current or closing exchange rate: It is the rate prevailing on the date of translation of accounts.

Average rate: It is the average of the rates prevailing over a certain period of time.

Blended rate: It is the average of the historical rate and average rate calculated using the opening and closing balances of relevant accounts.

Remeasurement: It is process of translation of local currency transactions into functional currency.

Translation: It is the process translation of functional currency of a foreign subsidiary into the reporting currency.

ACCOUNTING ISSUES

Foreign currency transactions encompass a wide variety of activities and there are wide fluctuations in the exchange rates also. Accounting for foreign transactions raises the following three basic issues:

i. **Choice of Exchange Rate:**

The first issue relating to accounting for foreign currency transactions is the choice of exchange rate used to translate foreign currency transactions and financial statements into the parent currency i.e. reporting currency. First all transactions that are denominated in other currency should be translated into parent or reporting currency for preparation of consolidation of financial statements. Here, the problem faced is the choice of exchange rate. Basically there two choices of exchange rates viz., historical rate and current rate. The rate chosen may be used for all transactions not denominated in the reporting currency or different rates may be used for different types of transactions which was discussed in the later part of this chapter.

ii. **Definition of Exposure:**

The second issue is definition of exposure to exchange rates change i.e. selection assets and liabilities that should be adjusted for exchange rate changes. If the exchange rates change, financial data recorded in the reporting currency also change even though there is no change in subsidiary company currency. The translated financial statements of the subsidiary company blended should reflect the effects of exchange rate changes with the results of operating, investment, and financing activities on the consolidated financial statements. As a result there may be loss or gain relating to these translations.

iii. **Disposition of Resulting Translation Adjustment:**

The third issue is disposition of resulting translation adjustment i.e. gain or loss in translation. Any loss or gain resulting from foreign currency translations should be accounted. The loss or gain should be recognized immediately in the same accounting period as a part of net income or as an adjustment to stockholder's equity. The reported gain or loss reflects the impact of changing exchange rates on the parent company's accounting rather than its economic exposure.

These three issues effect the consolidated financial statements of the parent company significantly.

EFFECT OF EXCHANGE RATE CHANGES

Changes in exchange rate result in two effects on companies actual performance and reported performance viz., flow effect and holding gain or loss effect. These two are explained with the help of the following example.

A Ltd is a foreign subsidiary company and prepared its financial statements in its local currency (LC). A Ltd reported its revenue is LC 1,00,000 in the first year and LC 1,10,000 in the second year. So A Ltd reports a 10% growth in its revenue. If the exchange rate between the LC and rupee is constant, i.e. 1 LC = Re. 1, then the parent consolidates the subsidiary and 10% growth in the subsidiary's revenue is also reflects in the consolidated financial statements.

Let us examine the flow effect and holding gain or loss effect.

Flow Effect

We know that the exchange rates fluctuate, so the parent company should show relevant variation in its results. Thus if we assume exchange rates as:

Year 1	LC 1 = Re.1
Year 2	LC 1 = Rs.1.50

Then the subsidiary companies results will be shown in the parent's company in the following way,

(Rs. in lakh)

Year	1	2	Total
Revenue	1,00,000	1,65,000	2,65,000

Now the parent company reports that the subsidiary company achieved a 65% growth in its revenue. But that growth only because of 50% growth in the exchange rate. Thus the additional 50% is the flow effect on the income statement. Thus while analyzing, the analyst should separate the effect of the exchange rate changes from the results of the subsidiary's operations. Thus, the growth Rs.65,000 can be analyzed in the following way:

Growth due to Exchange Rate fluctuation = Rs.55,000 (i.e., 50% of Rs.1,10,000)

Growth in revenue = Rs.10,000 (i.e. real increase in revenue)

Holding Gain/Loss Effect

The fluctuations in the exchange rates, not only effects the revenues but also all the items. Continuation to the above example, assume A Ltd retains all cash receipts, then the cash balances at the end of year are as follows:

Year	0	1	2
Subsidiary Books			
Cash balance in LC	0	LC1,00,000	LC 2,10,000
Exchange Rate		LC 1 = Re.1	LC 1 = Re.1.50
Parent Consolidation	—		
Cash		Rs.1,00,000	Rs.3,15,000

From the subsidiary point of view, the increase in cash year 2 Rs.1,10,000 is equal to the increase in revenue (ignore all other aspects). The cash balance at the end of the second year is equal to the cumulative of two years profits of Rs.2,10,000.

Let us now-analyze the cash balances in parent company's books. At the end of the 2 year, in rupee terms, the cash balance equals Rs.3,15,000. However cumulative revenue equals to only Rs.2,65,000. The difference Rs.50,000 is the **holding gain**.

This results in increase in value. The subsidiary company earned Rs.1,00,000 in the year 1 and it was held till to the end of year 2 and the value increased to Rs.1,30,000. Thus, the holding gain in year 1 is Rs.30,000.

Thus, the effects of exchange rates can be analyzed in the following way:

	Rs.	Rs.
Amount in Rs. if there is no change in exchange rates		2,10,000
Exchange Rate Effects:		
Flow effect on Year 2 income	55,000	
Holding gain on amount earned in year 1	50,000	1,05,000
Amount including exchange rate effect		3,15,000

Generally, accounting standards and the normal investors focus is on holding gains and loss effect. But for an analyst, the holding effect and flow effect on income both are very relevant and important.

FOREIGN CURRENCY TRANSACTIONS

Foreign currency transactions may result in receivables or payables fixed in the amount of foreign currency to be received or paid. A foreign currency transaction requires payment in a currency other than the reporting entity's functional currency.

When a transaction is entered into, each asset, liability, revenue, expense, gain, or loss arising from that transaction should be measured and recorded based on the reporting company's functional currency at the exchange rate on that date. At each balance sheet date, balances that will be settled should be brought up to date at the current exchange rate. A change in exchange rates between the functional currency and the currency in which a transaction is denominated increases or decreases the expected amount of functional currency cash flows upon settlement of the transaction.

The change in expected functional currency cash flows is a foreign currency transaction gain or loss that is presented separately as an element of income from continuing operations in the income statement for the period in which the exchange rate changed. In other words, if the exchange rate changes between the date of a purchase or sale and the time of actual payment or receipt, a foreign exchange transaction gain or loss arises.

Illustration 1

On January 15, 2001, ABC Company, which uses a perpetual inventory system, shipped merchandise costing \$45,000 to XYZ Company, a German company, for 100,000 Deutsche Marks (DM). On February 15, 2001, ABC Company received a draft for DM 100,000 from XYZ Company. The draft was immediately converted. The spot rates were as follows:

Transaction on	Buying Rate	Selling Rate
Jan 15, 2006	0.60	0.65
Jan 31, 2006	0.65	0.70
Feb 15, 2006	0.55	0.60

Pass Journal entries for the above transactions.

Solution

Particulars	Dr.	Cr.
15 Jan 2006		
Accounts receivable [DM 100,000 × \$.60]	\$60,000	
Sales		\$60,000
15 Jan 01		
Cost of goods sold	\$45,000	
Inventory		\$45,000
Jan 31, 2006		
Accounts receivable [DM 100,000 × (\$.65–\$.60)]	\$ 5,000	
Transaction gain or loss		\$ 5,000
Feb 15, 2006		
Cash [DM 100,000×0.55]	\$55,000	
Transaction gain or loss		\$10,000
Accounts receivable [\$60,000 × \$.55]		\$65,000

TRANSLATION OF FINANCIAL STATEMENTS OF A FOREIGN ENTITY

SFAS 52 deals with the translation of financial statements of a foreign entity. The principles stated in this standard apply to the translation of:

1. Foreign currency transactions (e.g., exports, imports, and loans), which are denominated in a currency other than a company's functional currency.
2. Foreign currency financial statements of branches, divisions, subsidiaries, and other investments.

The objectives of translation are to provide:

1. Information relative to the expected economic effects of rate changes on an enterprise's cash flows and equity.
2. Information of each individual foreign consolidated entity as reflected by functional currency of each reporting entity in consolidated financial statements.

According to US GAAP, two translation methods are used for converting the subsidiary transactions. They are:

- a. Temporal Method or the remeasurement process.
- b. The All current method or the translation process.

Before learning these methods, first we should know the role of functional currency in determining the method used for translation or conversion.

Choice of Currency

The choice of currency depends of the choice of functional currency for each subsidiary company. Before the financial statements of a foreign branch, division, or subsidiary are translated into reporting currency, the management of the parent company must make a decision as to which currency is the functional currency of the foreign entity. A company's functional currency is the currency of the primary economic environment in which the company operates. It is usually the currency of the environment in which the business mostly receives and pays cash. Once chosen, the functional currency cannot be changed unless it is clear that economic facts and circumstances have changed. Additionally, previously issued financial statements are not restated for any changes in the functional currency. The functional currency decision is crucial because different translation methods are applied which may have a material effect on the parent company's financial statements.

The factors to be considered in selection of a foreign currency are:

1. The impact of the foreign entity's cash flows on the parent's cash flows and their immediate availability for remittance to the parent.
2. The responsiveness of the foreign entities sales prices to exchange rate changes and to international competitions.
3. The currency in which the foreign entities sales market is denominated.
4. The expenses incurred by the foreign entity.
5. The source of financing of the foreign entity.
6. The volume of inter-company transactions between the parent and the foreign entity.

In most instances, the functional currency is the currency of the country in which the company is located. In other instances, it may be the currency of another country. For example, if a foreign subsidiary's activities are situated within one country, are basically self-contained, and do not rely on the parent's economic environment, the subsidiary's functional currency is the currency of the country in which it is located. Conversely, if a foreign subsidiary's daily activities are a direct and important element of the parent's operations and environment, then the parent's currency will be the functional currency. If the company carries out major operations in more than one currency, management must make a determination of which currency to use as the functional currency. However, a company may have more than one distinct operation (e.g., branch, division). If conducted in different economic settings, each operation may have a different functional currency.

Thus, the functional currency determines the method used for converting the foreign transactions. The following two methods are used for conversion.

Temporal Method or Remeasurement Method

This method is used when the functional currency of the foreign subsidiary is the reporting currency. This method classifies items on the basis of whether they are valued at historical basis or on market price basis. All the items of the balance sheet that are valued on historical cost basis (i.e., fixed assets) are translated at the historical rate, and those which are valued on current value (or realizable value i.e. inventories etc) are valued at the closing rate. All items of income and expenditure are required to be converted at the average rate for the relevant period, except those items that are related to non-current assets and liabilities. All such items (like depreciation) are to be converted at the same rate as the related asset or liability. To sum up

- a. Monetary assets and liabilities i.e., cash, accounts receivables, accounts payable, short term debt, and long term debt are translated using the current rate.
- b. Non-monetary assets and liabilities i.e., all assets and liabilities except above mentioned, are translated at the historical rate.
- c. Revenues and expenses are translated at the average rate.
- d. Purchase of inventory and fixed assets are re-measured at the historical rate as of the date of purchase. Therefore, depreciation and cost of goods sold are re-measured based on the historical rates prevailing at the time of purchase.
- e. The translation gain or loss is shown in the income statement.

Current Rate Method

As per US GAAP this method is required when the functional currency is the local currency. In this case the subsidiary company is deemed as independent of the parent's operations and viewed as an "investment" of the parent. Under this

method, all assets, liabilities, incomes and expenditures are translated at the current or closing rate. Thus, under this method,

- All income statement elements are translated at the average rate.
- All the assets and liabilities are translated at the current rate except inventory which is translated at the historical cost.
- Dividends are translated at the rate that applied when they were paid.
- The translation gain or loss is included in the balance sheet as a part of equity.

The differences between the two methods have the significant implication on the parent company's financial statements.

The following is the summary of rates used for translating the different items under both the methods.

Account	Rates Used for Translating Using	
	Temporal Method	All Current Method
Monetary Assets & Liabilities	Current Rate	Current Rate
Non-Monetary Asset & Liabilities	Historical Rate	Current Rate
Common stock	Historical rate	Historical Rate
Revenues	Average Rate	Average Rate
Cost of goods sold	Historical rate	Average Rate
Administration Expenses	Average Rate	Average Rate
Selling & Distribution Expenses	Average Rate	Average Rate
Depreciation	Historical rate or Blended rate*	Average Rate

* Blended rate is calculated using the following formula:

$$\text{Blended rate} = \left(\frac{\text{Beginning Fixed Assets}}{\text{Ending Fixed Assets}} \times \text{Historical Rate} \right) + \left(\frac{\text{Fixed Assets Purchased}}{\text{Ending Fixed Assets}} \times \text{Average Rate} \right)$$

Translating Inventory under Temporal Method

Under the all current method inventory is translated using the current method. But the Translation of inventory is different under temporal method. We know that Inventory is valued by using different methods like FIFO, LIFO and average methods. Under FIFO method, we assume that the stock at the beginning of the year are sold off during the year and the ending balance contains the stock purchased during the year. Thus, under FIFO method, these units are valued the rate at which the purchases were made. Under LIFO method, we assume that the stock purchased during the year are sold off and the ending balance contains the purchased at the beginning of the year. Thus under LIFO method, the units are valued at historical rate.

Illustration 2

The following data is extracted from the books of JELL Ltd.

Particulars	2005	2006
Opening stock (units)	300	270
Purchases (units)	450	450
Units sold (units)	480	480

Assume that the each unit purchased costs is 1 LC (Local currency).

Units are acquired at LC 1.10 = Rs.1 in 2005 and LC 0.95 = Rs.1 in 2006.

At the beginning of 2005 LC 1 = Rs.1

Calculate the cost of goods and value of ending inventory in both the years.

Solution

Closing stock = Opening stock + Purchases – Units sold

Cost of goods Sold = Opening stock + purchases – Closing stock

Year 2005

Particulars	LC	FIFO Method		LIFO Method	
		Rate	Rs.	Rate	Rs.
Opening Stock	300	1.00	300	1.00	300
Add: Purchases	450	1.10	495	1.10	495
	750		795		795
Less: Units Sold	480				
Closing stock	270	1.10	297	1.00	270
Cost of goods sold	480		498		525

Year 2006

Particulars	LC	FIFO Method		LIFO Method	
		Rate	Rs.	Rate	Rs.
Opening Stock	270	1.00	300	1.00	300
Add: Purchases	450	0.95	428	0.95	428
	720		728		728
Less: Units Sold	480				
Closing stock	240	0.95	228	1.00	240
Cost of goods sold	480		500		488

From the above, it is understood that the cost of goods sold and inventory are differ in both the methods. Observe in 2005, where the local currency rates lower, the cost of goods sold is lower and inventory is higher under FIFO method than the LIFO method. But in 2006, where the local currency rates are higher, the cost of goods sold is high and inventory is low under FIFO method than the LIFO method. Thus, difference in the value of inventories is not only affected by the exchange rates but also by the method of inventory used by the companies.

Calculation of Translation Gain and Loss

It is important for the multination company to calculate translation gain or loss because of the reporting purpose. The calculation of translation gain or loss is same to under both current method and temporal method except the calculation of exposure.

Under current method, all assets and liabilities are translated into current rate. Thus net exposure is equal to excess of assets over liabilities or total shareholder's equity.

Exposure under Current Method = Assets – Liabilities (or stockholder's equity)

Under temporal method, only cash and securities, accounts receivables and payables, current debt and long term debt are translated at the current rate and inventory and fixed assets are translated at the historical rate. Thus,

Exposure under Temporal Method = (Cash + Accounts Receivables)
– (Accounts payable + Current debt
+ Long term debt)

After calculating the exposure, then flow effect should be measured. Calculation of flow effect is same under both the methods. First calculate change in exposure that is the difference between opening exposure and closing exposure and it is multiplied with difference in ending rate and average rate. Thus,

$$\text{Flow Effect} = \text{Change in Exposure (in LC)} \times (\text{Ending rate} - \text{Average rate})$$

Then, holding gain or loss effect should be measured parent currency by multiplying the difference between ending rate and beginning rate with the beginning exposure in local currency. Thus,

$$\text{Holding gain/loss (in parent currency)} = (\text{Beginning exposure in LC}) \times (\text{ending rate} - \text{beginning rate})$$

The total translation gain or loss is then measured in parent company in the following way:

$$\text{Translation gain/loss} = \text{flow effect} + \text{holding gain/loss effect.}$$

Thus, the steps in calculation of translation gain and loss are:

- First calculate exposure under current method or temporal method at the beginning and at the end.
- Determine flow effect.
- Measure holding gain or loss.
- Add flow effect and holding gain/loss effect to determine gain or loss on translation.

Treatment of Translation Gains and Losses

The method of recognition of effects of changes in exchange rates is different under both the methods. Under current method, all holding gains and losses are recognized irrespective of their realization. But these are not shown in the income statement. The translation adjustment account flow into the stockholder's equity.

Under temporal method, only some holding gains and losses are recognized. A separate disclosure is required for the realized and unrealized gain or loss on monetary assets. The realized gain or loss on non-monetary assets is recognized in the income statement and unrealized gain or loss on these assets are ignored. Thus, under temporal method only gains and losses from monetary assets are recognized in the income statement.

Illustration 3

The following is the balance sheet of Bright Ltd as on 31st December of 2005 and 2006. Assume all amounts are in Local Currency (LC)

Assets & Liabilities	2005	2006
Cash	300	300
Accounts Receivables	1,500	1,950
Inventory	3,000	3,600
Total current Assets (LC)	4,800	5,850
Fixed Assets	2,400	4,800
Accumulated Depreciation	(300)	(2,100)
Net Fixed Assets (LC)	2,100	2,700
Total Assets (LC)	6,900	8,550
Accounts Payables	1,200	1,500
Current debt	300	600
Long term debt	3,900	2,850
Total liabilities (LC)	5,400	4,950
Common stock	1,200	1,200
Retained Earnings	300	2,400
Total Equity (LC)	1,500	3,600
Total Liabilities and Shareholder's Equity (LC)	6,900	8,550

Bright's Income Statement

Particulars	2006 (LC)
Revenue	15,000
Cost of goods sold	(9,900)
Gross Margin (LC)	5,100
Other Expenses	(1,200)
Depreciation Expense	(1,800)
Net Income (LC)	2,100

The following exchange rates between the US dollar and the local currency during the year:

On 31-12-2005: LC 1.00 = \$ 0.50 ; LC 2.00 = \$ 1.00

On 31-12-2006: LC 1.00 = \$ 0.4545; LC 2.20 = \$ 1.00

Average for 2006: LC 1.00 = \$ 0.4762 ; LC 2.10 = \$ 1.00

Historical rates for fixed assets, inventory and equity: LC 1.00 = \$ 0.50

Calculate gain or loss on translation using current method and also show Bright's Balance sheet and Income Statement for 2006 after translation.

Solution

Under Current Method Exposure =	Assets – Liabilities (or total of Stockholder's equity)
Exposure at the beginning =	LC 1500
Exposure at the end =	LC 3,600
Change in Exposure =	LC 3,600 – LC1500 = LC2,100
Flow Effect =	LC 2100 x (0.4545 – 0.4762) = – \$45.57
Holding effect =	LC 1500 x (0.4545 – 0.50) = – \$68.25 (i.e. loss)
Translation Loss for 2006 =	– \$45.57 – \$68.25 = – \$113.82

Bright's Translated Income Statement for the year 2006

Particulars	2006 (LC)	Exchange Rate	2006 (\$)
Revenue	15,000	\$0.4762	7,143.00
Cost of goods sold	(9,900)	\$0.4762	(4,714.38)
Gross Margin	5,100		2,428.62
Other Expenses	(1,200)	\$0.4762	(571.44)
Depreciation Expense	(1,800)	\$0.4762	(857.16)
Net Income	2,100		1,000.02

Bright's Translated Balance for the year 2006

Assets & Liabilities	2006 (LC)	Exchange Rate	2006 (\$)
Cash	300	\$0.4545	136.350
Accounts Receivables	1,950	\$0.4545	886.275
Inventory	3,600	\$0.4545	1,636.200
Total current Assets (LC)	5,850		2,658.825
Fixed Assets	4,800	\$0.4545	2,181.600
Accumulated Depreciation	(2,100)	\$0.4545	(954.450)
Net Fixed Assets (LC)	2,700		1,227.15
Total Assets (LC)	8,550		3,885.975
Accounts Payables	1,500	\$0.4545	681.750
Current debt	600	\$0.4545	272.700

Financial Statement Analysis

Assets & Liabilities	2006 (LC)	Exchange Rate	2006 (\$)
Long term debt	2,850	\$0.4545	1,295.325
Total liabilities (LC)	4,950		2,249.775
Common stock	1,200	\$0.50	600
Retained Earnings	2,400	(see note)	1,150.02
Cumulative translation adjustment			(113.82)
Total Equity (LC)	3,600		1636.2
Total Liabilities and Shareholder's Equity (LC)	8,550		3,885.975

Note:

Retained Earnings in the beginning = LC 300 x \$0.50 = \$150

Retained Earnings at the end = \$150 + \$1,000.02 = \$1,150.02

Illustration 4

Consider the data given in **Illustration 1**, calculate translation gain or loss using temporal method. Also show translated income statement and Balance sheet of Bright Ltd after translation.

Solution

Working Note:

1. Cost of Goods Sold

Purchases = Cost of goods sold + Closing stock – Opening Stock

LC 9900 + LC 3,600 – LC 3,000 = LC 10,500

	2006 (LC)	Exchange Rate	2006 (\$)
Beginning Inventory	3,000	\$0.50	1,500
Add: Purchases	10,500	\$0.4762	5,000.1
Less: Closing Inventory	3,600	\$0.4762	1,714.32
Cost of Goods Sold	9,900		4785.78

2. Depreciation

Fixed assets purchased during the year are remeasured at average rate and beginning fixed assets are remeasured at historical rate. Thus, depreciation is remeasured using the combined rate which was calculated as follows.

Purchase of Assets = Closing Assets – Opening Assets

= LC 4800 – LC 2400 = LC 2400

$$\text{Blended rate} = \left(\frac{\text{Beginning Fixed Assets}}{\text{Ending Fixed Assets}} \times \text{Historical Rate} \right) + \left(\frac{\text{Fixed Assets Purchased}}{\text{Ending Fixed Assets}} \times \text{Average Rate} \right)$$

$$\text{Thus the Blended rate} = \left(\frac{2,400}{4,800} \times 2 \right) + \left(\frac{2,400}{4,800} \times 2.10 \right) = 2.05$$

$$\text{Combined rate} = 1/2.05 = 0.4878$$

Particulars	2006 (LC)	Exchange Rate	2006 (\$)
Beginning Fixed Assets	2,400	\$ 0.50	1,200
Add: Purchases	2,400	\$ 0.4762	1,142.88
Closing Fixed Assets	4,800		2,342.88
Beginning Accumulated Depreciation	300	0.50	150
Add: Current Year Depreciation	1,800	0.4878	878.04
Beginning Accumulated Depreciation	2,100		1,028.04

Exposure	=	(Cash + receivables) – (Payables + Current and long term debt)
Opening Exposure	=	(300+ 1,500) – (1,200 + 300 + 3,900) = 1800 – 5,400 = – LC 3,600
Closing Exposure	=	(300+ 1,950) – (1,500 + 600 + 2,850) = 2,250 – 4,950 = – LC 2,700
Change in Exposure	=	– LC 2,700 – (– LC 3,600) = LC 900
Flow Effect	=	LC 900 x (0.4545 – 0.4762) = – \$19.53
Holding gain effect	=	– LC 3,600 x (0.4545 – 0.50) = \$163.8
Translation gain for 2006	=	– \$19.53 + \$ 163.8 = \$144.27

Bright's Translated Income Statement for the year 2006

Particulars	2006 (LC)	Exchange Rate	2006 (\$)
Revenue	15,000	\$ 0.4762	7,143.00
Cost of goods sold	(9,900)	<i>See Note</i>	(4785.78)
Gross Margin	5,100		2357.22
Other Expenses	(1,200)	\$ 0.4762	(571.44)
Depreciation Expense	(1,800)	<i>See Note</i>	(878.04)
Net Income before Translation gain	2,100		907.74
Add: Translation gain			144.27
Net Income	2,100		1,052.01

Bright's Translated Balance for the Year 2006

	2006 (LC)	Exchange Rate	2006 (\$)
Cash	300	\$ 0.4545	136.350
Accounts Receivables	1,950	\$ 0.4545	886.275
Inventory	3,600	<i>See Note</i>	1,714.320
Total current Assets (LC)	5,850		2,736.945
Fixed Assets	4,800	<i>See Note</i>	2,342.880
Accumulated Depreciation	(2,100)	<i>See Note</i>	(1,028.040)
Net Fixed Assets (LC)	2,700		1,314.840
Total Assets (LC)	8,550		4051.785
Accounts Payables	1,500	\$ 0.4545	681.750

	2006 (LC)	Exchange Rate	2006 (\$)
Current debt	600	\$ 0.4545	272.700
Long term debt	2,850	\$ 0.4545	1,295.325
Total liabilities (LC)	4,950		2,249.775
Common stock	1,200	\$ 0.50	600.000
Retained Earnings	2,400	(see note)	1,202.010
Total Equity(LC)	3,600		1802.010
Total Liabilities and Shareholder's Equity (LC)	8,550		4,051.785

Note:

Retained Earnings in the beginning = LC 300 x \$ 0.50 = \$ 150

Retained Earnings at the end = \$ 150 + \$ 1,052.01 = \$ 1,202.01

Observe the results obtained under the two methods. Exchange rate gains or losses appear on the balance sheet in the all current method and in the income statement in temporal method. Realized gain and losses on inventory and fixed assets are included in cost of goods sold and unrealized gains or losses on these two items are ignored in temporal method.

The net income is different under two methods because of cost of goods sold and depreciation. The translation gain or loss is also different. There is translation Loss in all current method and gain in temporal method. Total assets are also different in two methods because of inventory and fixed assets.

COMPARISON OF REMEASUREMENT PROCESS AND TRANSLATION

There is confusion between remeasurement process and translation. As per US GAAP remeasurement refers to the process of converting local currency translations into the functional currency with a foreign subsidiary. Translation refers to conversion of the functional currency data of a foreign subsidiary into the reporting currency. There are two steps in the accounting for foreign operations.

The first step is remeasurement of foreign subsidiary's financial data into its functional currency. For example if a company located in London, whose functional currency is the pounds may have transactions denominated in other currencies. It may have the transactions with other European countries. At the year end, a balance sheet of functional currency (i.e., in pounds) must be prepared and each non-pound asset and liability must be converted into functional currency. This is the process of remeasurement under US GAAP and the remeasurement process is carried out based on the temporal method. All the translation gains and losses are reported in income statement.

The second step is translation of all function currency transactions into parent (i.e. reporting) currency. The translation gains and losses at this stage are not reported in the income statement but directly flow into the stockholder's equity. But the gains or losses that result from the remeasurement process remain in the income statement even after translation stage.

Generally in most of the cases, only one step is required. If the foreign subsidiary conduct business only in London, then the local currency is the functional currency and the remeasurement is not required. Only translation step is needed. In the same way, if the subsidiary is in a highly inflationary economy and the functional currency is the parent currency, then only remeasurement step is needed. The subsidiary company remeasures all of its accounts into the parent currency and no other translation is needed.

Thus, consolidated financial statements are prepared after incorporating various types of foreign operations with different functional currencies remeasured and/or translated into reporting (parent) currency.

The following steps are required in translating the foreign country's financial statements:

1. Ascertain the functional currency of the foreign entity.
2. Remeasure the financial statements in the functional currency, if required. Gain or loss from remeasurement is included in the remeasured net income.
3. Convert from the foreign (functional) currency into Reporting Currency i.e., Rupees for Indian Parent company, Dollar in case of US parent company. If a foreign company's functional currency is other than the reporting currency, translation into the reporting currency is necessary before the entity may be consolidated, combined, or accounted for on the equity method.

Effect on Income Statement

All revenues, expenses, gains and losses are translated at the weighted average rate in current method. The temporal method also uses the weighted average for all the elements of the income statement except cost of goods sold and depreciation expenses. Thus the two expense lines differ, reflecting the choice of functional currency. The translation gain or loss is shown in the income statement under temporal method and in equity under current method. Thus, the effect of income statement discussion is only relevant to the temporal method only.

In temporal method the opening inventory is valued at historical exchange rate and purchases and closing stock at average rate. The use of historical rate for inventories delays the recognition of the effects of rate changes. Moreover, the cost of goods sold under historical cost is also lower the cost of goods sold at average rate. Depreciation expense is also significantly altered when the temporal method is used. If the local currency declines, both cost of goods and depreciation expense sold would be higher if temporal method is used. But a decline in the local currency creates the illusion of higher sale and earning of foreign operations. The inclusion of translation gains and losses in net income under the temporal method also results in further distortion. Thus, for companies with significant foreign operations, the effect of changing exchange rates can make it difficult to recognize true operating trends.

Effect on Balance Sheet

The choice of functional currency also affects the balance sheet of the foreign operation and after consolidation. The assets and liabilities are translated at the current exchange rate under both the methods, except some significant elements.

When the reporting currency is the functional currency, inventories, fixed assets and other non-monetary accounts are translated at historical rates in temporal method. As result, total assets are lower and the asset turnover ratio increases. In current method, if the local currency increases, both inventories and fixed assets will be shown in the balance sheet at below their stated amounts. Under temporal method, the stockholder's equity is lower than the current method. This is due to translation effect adjusted to stockholders' equity in current method.

Effect on Financial Ratios

Functional currency affects both the income statement and balance sheet. Thus, many financial ratios effect with the choice of functional currency. Another important issue is the ratios are different under translation and remeasurement and ratios under translation are different from those in the local currency.

Receivables and sales are translated at the same rate in both translation and remeasurement and thus, the receivables turnover ratio is same under both the conditions. But all other asset turnover ratios differ under translation and remeasurement. A rise in the local currency always increases the fixed asset turnover ratio for remeasurement as compared with translation. That is, a rise in

local currency increases the amount assets under translation, resulting lower turnover ratios. Return ratios also differ under both the methods. Under translation return on equity may not be changed, but under remeasurement it may show increasing or decreasing trend.

In most cases, translation ratios also differ from the local currency ratios. As all income statement elements are translated at the average rate and all balance sheet elements are translated at the ending rate, it is mathematically true that the local currency ratios and reporting currency ratios are identical. But when the ratios are calculated based on the income statement and balance sheet, and then the ratios are changed by the translation. One more important effect of changing exchange rates on ratios is if the local currency appreciates, foreign data will constitute a larger percentage of the consolidated group, and consolidated ratios will be affected. That is, whenever, a financial ratio differs between the foreign subsidiary and the remainder of the consolidated group, a change in exchange rate will affect the consolidated ratio even if there has been no change in the underlying ratios.

Thus, the ratios using both income statement and balance sheet, do not exactly maintain the local currency relationship but usually do not differ greatly under current method. But under temporal method, in most cases, differ significantly from both the local currency ratios and those computed from translated data. Even though there is no change in local currencies, changes in exchange rates can affect consolidated ratios.

Effect on Cash Flows

As per US GAAP, cash flows in the reporting (Parent) currency must replicate the cash flows in the local currency. Thus, cash flows in the reporting currency must exclude the effects of exchange rates changes. It means that the cash flow statement should be unaffected by whether the temporal or all current rate method is used. The consolidated cash flows of multinational companies should represent the reporting currency equivalent of local currency cash flows, foreign operations which are unaffected by the choice of functional currency. Although, US GAAP mandates the removal of effects of exchange rate changes on cash flows, that is not entirely true. The cash flows which are reporting, exclude only the holding effect i.e. impact of change rates on assets and liabilities. Local currency cash flows are translated at the average rate and changes in currency rates do affect reporting currency cash flows. When a foreign currency increase in value, the equivalent of cash flow in the parent company will also increase; when a currency falls, the translated cash flows also decline. Thus, the US GAAP do provide with a cash flow that replicates the local currency cash flow statement, the parent company cash flow statement is still affected by the changes in currency rates.

Analysis of Foreign Currency Disclosures

The objective of analyzing foreign currency disclosures is to understand the firm economic exposure to exchange rates, the effects of rate changes on this exposure and whether the effects reported in financial statements reflect the economic effects appropriately or not.

Analysis of foreign currency disclosures starts with the determination of exposure to currencies other than the parent currency. Then estimate the effects of exchange rate changes. After identifying the two, it is easy to assess the financial statement effects. This analysis will improve quality of investment decisions. The information about the exposure can be obtained from the following part of the annual report:

- Financial statement references to exchange rate effects.
- Foot note disclosures.
- Segment Reporting.
- M&D Analysis.
- Discussions about business operation.

From these sources, an analyst should identify the answers of the following questions:

- i. What is the functional currency of the business?
- ii. How much exposure does the company have in each currency?
- iii. Which method of accounting is followed by parent for foreign subsidiary transactions?
- iv. How many functional currencies does the firm use?

Financials statement disclosures regarding exposure are generally poor and not meaningful. When a firm does not states its choice of functional currency, then the absence of cumulative translation adjustment on the balance sheet indicates that the firm is using temporal method and functional currency for all its foreign subsidiary is the parent currency. If cumulative translation adjustment appears on the balance sheet, then the analyst knows that at least some of the subsidiaries of the firm are using the all current method and the local currency is the functional currency.

HYPERINFLATIONARY ECONOMIES

SFAS 52 defines a hyperinflationary economy as one that experiences a cumulative 3 year inflation rate of more than 100%. These economies create problems for both accountants and financial analysts. The purchasing power of money diminishes rapidly in the hyperinflationary economies and it is necessary to depreciate the assets at a rapid rate. Translation of financial statements of companies operating their business in such countries with strong currency creates some special problems.

Selecting the exchange rates is another problem with hyperinflationary economies. If the current exchange rate is used to translate the assets and liabilities of subsidiaries located in high inflation countries, their translated amounts quickly become insignificant. This would misrepresent the financial condition of the subsidiary. Sometimes the real value of non-monetary assets is not destroyed by the high rate of inflation. The real value of non-monetary assets and liabilities is typically not affect by hyperinflation because the local currency denominated values increase to offset the impact of inflation.

Accounting Method for Hyperinflationary Subsidiaries

It is difficult for the accountant to choose the exchange rates and translation process for the hyperinflationary subsidiaries. Generally the following two solutions are available for the problems of hyperinflationary subsidiaries:

- a. The parent currency can be the functional currency for all operations of hyperinflationary subsidiaries. Non- monetary assets and liabilities of the subsidiary are accounted for in the parent currency.
- b. In the second method, the value of non-monetary assets and liabilities are translated at the current exchange rate. The carrying amount of assets and liabilities of the subsidiary are shown in the reporting currency.

In US the first method is followed. Temporal method is followed for translation of assets and liabilities and parent currency is treated as functional currency. Exchange rate and price changes not affect the carrying values of these elements. Cost of goods sold and depreciation also measured in the reporting (parent) currency. Companies operating in high-inflation countries generally try to balance their exposure to the local currency by borrowing locally if necessary. Companies with huge operations in hyperinflationary economies frequently report translation losses because of the high interest cost.

IAS recommends the second method for accounting for subsidiaries in hyperinflationary economies. Both these methods are broadly similarly as they eliminate the problem of disappearing assets and liabilities. But the income and

equity are different under both the methods. US Securities Exchange Commission does not require the reconciliation this difference to US GAAP. Thus the analyst should determine whether the effect on comparability is material or not.

**Box : Summary of IAS 29 Financial Reporting in
Hyperinflationary Economies**

This Standard shall be applied to the financial statements, including the consolidated financial statements, of any entity whose functional currency is the currency of a hyperinflationary economy.

This Standard shall be applied to the financial statements, including the consolidated financial statements, of any entity whose functional currency is the currency of a hyperinflationary economy.

This Standard does not establish an absolute rate at which hyperinflation is deemed to arise. It is a matter of judgement when restatement of financial statements in accordance with this Standard becomes necessary. Hyperinflation is indicated by characteristics of the economic environment of a country which include, but are not limited to, the following:

- a. the general population prefers to keep its wealth in non-monetary assets or in a relatively stable foreign currency. Amounts of local currency held are immediately invested to maintain purchasing power;
- b. the general population regards monetary amounts not in terms of the local currency but in terms of a relatively stable foreign currency. Prices may be quoted in that currency;
- c. sales and purchases on credit take place at prices that compensate for the expected loss of purchasing power during the credit period, even if the period is short;
- d. interest rates, wages and prices are linked to a price index; and
- e. the cumulative inflation rate over three years is approaching, or exceeds, 100%.

The financial statements of an entity whose functional currency is the currency of a hyperinflationary economy shall be stated in terms of the measuring unit current at the balance sheet date. The corresponding figures for the previous period required by IAS 1 Presentation of Financial Statements and any information in respect of earlier periods shall also be stated in terms of the measuring unit current at the balance sheet date. For the purpose of presenting comparative amounts in a different presentation currency, paragraphs 42(b) and 43 of IAS 21 The Effects of Changes in Foreign Exchange Rates (as revised in 2003) apply.

The restatement of financial statements in accordance with this Standard requires the application of certain procedures as well as judgement. The consistent application of these procedures and judgements from period to period is more important than the precise accuracy of the resulting amounts included in the restated financial statements.

The restatement of financial statements in accordance with this Standard requires the use of a general price index that reflects changes in general purchasing power. It is preferable that all entities that report in the currency of the same economy use the same index.

When an economy ceases to be hyperinflationary and an entity discontinues the preparation and presentation of financial statements prepared in accordance with this Standard, it shall treat the amounts expressed in the measuring unit current at the end of the previous reporting period as the basis for the carrying amounts in its subsequent financial statements.

Source : www.iasb.org

INTERNATIONAL ACCOUNTING (IAS 21)

IAS 21 deals with the effect of changes in foreign exchange rates. This Standard applies to accounting for transactions in foreign currencies; and in translating the financial statements of foreign operations included in the financial statements of the enterprise by consolidation, proportionate consolidation or by the equity method. In most of the aspects this standard is similar to SFAS 52 (US):

Classification of Foreign Operations

The foreign currency transactions of a firm can be divided into two broad categories viz., Transactions in a foreign currency, e.g., exports, imports, raising foreign currency loans, etc., that need to be stated in domestic currency terms and the presence of foreign operations whose financial statements need to be translated into the domestic currency.

Foreign operations can again be of two types:

- **Integral Foreign Operations:** Foreign operations that are just an extension of the domestic operations are referred to as integral foreign operations. For example, a foreign branch that only buys goods from the head office and sells them, would be treated as integral foreign operation.
- **Independent Foreign Entities:** An entity that operates independently by having its own expenses, incomes, assets and liabilities is referred to as an independent foreign operation. It is generally in the form of a subsidiary whose transactions with the parent company are generally few with respect to its total operations, and whose day-to-day activities are financed locally rather than by the parent company.

Translation of Financial Statement of Foreign Operations

All monetary items are to be translated at the closing rate and non-monetary items are to be reported at the historical rate on the transaction date. All the non-monetary items are valued at historical cost if the cost of acquisition is altered and fair value is determined, then the rate prevailing on that date is used. All incomes and expenses are translated using the exchange rates prevailing on the date of transaction. However, depreciation and amortization should be translated based on historical rates.

Fixed assets should be translated on the basis of exchange rates prevailing on the date of revaluation. Inventories are carried out at lower of cost and realizable value and closing rate is used translating the inventories.

Gain or losses due to translation for monetary items are to be recognized as an income or an expense of that period. An exception to this rule is when there is an exchange gain or loss due to the monetary items which are part of net investment of the enterprise, the loss or gain should be taken as a separate part of the equity and the income and expense should be recognized only in the period when the investment is fully liquidate.

Translation of Financial Statement of Foreign Entities

In translating the financial statements of a foreign entity for incorporation in its financial statements, the reporting enterprise needs to do the following:

- i. Both monetary and non-monetary assets and liabilities of such an entity is to be translated at the closing rate;
- ii. The income and expense items of the foreign entity should be translated at exchange rates at the dates of the transactions, except when the foreign entity reports in the currency of a hyperinflationary economy, in which case income and expense items are translated at the closing rate; and
- iii. All resulting exchange differences are to be classified as equity until the disposal of the net investment.

Treatment of Gain or Loss on Translation

The financial statements of a foreign operation that is integral to the operations of the reporting enterprise are translated using the standards and procedures given in this standard, as if the transactions of the foreign operation had been those of the reporting enterprise itself. When there is a change in the classification of a foreign operation, the translation procedures applicable to the revised classification are applied from the date of the change in the classification. On the other hand, a *foreign entity* in spite of being a foreign operation is that whose activities are not integral parts of the reporting enterprise.

Under the Benchmark treatment, exchange differences arising on the settlement of monetary items or on reporting an enterprise's monetary items at rates different from those at which they were initially recorded during the period, or reported in previous financial statements, are recognized as income or expense in the period in which they arise. Exchange difference is the difference resulting from reporting the same number of units of foreign currency in the reporting currency at different exchange rates. The exceptions to this rule are when exchange differences arise because of an investment in a foreign entity, and relates to the accounting for a foreign currency liability. If exchange differences arises on a monetary item that, in substance, forms part of an enterprise's net investment in a foreign entity, and hence are classified as equity in the enterprise's financial statements until the disposal of the net investment, at which time the cumulative amount of the exchange differences which have been deferred and which relate to that foreign entity are recognized as income or expense in the same period in which the gain or loss on disposal is recognized. In the second exception, exchange differences arising on a foreign currency liability accounted for as a hedge of an enterprise's net investment in a foreign entity are classified as equity in the enterprise's financial statements until the disposal of the net investment, at which time they are recognized as income or expense in accordance with the method mentioned above. Those net exchange differences classified as equity are to be disclosed as a separate component of equity with an accompanying reconciliation of the amount of such exchange differences at the beginning and end of the period.

Methods Used for Translation of Foreign Transactions

There are four methods which guide the translation of the financial statements of a foreign entity, whether independent or integrated. Different countries follow different methods. These are:

- Current/Non-Current method.
- Monetary/Non-monetary method.
- Temporal method.
- Current rate method.

CURRENT/NON-CURRENT METHOD

This method is based on the premise that exposure is linked to the maturity of the asset or liability and hence, does not give importance to its nature. It advocates the conversion of all current assets and liabilities at the closing rate, and all non-current assets and liabilities at the historical rate. All items of income and expenditure are required to be converted at the average rate for the relevant period, except those items that are related to non-current assets and liabilities. All such items (like depreciation) are to be converted at the same rate as the related asset or liability.

MONETARY/NON-MONETARY METHOD

This method emphasizes the nature of the item rather than its maturity. It classifies assets and liabilities into monetary and non-monetary. Monetary items are money held and assets and liabilities to be received or paid in fixed or determinable amounts of money. Under this method, the monetary assets and liabilities

(like cash, accounts receivables, accounts payable) are translated at the closing rate, and the non-monetary items (like inventory, building) are translated at the historical rate. Items of the income statement are translated at the average rate, except for those related to the non-monetary items (like depreciation and cost of raw material consumed). These are translated at the rate, at which the corresponding non-monetary asset or liability is translated. This differentiation between the items of the income statement may lead to some mismatches. For example, while sales are translated at the average rate, a part of cost of goods sold (to be specific, cost of raw materials consumed) may get reflected at the historical rate.

TEMPORAL METHOD

This method classifies items on the basis of whether they are valued at historical basis or on market price basis. All the items of the balance sheet that are valued on historical cost basis are translated at the historical rate, and those which are valued on current value (or realizable value) are valued at the closing rate. Effectively, this method is a modification of the monetary/non-monetary method, as the monetary assets and liabilities get converted at the closing rate, with the non-monetary items getting converted at the historical cost. The modification lies in the fact that under the temporal method, the inventory gets converted at the closing rate despite being a non-monetary item, if it is valued in the balance sheet at the realizable value. Under this method, the income statement items are also translated in the same way as under the monetary/ non-monetary method.

CURRENT RATE METHOD

Under this method, all assets, liabilities, incomes and expenditures are translated at the current or closing rate. The idea is to retain the relationship (ratios) between various items of the balance sheet and income statement. This method is similar to the method followed in the US.

Disclosures

As per IAS 21 the disclosures will include the translation differences included in net income, analysis of translation differences in equity, changes in rates after balance sheet date and foreign exchange risk management policies. When there is a change in the classification of a significant foreign operation, the nature, reason with the corresponding impact of the change on shareholders' equity and on the impact on net profit or loss for each prior period presented had the change in classification occurred at the beginning of the earliest period presented.

INDIAN ACCOUNTING STANDARD (AS 11)

AS 11 deals with the effects of changes in foreign exchange rates. This standard should be applied in accounting for transactions in foreign currencies and in translating the financial statements of foreign operations. Most of the provisions of this standard are similar to IAS 21.

Classification of Foreign Operations

Accounting Standard 11 classifies foreign operations into two types –

- i. Non-Integral foreign operation, and
- ii. Integral foreign operation.

INTEGRAL FOREIGN OPERATIONS

An integral foreign operation is a foreign operation that is carried as if it were an extension of the reporting enterprise's activities. However it is the non-integral foreign operations that are inclusive in nature. All operations not being non-integral would be considered integral foreign operations.

NON-INTEGRAL FOREIGN OPERATIONS

AS 11 has defined non-integral foreign operations as that which has any one or more of the characteristics stated in Para 20 of AS 11. These are listed below –

- a. While the reporting enterprise may control the foreign operation, the activities of the foreign operation are carried out with a significant degree of autonomy from those of the reporting enterprise;
- b. Transactions with the reporting enterprise are not a high proportion of the foreign operation's activities;
- c. The activities of the foreign operation are financed mainly from its own operations or local borrowings rather than from the reporting enterprise;
- d. Costs of labor, material and other components of the foreign operation's products or services are primarily paid or settled in the local currency rather than in the reporting currency;
- e. The foreign operation's sales are mainly in currencies other than the reporting currency;
- f. Cash flows of the reporting enterprise are insulated from the day-to-day activities of the foreign operation rather than being directly affected by the activities of the foreign operation;
- g. Sales prices for the foreign operation's products are not primarily responsive on a short-term basis to changes in exchange rates but are determined more by local competition or local government regulation; and
- h. There is an active local sales market for the foreign operation's products, although there also might be significant amounts of exports.

Translation of Financial Statements of Integral Foreign Operations

The financial statements are to be translated using principles and procedures applicable to the foreign currency transactions of the reporting entity:

- Transactions are to be translated as if all transactions are entered into by the reporting enterprise.
- Tangible fixed assets are to be translated using the exchange rate as on the date of acquisition. In case the asset is at fair value, then it has to be translated at the exchange rate applicable as on the date of valuation.
- Cost of inventories is translated applying actual exchange rate when the cost was incurred, and recoverable value is translated applying exchange rate when recoverable amount is determined.
- Tax effects arising from such a translation are to be accounted as per AS: 22.

Translation of Financial Statements of Non-integral Foreign Operations

Accounts of non-integral foreign operations are translated using the following principles:

- Assets and liabilities are both translated using the closing rate, whether they are monetary or non-monetary.
- Items of income and expenses are translated using exchange rates of the date of the transaction.
- All resulting exchange differences are to be accumulated in a foreign currency translation reserve until the net investments is disposed off.
- Tax effects arising from such a translation is to be accounted as per AS-22.

Treatment of Exchange Difference

An exchange difference results when there is a change in the exchange rate between the transaction date and the date of settlement of any monetary items arising from a foreign currency transaction. When the transaction is settled within the same accounting period as that in which it occurred, all the exchange difference is recognized in that period. However, when the transaction is settled in a subsequent accounting period, the exchange difference recognized in each intervening period up to the period of settlement is determined by the change in exchange rates during that period.

Disclosure

An enterprise should disclose:

- the amount of exchange differences included in the net profit or loss for the period; and
- net exchange differences accumulated in foreign currency translation reserve as a separate component of shareholders' funds, and a reconciliation of the amount of such exchange differences at the beginning and end of the period.

When the reporting currency is different from the currency of the country in which the enterprise is domiciled, the reason for using a different currency should be disclosed. The reason for any change in the reporting currency should also be disclosed. When there is a change in the classification of a significant foreign operation, an enterprise should disclose:

- The nature of the change in classification;
- The reason for the change;
- The impact of the change in classification on shareholders' funds; and
- The impact on net profit or loss for each prior period presented had the change in classification occurred at the beginning of the earliest period presented.

Comparison of IAS 21 and AS – 11

IAS 21	AS – 11
IAS 21 makes no distinction between an integral foreign operation and non-integral foreign operation. In fact, the factors of distinction between an integral operation and a non-integral operation are incorporated as considerations for determining functional currency.	AS 11 provides separate treatment for integral operations and non-integral operations.
IAS 21 requires an entity to determine functional currency and measure results and financial position in that currency. Functional currency is the currency of the primary economic environment.	There is no concept of functional currency under AS 11.
It states that if functional currency of a foreign operation is other than reporting currency, the provisions of translation of such operation are similar to that prescribed for a non-integral foreign operation under AS 11.	Absence of functional currency concept does not enable AS 11 to provide for such a stipulation
If financial statements are presented in any other currency other than functional currency, IAS 21 requires Assets/Liabilities to be translated at Closing Rate and Income/Expenses at Average Rate.	AS 11 does not contain any guidance on this issue.

SUMMARY

- Multinational companies conduct business activities where local reporting regulations may be different from those governing parent company financial statements. They operate in different economic conditions and in different currencies. Thus these changes affect the reported operating performance.
- Basically three problems arise for accounting of foreign transactions viz., choice of exchange rate, definition of exposure and disposition of translation adjustment. Choice of exchange rate depends upon the management intention. Definition of exposure and disposition of translation depends of the method used for translation.
- The choice of method depends of the choice of functional currency for each subsidiary company. Before the financial statements of a foreign branch, division, or subsidiary are translated into reporting currency, the management of the parent company must make a decision as to which currency is the functional currency of the foreign entity.
- Two methods are used for translation of foreign currency transactions viz, current rate method and temporal method. Under current method the subsidiary is deemed to be independent of the parent's operations. All the income statement elements are translated at average rate. All the assets and liabilities are translated at the current rate except inventory. The translation gain or loss is included in the balance sheet as a part of equity.
- Under temporal method all the monetary assets are translated using the current rate and non monetary assets are at historical rate. Revenues and expenses are translated at the average rate. Translation loss or gain is shown in the income statement.
- Translation gain or loss is calculated by adding holding affect and flow effect. The objective of analyzing foreign currency disclosures is to understand the firm economic exposure to exchange rates, the effects of rate changes on this exposure and whether the effects reported in financial statements reflect the economic effects appropriately or not. Treatment of effect of change in foreign exchange transactions is almost similar in all the countries.

Appendix

Interest Rate Tables

Table 1: Future Value Interest Factor

n/k	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	11%	12%	13%
0	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1	1.010	1.020	1.030	1.040	1.050	1.060	1.070	1.080	1.090	1.100	1.110	1.120	1.130
2	1.020	1.040	1.061	1.082	1.102	1.124	1.145	1.166	1.188	1.210	1.232	1.254	1.277
3	1.030	1.061	1.093	1.125	1.158	1.191	1.225	1.260	1.295	1.331	1.368	1.405	1.443
4	1.041	1.082	1.126	1.170	1.216	1.262	1.311	1.360	1.412	1.464	1.518	1.574	1.630
5	1.051	1.104	1.159	1.217	1.276	1.338	1.403	1.469	1.539	1.611	1.685	1.762	1.842
6	1.062	1.126	1.194	1.265	1.340	1.419	1.501	1.587	1.677	1.772	1.870	1.974	2.082
7	1.072	1.149	1.230	1.316	1.407	1.504	1.606	1.714	1.828	1.949	2.076	2.211	2.353
8	1.083	1.172	1.267	1.369	1.477	1.594	1.718	1.851	1.993	2.144	2.305	2.476	2.658
9	1.094	1.195	1.305	1.423	1.551	1.689	1.838	1.999	2.172	2.358	2.558	2.773	3.004
10	1.105	1.219	1.344	1.480	1.629	1.791	1.967	2.159	2.367	2.594	2.839	3.106	3.395
11	1.116	1.243	1.384	1.539	1.710	1.898	2.105	2.332	2.580	2.853	3.152	3.479	3.836
12	1.127	1.268	1.426	1.601	1.796	2.012	2.252	2.518	2.813	3.138	3.498	3.896	4.335
13	1.138	1.294	1.469	1.665	1.886	2.133	2.410	2.720	3.066	3.452	3.883	4.363	4.898
14	1.149	1.319	1.513	1.732	1.980	2.261	2.579	2.937	3.342	3.797	4.310	4.887	5.535
15	1.161	1.346	1.558	1.801	2.097	2.397	2.759	3.172	3.642	4.177	4.785	5.474	6.254
16	1.173	1.373	1.605	1.873	2.183	2.540	2.952	3.426	3.970	4.595	5.311	6.130	7.067
17	1.184	1.400	1.653	1.948	2.292	2.693	3.159	3.700	4.328	5.054	5.895	6.866	7.986
18	1.196	1.428	1.702	2.026	2.407	2.854	3.380	3.996	4.717	5.560	6.544	7.690	9.024
19	1.208	1.457	1.754	2.107	2.527	3.026	3.617	4.316	5.142	6.116	7.263	8.613	10.197
20	1.220	1.486	1.806	2.191	2.653	3.207	3.870	4.661	5.604	6.728	8.062	9.646	11.523
25	1.282	1.641	2.094	2.666	3.386	4.292	5.427	6.848	8.623	10.835	13.585	17.000	21.231
30	1.348	1.811	2.427	3.243	4.322	5.743	7.612	10.063	13.268	17.449	22.892	29.960	39.116

Table 1: Future Value Interest Factor

n/k	14%	15%	16%	17%	18%	19%	20%	24%	28%	32%	36%	40%
0	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1	1.140	1.150	1.160	1.170	1.180	1.190	1.200	1.240	1.280	1.320	1.360	1.400
2	1.300	1.322	1.346	1.369	1.392	1.416	1.440	1.538	1.638	1.742	1.850	1.960
3	1.482	1.521	1.561	1.602	1.643	1.685	1.728	1.907	2.097	2.300	2.515	2.744
4	1.689	1.749	1.811	1.874	1.939	2.005	2.074	2.364	2.684	3.036	3.421	3.842
5	1.925	2.011	2.100	2.192	2.288	2.386	2.488	2.392	3.436	4.007	4.653	5.378
6	2.195	2.313	2.436	2.565	2.700	2.840	2.986	3.635	4.398	5.290	6.328	7.530
7	2.502	2.660	2.826	3.001	3.185	3.379	3.583	4.508	5.629	6.983	8.605	10.541
8	2.853	3.059	3.278	3.511	3.759	4.021	4.300	5.590	7.206	9.217	11.703	14.758
9	3.252	3.518	3.803	4.108	4.435	4.785	5.160	6.931	9.223	12.166	15.917	20.661
10	3.707	4.046	4.411	4.807	5.234	5.695	6.192	8.594	11.806	16.060	21.647	28.925
11	4.226	4.652	5.117	5.624	6.176	6.777	7.430	10.657	15.112	21.199	29.439	40.496
12	4.818	5.350	5.936	6.580	7.288	8.064	8.916	13.215	19.343	27.983	40.037	56.694
13	5.492	6.153	6.886	7.699	8.599	9.596	10.699	16.386	24.759	36.937	54.451	79.372
14	6.261	7.076	7.988	9.007	10.147	11.420	12.839	20.319	31.961	48.757	74.053	111.120
15	7.138	8.137	9.266	10.539	11.974	13.590	15.407	25.196	40.565	64.359	100.712	155.568
16	8.137	9.358	10.748	12.330	14.129	16.172	18.488	31.243	51.923	84.954	136.969	217.795
17	9.276	10.761	12.468	14.426	16.672	19.244	22.186	38.741	66.461	112.139	186.278	304.914
18	10.575	12.375	14.463	16.879	19.673	22.901	26.623	48.039	85.071	148.023	253.338	426.879
19	12.056	14.232	16.777	19.748	23.214	27.252	31.948	59.568	108.890	195.391	344.540	597.630
20	13.743	16.367	19.461	23.106	27.393	32.429	38.338	73.864	139.380	257.916	468.574	836.683
25	26.462	32.919	40.874	50.658	62.669	77.388	95.396	216.542	478.905	1033.590	2180.081	4499.880
30	50.950	66.212	85.850	111.065	143.371	184.675	237.376	634.820	1645.504	4142.075	10143.019	24201.432

Table 2: Future Value Interest Factor for an Annuity

n/k	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	11%	12%	13%
1	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2	2.010	2.020	2.030	2.040	2.050	2.060	2.070	2.080	2.090	2.100	2.110	2.120	2.130
3	3.030	3.060	3.091	3.122	3.152	3.184	3.215	3.246	3.278	3.310	3.342	3.374	3.407
4	4.060	4.122	4.184	4.246	4.310	4.375	4.440	4.506	4.573	4.641	4.710	4.779	4.850
5	5.101	5.204	5.309	5.416	5.526	5.637	5.751	5.867	5.985	6.105	6.228	6.353	6.480
6	6.152	6.308	6.468	6.633	6.802	6.975	7.153	7.336	7.523	7.716	7.913	8.115	8.323
7	7.214	7.434	7.662	7.898	8.142	8.394	8.654	8.923	9.200	9.487	9.783	10.089	10.405
8	8.286	8.583	8.892	9.214	9.549	9.897	10.260	10.637	11.028	11.436	11.859	12.300	12.757
9	9.369	9.755	10.159	10.583	11.027	11.491	11.978	12.488	13.021	13.579	14.164	14.776	15.416
10	10.462	10.950	11.464	12.006	12.578	13.181	13.816	14.487	15.193	15.937	16.722	17.549	18.420
11	11.567	12.169	12.808	13.486	14.207	14.972	15.784	16.645	17.560	18.531	19.561	20.655	21.814
12	12.683	13.412	14.192	15.026	15.917	16.870	17.888	18.977	21.141	21.384	22.713	24.133	25.650
13	13.809	14.680	15.618	16.627	17.713	18.882	20.141	21.495	22.953	24.523	26.212	28.029	29.985
14	14.947	15.974	17.086	18.292	19.599	21.015	22.550	24.215	26.019	27.975	30.095	32.393	34.883
15	16.097	17.293	18.599	20.024	21.579	23.276	25.129	27.152	29.361	31.772	34.405	37.280	40.417
16	17.258	18.639	20.157	21.825	23.657	25.673	27.888	30.324	33.003	35.950	39.190	42.753	46.672
17	18.430	20.012	21.762	23.698	25.840	28.213	30.840	33.750	36.974	40.545	44.501	48.884	53.739
18	19.615	21.412	23.414	25.645	28.132	30.906	33.999	37.450	41.301	45.599	50.396	55.750	61.725
19	20.811	22.841	25.117	27.671	30.539	33.760	37.379	41.446	46.018	51.159	56.939	63.440	70.749
20	22.019	24.297	26.870	29.778	33.066	36.786	40.995	45.762	51.160	57.275	64.203	72.052	80.947
25	28.243	32.030	36.459	41.646	47.727	54.865	63.249	73.106	84.701	98.347	114.413	133.334	155.620
30	34.785	40.568	47.575	56.805	66.439	79.058	94.461	113.283	136.308	164.494	199.021	241.333	293.199

Table 2: Future Value Interest Factor for an Annuity

n/k	14%	15%	16%	17%	18%	19%	20%	24%	28%	32%	36%	40%
1	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2	2.140	2.150	2.160	2.170	2.180	2.190	2.200	2.240	2.280	2.320	2.360	2.400
3	3.440	3.473	3.506	3.539	3.572	3.606	3.640	3.778	3.918	4.062	4.210	4.360
4	4.921	4.993	5.066	5.141	5.215	5.291	5.368	5.684	6.016	6.362	6.725	7.104
5	6.610	6.742	6.877	7.014	7.154	7.297	7.442	8.048	8.700	9.398	10.146	10.946
6	8.536	8.754	8.977	9.207	9.442	9.683	9.930	10.980	12.136	13.406	14.799	16.324
7	10.730	11.067	11.414	11.772	12.142	12.523	12.916	14.615	16.534	18.696	21.126	23.853
8	13.233	13.727	14.240	14.773	15.327	15.902	16.499	19.123	22.163	25.678	29.732	34.395
9	16.085	16.786	17.518	18.285	19.086	19.923	20.799	24.712	29.369	34.895	41.435	49.153
10	19.337	20.304	21.321	22.393	23.521	24.709	25.959	31.643	38.592	47.062	57.352	69.814
11	23.044	24.349	25.733	27.200	28.755	30.404	32.150	40.238	50.399	63.122	78.998	98.739
12	27.271	29.002	30.850	32.824	34.931	37.180	39.580	50.985	65.510	84.320	108.437	139.235
13	32.089	34.352	36.786	39.404	42.219	45.244	48.497	64.110	84.853	112.303	148.475	195.929
14	37.581	40.505	43.672	47.103	50.818	54.841	59.196	80.496	109.612	149.240	202.926	275.300
15	43.842	47.580	51.660	56.110	60.965	66.261	72.035	100.815	141.303	197.997	276.979	386.420
16	50.980	55.717	60.925	66.649	72.939	79.850	87.442	126.011	181.868	262.356	377.692	541.988
17	59.118	65.075	71.673	78.979	87.068	96.022	105.931	157.253	233.791	347.310	514.661	759.784
18	68.394	75.836	84.141	93.406	103.740	115.266	128.117	195.994	300.252	459.449	700.939	1064.697
19	78.969	88.212	98.603	110.285	123.414	138.166	154.740	244.033	385.323	607.472	954.277	1491.576
20	91.025	102.44	115.380	130.033	146.628	165.418	186.688	303.601	494.213	802.863	1298.817	2089.206
25	181.871	212.793	249.214	292.105	342.603	402.042	371.981	898.092	1706.803	3226.844	6053.004	11247.199
30	356.787	434.745	530.321	647.439	790.948	966.712	1181.882	2640.916	5873.231	12940.859	28172.276	60501.081

Table 3: Present Value Interest Factor

n/k	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	11%	12%	13%
0	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1	0.990	0.980	0.971	0.962	0.952	0.943	0.935	0.926	0.917	0.909	0.901	0.893	0.885
2	0.980	0.961	0.943	0.925	0.907	0.890	0.873	0.857	0.842	0.826	0.812	0.797	0.783
3	0.971	0.942	0.915	0.889	0.864	0.840	0.816	0.794	0.772	0.751	0.731	0.712	0.693
4	0.961	0.924	0.889	0.855	0.823	0.792	0.763	0.735	0.708	0.683	0.659	0.636	0.613
5	0.951	0.906	0.863	0.822	0.784	0.747	0.713	0.681	0.650	0.621	0.593	0.567	0.543
6	0.942	0.888	0.838	0.790	0.746	0.705	0.666	0.630	0.596	0.564	0.535	0.507	0.480
7	0.933	0.871	0.813	0.760	0.711	0.665	0.623	0.583	0.547	0.513	0.482	0.452	0.425
8	0.923	0.853	0.789	0.731	0.677	0.627	0.582	0.540	0.502	0.467	0.434	0.404	0.376
9	0.914	0.873	0.766	0.703	0.645	0.592	0.544	0.500	0.460	0.424	0.391	0.361	0.333
10	0.905	0.820	0.744	0.676	0.614	0.558	0.508	0.463	0.422	0.386	0.352	0.322	0.295
11	0.896	0.804	0.722	0.650	0.585	0.527	0.475	0.429	0.388	0.350	0.317	0.287	0.261
12	0.887	0.788	0.701	0.625	0.557	0.497	0.444	0.397	0.356	0.319	0.286	0.257	0.231
13	0.879	0.773	0.681	0.601	0.530	0.469	0.415	0.368	0.326	0.290	0.258	0.229	0.204
14	0.870	0.758	0.661	0.577	0.505	0.442	0.388	0.340	0.299	0.263	0.232	0.181	0.205
15	0.861	0.743	0.642	0.555	0.481	0.417	0.362	0.315	0.275	0.239	0.209	0.183	0.160
16	0.853	0.728	0.623	0.534	0.458	0.394	0.339	0.292	0.252	0.218	0.188	0.163	0.141
17	0.844	0.714	0.605	0.513	0.436	0.371	0.317	0.270	0.231	0.198	0.170	0.146	0.125
18	0.836	0.700	0.587	0.494	0.416	0.350	0.296	0.250	0.212	0.180	0.153	0.130	0.111
19	0.828	0.686	0.570	0.475	0.396	0.331	0.276	0.232	0.194	0.164	0.138	0.166	0.098
20	0.820	0.673	0.554	0.456	0.377	0.312	0.258	0.215	0.178	0.149	0.124	0.104	0.087
25	0.780	0.610	0.478	0.375	0.295	0.233	0.184	0.146	0.116	0.092	0.074	0.059	0.047
30	0.742	0.552	0.412	0.308	0.231	0.174	0.131	0.099	0.075	0.057	0.044	0.033	0.026

Table 3: Present Value Interest Factor

n/k	14%	15%	16%	17%	18%	19%	20%	24%	28%	32%	36%	40%
0	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1	0.877	0.870	0.862	0.855	0.847	0.840	0.833	0.806	0.781	0.758	0.735	0.714
2	0.769	0.756	0.743	0.731	0.718	0.706	0.694	0.650	0.610	0.574	0.541	0.510
3	0.675	0.658	0.641	0.624	0.609	0.593	0.579	0.524	0.477	0.435	0.398	0.364
4	0.592	0.572	0.552	0.534	0.516	0.499	0.482	0.423	0.373	0.329	0.292	0.260
5	0.519	0.497	0.476	0.456	0.437	0.419	0.402	0.341	0.291	0.250	0.215	0.186
6	0.456	0.432	0.410	0.390	0.370	0.352	0.335	0.275	0.227	0.189	0.158	0.133
7	0.400	0.376	0.354	0.333	0.314	0.296	0.279	0.222	0.178	0.143	0.116	0.095
8	0.351	0.327	0.305	0.285	0.266	0.249	0.233	0.179	0.139	0.108	0.085	0.068
9	0.308	0.284	0.263	0.243	0.226	0.209	0.194	0.144	0.108	0.082	0.063	0.048
10	0.270	0.247	0.227	0.208	0.191	0.176	0.162	0.116	0.085	0.062	0.046	0.035
11	0.237	0.215	0.195	0.178	0.162	0.148	0.135	0.094	0.066	0.047	0.034	0.025
12	0.208	0.187	0.168	0.152	0.137	0.124	0.112	0.076	0.052	0.036	0.025	0.018
13	0.182	0.163	0.145	0.130	0.116	0.104	0.093	0.061	0.040	0.027	0.018	0.013
14	0.160	0.141	0.125	0.111	0.099	0.088	0.078	0.049	0.032	0.021	0.014	0.009
15	0.140	0.123	0.108	0.095	0.084	0.074	0.065	0.040	0.025	0.016	0.010	0.006
16	0.123	0.107	0.093	0.081	0.071	0.062	0.054	0.032	0.019	0.012	0.005	0.007
17	0.108	0.093	0.080	0.069	0.060	0.052	0.045	0.026	0.015	0.009	0.005	0.003
18	0.095	0.081	0.069	0.059	0.051	0.044	0.038	0.021	0.012	0.007	0.004	0.002
19	0.083	0.070	0.060	0.051	0.043	0.037	0.031	0.017	0.009	0.005	0.003	0.002
20	0.073	0.061	0.051	0.043	0.037	0.031	0.026	0.014	0.007	0.004	0.002	0.001
25	0.038	0.030	0.024	0.020	0.016	0.013	0.010	0.005	0.002	0.001	0.000	0.000
30	0.020	0.015	0.012	0.009	0.007	0.005	0.004	0.002	0.001	0.000	0.000	0.000

Table 4: Present Value Interest Factor for an Annuity

$$PVFIA_{(k,n)} = \frac{1 - \frac{1}{(1+k)^n}}{k}$$

n/k	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	11%	12%	13%
0	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1	0.990	0.980	0.971	0.962	0.952	0.943	0.935	0.926	0.917	0.909	0.901	0.893	0.885
2	1.970	1.942	1.913	1.886	1.859	1.833	1.808	1.783	1.759	1.736	1.713	1.690	1.668
3	2.941	2.884	2.829	2.775	2.723	2.673	2.624	2.577	2.531	2.487	2.444	2.402	2.361
4	3.902	3.808	3.717	3.630	3.546	3.465	3.387	3.312	3.240	3.170	3.102	3.037	2.974
5	4.853	4.713	4.580	4.452	4.329	4.212	4.100	3.993	3.890	3.791	3.696	3.605	3.517
6	5.795	5.601	5.417	5.242	5.076	4.917	4.767	4.623	4.486	4.355	4.231	4.111	3.998
7	6.728	6.472	6.230	6.002	5.786	5.582	5.389	5.206	5.033	4.868	4.712	5.564	4.423
8	7.652	7.325	7.020	6.733	6.463	6.210	5.971	5.747	5.535	5.335	5.146	4.968	4.799
9	8.566	8.162	7.786	7.435	7.108	6.802	6.515	6.247	5.995	5.759	5.537	5.328	5.132
10	9.471	8.983	8.530	8.111	7.722	7.360	7.024	6.710	6.418	6.145	5.889	5.650	5.426
11	10.368	9.787	9.253	8.760	8.306	7.887	7.499	7.139	6.805	6.495	6.207	5.938	5.687
12	11.255	10.575	9.954	9.385	8.863	8.384	7.943	7.536	7.161	6.814	6.492	6.194	5.918
13	12.134	11.348	10.635	9.986	9.394	8.853	8.358	7.904	7.487	7.103	6.750	6.424	6.122
14	13.004	12.106	11.296	10.563	9.899	9.295	8.745	8.244	7.786	7.367	6.982	6.628	6.302
15	13.865	12.849	11.938	11.118	10.380	9.712	9.108	8.559	8.061	7.606	7.191	6.811	6.462
16	14.718	13.578	12.561	11.652	10.838	10.106	9.447	8.851	8.313	7.824	7.379	6.974	6.604
17	15.562	14.292	13.166	12.166	11.274	10.477	9.763	9.122	8.544	8.022	7.549	7.120	6.729
18	16.398	14.992	13.754	12.659	11.690	10.828	10.059	9.372	8.756	8.201	7.702	7.250	6.840
19	17.226	15.678	14.324	13.134	12.085	11.158	10.336	9.604	8.950	8.365	7.839	7.366	6.938
20	18.046	16.351	14.877	13.590	12.462	11.470	10.594	9.818	9.129	8.514	7.963	7.469	7.025
25	22.023	19.523	17.413	15.622	14.094	12.783	11.654	10.675	9.823	9.077	8.422	7.843	7.330
30	25.808	22.397	19.600	17.292	15.373	13.765	12.409	11.258	10.274	9.427	8.694	8.055	7.496

Table 4: Present Value Interest Factor for an Annuity

n/k	14%	15%	16%	17%	18%	19%	20%	24%	28%	32%	36%	40%
0	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1	0.877	0.870	0.862	0.855	0.847	0.840	0.833	0.806	0.781	0.758	0.735	0.714
2	1.647	1.626	1.605	1.585	1.566	1.547	1.528	1.457	1.392	1.332	1.276	1.224
3	2.322	2.283	2.246	2.210	2.174	2.140	2.106	1.981	1.868	1.766	1.674	1.589
4	2.914	2.855	2.798	2.743	2.690	2.639	2.589	2.404	2.241	2.096	1.966	1.849
5	3.433	3.352	3.274	3.199	3.127	3.058	2.991	2.745	2.532	2.345	2.181	2.035
6	3.889	3.784	3.685	3.589	3.498	3.410	3.326	3.020	2.759	2.534	2.339	2.168
7	4.288	4.160	4.039	3.922	3.812	3.706	3.605	3.242	2.937	2.678	2.455	2.263
8	4.639	4.487	4.344	4.207	4.078	3.954	3.837	3.421	3.076	2.786	2.540	2.113
9	4.946	4.772	4.607	4.451	4.303	4.163	4.031	3.566	3.184	2.868	2.603	2.379
10	5.216	5.019	4.833	4.659	4.494	4.339	4.193	3.682	3.269	2.930	2.650	2.414
11	5.453	5.234	5.029	4.836	4.656	4.486	4.327	3.776	3.335	2.978	2.683	2.438
12	5.660	5.421	5.197	4.988	4.793	4.611	4.439	3.851	3.387	3.013	2.708	2.456
13	5.842	5.583	5.342	5.118	4.910	4.715	4.533	3.912	3.427	3.040	2.727	2.469
14	6.002	5.724	5.468	5.229	5.008	4.802	4.611	3.962	3.459	3.061	2.740	2.478
15	6.142	5.847	5.575	5.324	5.092	4.876	4.675	4.001	3.483	3.076	2.750	2.484
16	6.265	5.954	5.669	5.405	5.162	4.938	4.730	4.033	3.503	3.088	2.758	2.489
17	6.373	6.047	5.749	5.475	5.222	4.990	4.775	4.059	3.518	3.097	2.763	2.492
18	6.467	6.128	5.818	5.534	5.273	5.033	4.812	4.080	3.529	3.104	2.767	2.494
19	6.550	6.198	5.877	5.584	5.316	5.070	4.844	4.097	3.539	3.109	2.770	2.496
20	6.623	6.259	5.929	5.628	5.353	5.101	4.870	4.110	3.546	3.113	2.772	2.497
25	6.873	5.464	5.097	5.766	5.467	5.195	4.948	4.147	3.564	3.122	2.776	2.499
30	7.003	6.566	6.177	5.829	5.517	5.235	4.979	4.160	3.569	3.124	2.778	2.500

Glossary

Accounting Consolidation	: This is the process of combining the financial statements of a parent company and one or more of their legally separate and distinct subsidiaries.
Acquisition	: This involves one enterprise paying cash or issue stocks or debt for all or part of the voting stock of another enterprise. The acquired enterprise would remain intact as a separate legal entity. In case the parent-subsidiary relationship is accounted for as a purchase, it would be referred to as acquisition. In case the pooling method is adopted, the term “acquisition” cannot be used and the result would be a combination of interests.
Actual Return on Plan Assets Component (of net periodic pension cost)	: The difference between fair value of plan assets at the end of the period and the fair value at the beginning of the period, adjusted for contributions and payments of benefits during the period.
Actuarial Funding Method	: Is any of the several techniques that actuaries use in determining the amounts and incidence of employer contributions to provide for pension benefits.
Actuarial Gain or Loss	: See gain or loss.
Amortization	: Usually refers to the process of reducing a recognized liability, systematically by recognizing revenues or reducing a recognized asset systematically by recognizing expenses or costs. In pension accounting, amortization is also used to refer to the systematic recognition in pension cost over several periods of previously unrecognized amounts including unrecognized prior service cost and unrecognized net gain or loss.
Assumptions	: Estimates of the occurrence of future events affecting pension costs, such as mortality, withdrawal, disablement and retirement, changes in compensation and national pension benefits and discount rates to reflect time value of money.
Attribution	: The process of assigning pension benefits or costs to periods of employee service.
Available-for-Sale Securities	: These are the investments that are not classifiable as held-to-maturity or as trading. These securities would be including the debt and equity securities that are not categorized either as held-for-maturity or trading securities.
Average Rate	: It is the average of the rates prevailing over a certain period of time.
Bargain Purchase/Renewal Option	: Is lessee’s option to purchase/renew the lease at sufficiently low price, which makes the exercise of the option relatively certain. A provision allowing the lessee the option of purchasing the leased property for an amount, exclusive of lease payments,

which is sufficiently lower than the expected fair value of the property at the date the option becomes exercisable. Exercise of the option must appear reasonably assured at the inception of the lease. GAAP does not offer additional guidance defining “sufficiently lower”, in which many factors such as time value of money, usage, and technological changes influence whether the option fulfills the criteria for a bargain.

Benefits	: Payments to which participants may be entitled under a pension plan, including pension benefits, death benefits and benefits due on termination of employment.
Combination	: This refers to any transaction, whereby one enterprise would be obtaining control over the assets and the properties of another enterprise, regardless of the resulting form of the enterprise that is emerging from the combination transaction.
Combined Financial Statements	: These are the consolidated financial statements that are presented primarily for the benefit of the shareholders and the creditors of the parent company, the results of the operations and the financial position of a parent company and its subsidiary essentially as a group where a single enterprise with one or more branches or divisions.
Consolidation	: This refers to the new enterprise that is formed to acquire two or more enterprises through an exchange of the voting stocks. The acquired enterprise then ceases to exist as a separate legal entity.
Contingent	: Rentals are those that cannot be determined at the inception of the lease but depend upon future factors, events such as future sales, volumes, future price index, future interest rates, etc. which may result in either increase/decrease in rental payments but does not include escalation clause increases.
Contributory Plan	: A pension plan under which employees contribute part of the cost. In some contributory plans, employees wishing to be covered must contribute; in other contributory plans, employee contributions result in increased benefits.
Control	: This refers to the ownership by one enterprise, directly or indirectly of more than 50% of the outstanding voting shares of another enterprise.
Corporate Joint Ventures	: This is a corporate business owned equally by two or more investor entities and is accounted for using the equity method or in some cases using the proportional consolidation method by the investors.
Cost Method	: This is the method of accounting for the investment, whereby the investor recognizes only the dividends that are received from the investee as income.

Current or Closing Exchange Rate	: It is the rate prevailing on the date of translation of accounts.
Curtailment	: Event that significantly reduces the expected years of future service of present employees or eliminates for a significant number of employees the accrual of defined benefits for some or all of their future services. Curtailments include (1) termination of employee's services earlier than expected, which may or may not involve closing a facility or discontinuing a segment of a business and (2) termination or suspension of a plan so that employees do not earn additional defined benefits for future services. In the later situation, future service may be counted toward vesting of benefits accumulated based on past services.
Debt Security	: A debt security is any security that establishes or represents a creditor relationship with an enterprise. For example, US Treasury securities, Municipal securities, Corporate bonds, Convertible debt, etc.
Deductible Temporary Differences	: Temporary differences that result in future tax deductions; these give rise to deferred tax assets.
Deferred Tax Asset	: The deferred tax consequences of temporary differences that will result in net tax deductions in future years.
Deferred Tax Liability	: The deferred tax consequences of temporary differences that will result in net taxable amounts in future years. Gains and losses included in comprehensive income but excluded from net income: Certain items which, under GAAP, are events occurring currently but which are reported directly in equity, such as changes in market values of non-current portfolios of marketable securities.
Differential	: This refers to the difference between the carrying amount of the common stock in the investment and the book value of the underlying net assets of the investee, and is to be allocated between the excess or the deficiency of the fair value over or under the book value of the net assets and the goodwill or the negative goodwill, and is to be amortized appropriately to the earnings from the investee.
Discount Rate	: The interest rate used to adjust for the time value of money.
Entity Concept	: This indicates the method of preparing the consolidated financial statements of a parent company and the majority-owned subsidiary which involves the restatement of the net assets of the subsidiary to the fair value as on the date of the acquisition for both the majority and the minority interests.

Equity Method	: A method of accounting for investments in which recognition of percentage share of income or loss, dividends, and any changes in the investment percentage in an investee by an investor is considered. The differential between the investment cost and book value of the investment and its amortization, the effects of any inter company transactions between the investor and the investee is also considered in this method.
Equity Security	: An equity security is any security representing an ownership interest in an enterprise. These are the securities that include the ownership interests like common, preferred and other capital stock, right to acquire the ownership interests such as warranties, rights, call options and the right to dispose the ownership interests in the form of put options.
Estimated/ Unguaranteed Residual Value	: Is the fair value of the leased property at the end of the lease period that is not guaranteed by either the lessee or any unrelated third party to the lessor and such amount should not exceed the amount estimated at the inception of the lease except for escalations.
Expected Long-term Rate of Return on Plan Assets	: An assumption as to the rate of return on plan assets reflecting the average rate of earnings expected on the funds invested or to be invested to provide for the benefits included in the projected benefit obligation.
Fair Rental Value	: Is the similar rental value for similar property under similar lease, terms and conditions.
Fair Value	: Is the normal selling price for which the leased property could be sold between unrelated parties. It is the selling price less trade or volume discounts in case of manufacturer/dealer and cost less discounts in case of others. It may sometimes be lesser than selling price and cost price especially when there exists a time gap between the inception and acquisition of leased property.
Fair Value	: Is the amount that a pension plan could reasonably expect to receive for an investment in a current sale between a willing buyer and a willing seller that is other than in a forced or liquidation sale.
Final Pay Plan	: A benefit formula that bases benefits on the employee's compensation over a specified number of years near the end of the employee's service period or on the employee's highest compensation periods. For instance a plan might provide annual pension benefits equal to one percent of the employee's average salary for the last five years for each completed year of service.

Flat Benefit Formula	<p>: A benefit formula that bases benefits on a fixed amount per year of service, such as Rs.2,000 per year for each completed year of service.</p> <p>Fund if used as a verb, to pay over to a funding agency (as to fund future pension benefits or to fund pension cost). Used as a noun, assets accumulated in the hands of a funding agency for the purpose of meeting pension benefits when they become due.</p>
Foreign Currency	: A currency other than the functional currency of the company is referred as foreign currency.
Foreign Currency Transactions	<p>: Transactions whose terms are denominated in a currency other than the entity's functional currency are termed as foreign currency transactions. Foreign currency transactions arise in the following circumstances. When an enterprise</p> <ol style="list-style-type: none"> buys or sells on credit goods or services whose prices are denominated in foreign currency, borrow or lends funds and the amounts payable or receivable are denominated in foreign currency, is a party to an unperformed forward exchange contract, or for other reasons, acquires or disposes of assets, or incurs or settles liabilities denominated in foreign currency.
Foreign Currency Translation	: The process of expressing in the reporting currency of the enterprise those amounts that are denominated or measured in a different currency.
Functional Currency	: An entity's functional currency is the currency of the primary economic environment in which the company operates, that is, the currency of the environment in which an entity primarily generates and expends cash.
Funding Policy	: The program regarding the amounts and timing of contributions by the employer (s), participants and any other sources to provide the benefits a pension plan specifies.
Goodwill	: This is the excess of the cost of a business acquisition that is accounted for by the purchase method over the fair value of the net assets thereof and it is required to be amortized over the useful life of the asset which is generally considered as up to 40 years.
Goodwill	: Goodwill is the difference between the cost of the acquired enterprise and the sum of the amounts assigned to identifiable assets acquired less liabilities assumed.
Held-to-Maturity Securities	: If an investor has the positive intent and ability to hold the securities to maturity, investments in debt securities are classified as held-to-maturity.

Historical Exchange Rate	: It is the rate at which a transaction was actually settled. For example, the rate which was used to convert the domestic currency into the foreign currency for settling the payment for a machinery bought by the company. In cases where no actual currency conversion takes place, it is the rate prevailing at the time the original transaction took place. For example, if the machinery in the above example was bought by a foreign subsidiary, there would have been no conversion of currency. In that case, the historical rate would have been the rate prevailing when the machinery was bought.
Inception of Lease	: Is the date of the lease agreement or the written commitment containing the principal provisions of the lease transaction signed by all the parties involved.
Interperiod Tax Allocation	: The process of apportioning income tax expense among reporting periods without regard to the timing of the actual cash payments for taxes. The objective is to reflect fully the tax consequences of all economic events reported in current or prior financial statements and, in particular, to report the expected tax effects of the reversals of temporary differences existing at the reporting date.
Intraperiod Tax Allocation	: The process of apportioning income tax expense applicable to a given period between income before extraordinary items and those items required to be shown net of tax such as extraordinary items and prior period adjustments.
Investee	: Investee is the company or enterprise which issues securities which are held by an investor.
Investee Capital Transaction	: This includes the purchase or the sale by the investee of its own common shares, which alters the investor's ownership interest and is accounted for by the investor as if the investee were a consolidated subsidiary.
Investor	: A company or enterprise that holds an investment in the stock of another enterprise.
Lease Bonus	: In order to obtain more favorable leasing terms (e.g., a lease term of 3 years instead of 5 years), the lessee may pay a non-refundable lease bonus (fee) to the lessor where such lease bonus fee would be treated as unearned rent by the lessor and would be amortized to rental revenue on a straight-line basis over the lease term. The lessee would treat the lease bonus fee as prepaid rent and would recognize it as rental expense over the lease term on a straight-line basis.

Lease Term	<p>: As per SFAS-98 it includes fixed non-cancelable term of the lease plus the following:</p> <ol style="list-style-type: none"> 1. Periods covered by bargain renewal options. 2. Periods for which failure to renew the lease imposes a penalty on the lessee in an amount such that renewal appears, at the inception of the lease, to be reasonably assured. 3. Periods covered by ordinary renewal options during which a guarantee by the lessee of the lessor's debt directly or indirectly related to the leased property is expected to be in effect or a loan from the lessee to the lessor directly or indirectly related to the leased property are expected to be outstanding. 4. Periods covered by ordinary renewal options preceding the date that a bargain purchase option is exercisable. 5. Periods representing renewals or extensions of the lease at the lessor's option. <p>However, the lease term shall not extend beyond the date a bargain purchase option becomes exercisable or beyond the useful life of the leased asset.</p>
Leasehold Improvements	<p>: The lessee has a right to use the leasehold improvements made by him to the leasehold property by constructing the new buildings or improving existing structures (movable equipment or office furniture that is not attached to the leased property is not considered as a leasehold improvement) over the term of the lease. However, such improvements will revert to the lessor at the expiration of the lease. Such leasehold improvements are capitalized to "leasehold improvements", i.e. a property, plant and equipment account by the lessee and are amortized over the shorter of (1) the remaining lease term, or (2) the useful life of the improvement. However, if the lease contains an option to renew where the likelihood of such renewal is uncertain, the leasehold improvements should be written off over the life of the initial lease term or useful life of the improvement, whichever is shorter. In the case of improvements made in lieu of rent, they should be expensed in the period of incurrence.</p>
Lessee's Incremental Borrowing Rate	<p>: Is the rate of interest that the lessee would have had to pay at the inception of the lease to borrow the funds to purchase the leased property.</p>
Local Currency	<p>: The currency in which a company prepares its financial statements is termed as local currency.</p>
Measurement Date	<p>: The date as of which plan assets and obligations are measured.</p>
Merger	<p>: It refers to one enterprise that acquires all the net assets of one or</p>

more other enterprises through an exchange of stock, payment of cash or other property or the issue of debt instruments.

Minimum Lease Payments

: For the lessee as per SFAS-13 include the minimum rent, any guarantee the lessee is required/must make including the purchase price of the leased property, amount to make up the deficiency from the specified minimum, amount payable for failure to renew/extend the lease period. If the lease contains the bargain purchase option, minimum lease payment would include only the minimum rent over the lease term and the payment required to exercise the option. It specifically excludes from minimum lease rentals, a guarantee by the lessee to pay the lessor's debt, lessee's obligation to pay executory costs on leased property, contingent rentals.

Minority Interest

: It is the remaining amount that is outstanding from the voting stock of a subsidiary that is not purchased by the acquiring enterprise.

Multi-employer Plan

: A pension plan to which two or more unrelated employers contribute, usually pursuant to one or more collective bargaining agreements. A characteristic of multi employer plans is that assets contributed by one participating employer may be used to provide benefits to employees of other participating employers since assets contributed by an employer are not segregated in a separate account or restricted to provide benefits only to employees of that employer. A multi employer plan is usually administered by a board of trustees composed of management and labor representatives and may also be referred to as a "joint trust" or "union plan". Generally, many employers participate in a multi employer plan, and an employer may participate in more than one plan. The employers participating in multi employer plans usually have a common industry bond, but for some plans the employers are in different industries and the labor union may be their only common bond.

Multiple Employer Plans

: Are generally not collectively bargained and are intended to allow participating employers, commonly in the same industry, to pool their assets for investment purposes and reduce the costs of plan administration. A multiple employer plan maintains separate accounts for each employer so that contributions provide benefits only for employees of the contributing employer. Some multiple employer plans have features that allow participating employers to have different benefit formulas, with the employer's contributions to the plan based on the benefit formula selected by the employer.

Negative Goodwill

: This is the result of the excess of the fair value of the asset over the cost of the purchase of the business. This amount would be

representing the net excess of the fair value of the net assets of a business acquisition for a purchase after setting off the maximum amount against the fair value of the non-current assets that have been acquired except those that are considered as marketable securities.

Non-cancelable Lease Term	: Is a provision in the lease agreement that specifies that the lease may be cancelled only on some remote contingency, with the permission of the lessor, on signing of new lease agreement with the same lessor.
Operating Loss Carry Back or Carry Forward	: The excess of tax deduction over taxable income. To the extent that this results in a carry forward, the tax effect thereof is included in the entity's deferred tax asset.
Other Comprehensive Income	: This refers to the revenues, expenses, gains and the losses that are included in the comprehensive income but excluded from the earnings under the generally accepted accounting principles.
Parent Company Concept	: This refers to the method of preparing the consolidated financial statements of a parent and majority-owned subsidiary that involves the restatement of the net assets of the subsidiary to fair value at the date of acquisition for only the majority interest.
Participant	: Any employee or former employee, or any member or former member of a trade or other employee association, or the beneficiaries of those individuals, for whom there are pension plan benefits.
Penalty	: Is an outside factor or provision that can impose on the lessee to disburse cash, incur or assume a liability, perform services, transfer an asset/rights, forgo an economic benefit, suffer an economic detriment.
Pension Benefits	: Periodic (monthly) payments made pursuant to the terms of the pension plan to a person who has retired from employment or to that person's beneficiary.
Permanent Differences	: Differences between pre-tax accounting income and taxable income as a result of the treatment accorded certain transactions by the income tax regulations which differ from the accounting treatment. Permanent differences will not reverse in subsequent periods.
Plan Amendment	: Changes in terms of an existing plan or the initiation of a new plan. A plan amendment may increase benefits, including those attributed to years of service already rendered.
Plan Assets	: Are assets such as stocks, bonds and other investments that have been segregated and restricted in a trust, to provide benefits. Plan assets include amounts contributed by the employer and

amounts earned from investing the contributions, less benefits paid. Plan assets cannot ordinarily be withdrawn by the employer except in certain circumstances when a plan has assets in excess of obligations and the employer has taken certain steps to satisfy existing obligations. For purposes of this chapter, assets not segregated in a trust or other wise effectively restricted so that they cannot be used by the employer for other purposes are not plan assets even though it may be intended that such assets be used to provide pensions. Amounts accrued by the employer as net periodic pension cost but not yet paid to the plan are not plan assets for purposes of this chapter. Securities of the employer held by the plan are includable in plan assets provided they are transferable.

Plan Curtailment	: An event that significantly reduces the expected years' of future services of present employees or eliminates for a significant number of employees, the accrual of defined benefits for some or all of their future services.
Plan Suspension	: An event in which the pension plan is frozen and no further benefits accrue. Future service may continue to be the basis for vesting of non vested benefits existing at the date of suspension. The plan may still hold assets, pay benefits already accrued, and receive additional employer contributions for any unfunded benefits. Employees may or may not continue working for the employers.
Plan Termination	: An event in which pension plan ceases to exist and all benefits are settled by purchase of annuities or other means.
Pooling of Interest Method	: This is the method of accounting that is used for a business combination that is predicated upon a mutual exchange and the continuation of the ownership interests in the combining entities. It would not be resulting in the establishment of a new basis of accountability.
Pre-acquisition Contingencies	: These are the uncertainties that are existing at the date of the acquisition and are to be accounted for by adopting the purchase method which if resolved within one year of the acquisition would be resulting in the reallocation of the purchase price.
Prepaid Pension Cost	: Cumulative employer contributions in excess of accrued net pension cost.
Pre-tax Accounting Income	: Income or loss for the accounting period as determined in accordance with GAAP without regard to the income tax expense for the period.
Prior Service Cost	: Cost of retroactive benefits granted in a plan amendment.
Purchase Method	: This refers to the method of accounting that is used for a business combination that recognizes one combining entity would be acquired by another. It establishes a new basis of

	accountability for the acquiree.
Purchased Pre-Acquisition Earnings	: This is an account that is used to report the earnings of the subsidiary that are attributable to the percentage ownership that is acquired at the interim date in the current accounting period.
Related Parties	<p>: Entities that are in a relationship where one party has the ability to exercise significant influence over the operating and financial policies of another party. This includes:</p> <ol style="list-style-type: none"> 1. A parent company and its subsidiaries. 2. An owner company and its joint ventures and partnerships. 3. An investor and its investees. <p>The ability to exercise significant influence must be present before the parties can be considered as related. Significant influence may also be exercised through guarantees of indebtedness, extensions of credit, or through ownership of debt obligations, warrants, or other securities. If two or more entities are subject to the significant influence of a parent, owner, investor, or common officer or directors, then those entities are considered as related to each other.</p>
Remeasurement	: It is process of translation of local currency transactions into functional currency.
Reporting Currency	: The currency in which the multinational company prepares its consolidated financial statements is termed as reporting currency.
Retroactive Benefits	: Benefits granted in a plan amendment (or initiation) that are attributed by the pension benefit formula to employee service rendered prior to amendment. The cost of retroactive benefits is referred to as prior service cost.
Reverse Acquisition	: This is the acquisition which takes place when one entity, nominally the acquirer, issues so many shares to the former owners of the target that they become the majority owners of the successor entity.
Sale-Leaseback Accounting	: A method of accounting for a sale-leaseback transaction in which the seller-lessee records the sale, removes all property and related liabilities from a balance sheet, recognizes gain or loss from the sale, and classifies the leaseback in accordance with this chapter.
Sales Recognition	: Any method, that is described as a method to record a transaction involving real estate, other than the deposit method, or the methods to record transactions accounted for as financing, leasing or profit-sharing arrangements. Profit recognition methods commonly used to record transactions involving real estate include, but are not limited to, the full accrual method, the installment method, the cost recovery method, and the reduced profit method.
Security Deposits	: Payment of the security deposits by the lessee to the lessor may be required by some lease agreements at the inception of the lease. Such security deposits may be either refundable or non-refundable. A refundable security deposit should be treated as a

liability by the lessor and receivable by the lessee until such deposit is returned to the lessee. A non-refundable security deposit is recorded as unearned revenue by the lessor and as prepaid rent by the lessee until such deposit is considered earned by the lessor usually at the end of the lease term.

Service	: Employment taken into consideration under a pension plan. Years of employment before the inception of the plan constitute an employee's past service. Years thereafter are classified in relation to the particular actuarial valuation being made or discussed. Years of employment (including past service) prior to the date of a particular valuation constitute prior service.
Service Cost Component (of net periodic pension cost)	: Actuarial present value of benefits attributed by the pension benefit formula to services rendered by employees during the period. The service cost component is a portion of the projected benefit obligation and is unaffected by the funded status of the plan.
Settlement	: Transaction that (i) is an irrevocable action, (ii) relieves the employer (or the plan) of primary responsibility for a pension benefit obligation, and (iii) eliminates significant risks related to the obligation and the assets used to effect the settlement. Examples include making lump sum cash payments to plan participants in exchange for their rights to receive specified pension benefits and purchasing nonparticipating annuity contracts to cover vested benefits. A transaction must meet all of the above three criteria to constitute a settlement.
Significant Influence	: The ability of an investor to affect the financial or operating policies of the investee. Significant influence is assumed to exist where at least 20% of the common stock having voting right is held by the investor.
Single Employer Plan	: A pension plan that is maintained by one employer. The term also may be used to describe a plan that is maintained by related parties such as parent and its subsidiaries.
Subsidiary	: This is the enterprise that is controlled directly or indirectly by another enterprise.
Unrealized Inter-company Profit	: This refers to the excess of the transaction price over the carrying value of the item usually inventory or plant assets, that is transferred from a parent to a subsidiary company or vice versa and not sold to an outside entity. For the purpose of the consolidated financial statements, the recognition must be deferred till the subsequent realization through a transaction with an unrelated party.
Tax Credits	: Reductions in the tax liability as a result of certain expenditures accorded special treatment under the Internal Revenue Code. Examples of such credits are – the Investment Tax Credit, investment in certain depreciable property; the Jobs Credit,

payment of wages to targeted groups; the Research and Development Credit, an increase in qualifying R&D expenditures; and others.

Tax Planning Strategy	: A representation by management of a planned transaction or series of transactions that would affect the particular future years in which temporary differences will result in taxable or deductible amounts.
Taxable Income	: The difference between the revenue and expenses as defined by the Internal Revenue Code for a taxable period without regard to the special deductions. (for example net operating loss or contribution carrybacks and carry forwards).
Taxable Temporary Differences	: Temporary differences that result in future taxable amounts; these give rise to deferred tax liabilities.
Temporary Differences	: In general, differences between tax and financial reporting bases of assets and liabilities that will result in taxable or deductible amounts in future periods. Temporary differences include “timing differences” as defined by prior GAAP as well as certain other differences, such as those arising from business combinations. Some temporary differences cannot be associated with particular assets or liabilities, but nonetheless do result from events that received financial statement recognition and will have tax effects in future periods.
Timing Differences	: The difference between the treatment of expenditures on the tax return and for financial reporting.
Trading Securities	: Debt or equity securities bought and held primarily for sale in the near term.
Transaction Date	: The date at which a transaction is recorded in accounting records in conformity with generally accepted accounting principles.
Transaction Gain or Loss	: Transaction gains or losses result from a change in exchange rates between the functional currency and the currency in which a foreign currency transaction is denominated. They represent an increase or decrease in, <ul style="list-style-type: none"> a. the actual functional currency cash flows realized upon settlement of foreign currency transactions, and b. the expected functional currency cash flows on unsettled foreign currency transactions.
Translation	: It is the process translation of functional currency of a foreign subsidiary into the reporting currency.
Undistributed Investee Earnings	: This refers to the investor’s share of the investee earnings in excess of the dividends that are paid.
Unrecognized Tax Benefits	: Deferred tax benefits against which a valuation allowance had been provided as of the date of the financial statements.

- Valuation Allowance** : The contra asset which is to be reflected to the extent that it is “more-likely-than-not” that the deferred tax asset will not be realized.
- Vested Benefits** : Benefits for which the employee’s right to receive a present or future pension benefit is no longer contingent on remaining in the service of the employer. (other conditions, such as inadequacy of the pension fund, may prevent the employee from receiving the vested benefit). Under graded vesting, the initial vested right may be to receive in the future a stated percentage of a pension based on the number of years of accumulated credited service; thereafter, the percentage may increase with the number of years of service or of age until the right to receive the entire benefit was vested.