READING

INTRODUCTION TO FINANCIAL STATEMENT ANALYSIS

Learning Outcome A	Describe the roles of financial reporting and financial statement analysis.
Role of Financial Reporting	The role of financial reporting is to **provide information** about the performance and financial position of companies so that users can make economic decisions.
Role of Financial Statement Analysis	The primary role of financial statement analysis is to **use financial reports** prepared by companies to evaluate their past, current, and potential performance and financial position for the purpose of making investment, credit, and other economic decisions.

Practice Problems: Q1, Q2 & Q3

Learning Outcome B	Describe the roles of the statement of financial position, statement of comprehensive income, statement of changes in equity, and statement of cash flows in evaluating a company's performance and financial position.
Role of Balance Sheet	1. The balance sheet discloses **financial position of a company** i.e. what resources a company controls (assets) and what it owes (liabilities) at a specific point in time. 2. **Owners' equity** represents the net assets of the company; it is the owners' residual interest in, or residual claim on, the company's assets after deducting its liabilities. 3. The relationship among the three parts of the balance sheet (assets, liabilities, and owners' equity) may be shown in equation form as follows: **Assets = Liabilities + Owners' equity**
Role of Income Statement	The income statement presents information on the **financial results of a company** over a period of time.
Role of Statement of Comprehensive Income	The statement of comprehensive income includes **all items that change owners'** equity except transactions with owners (e.g., issuing stock, repurchasing stock, and paying dividends). **Note:** The income statement can be combined with "other comprehensive income" and presented as a single statement of comprehensive income. Alternatively, the income statement and the statement of comprehensive income can be presented separately.
Role of Statement of Changes in Equity	The statement of changes in equity provides **information about increases or decreases in the various components of owners' equity**
Role of Statement of Cash Flows	The statement of cash flows reports the company's **cash receipts and payments.**

Practice Problems: Q4, Q5, Q6, Q7 & Q8

Learning Outcome C	Describe the importance of financial statement notes and supplementary information - including disclosures of accounting policies, methods, and estimates and management's commentary.
Importance of Financial Statement Notes (Footnotes)	The notes (also referred to as footnotes) provide information that is essential to understanding the statements. Footnotes also include **disclosures** regarding the use of alternative **accounting methods, estimates, and assumptions**. Some aspects of **management compensation** are also disclosed in the notes to the financial statements.
Importance of Management Commentary [Management Discussion & Analysis (MD&A)]	1. Management commentary addresses the **nature of the business, management's objectives**, the company's **past performance**, the performance measures used, and the **company's key relationships, resources, and risks** 2. Some parts of management's commentary may be **unaudited**. 3. MD&A must discuss **trends** and identify **significant events and uncertainties** that affect the firm's liquidity, capital resources, and results of operations. 4. Other important discussions include: - **Effects of inflation** and changing prices if material. - Impact of **off-balance-sheet obligations** and **contractual obligations** such as purchase commitments. - **Accounting policies** that require significant judgment by management. - **Forward-looking expenditures** and divestitures.

Practice Problems: Q9, Q11 & Q12

Learning Outcome D	Describe the objective of audits of financial statements, the types of audit reports, and the importance of effective internal controls.
Objective of Audit of Financial Statement	The objective of an audit is to enable the auditor to provide an **opinion on the fairness and reliability of the financial statements.** The auditors must also express an **opinion on the company's internal control systems.**
Independent Audit Report	An independent audit report provides **reasonable assurance** that the financial statements are fairly presented, meaning that there is a high probability that the audited financial statements are **free from material error, fraud, or illegal acts** that have a direct effect on the financial statements.
Types of Audit Reports	1. Clean Opinion (Unqualified Opinion) 2. Qualified Opinion 3. Adverse Opinion 4. Disclaimer of Opinion
Importance of Effective Internal Controls	The internal control system is the company's internal system that is designed, among other things, to ensure that the company's process for generating financial reports is sound. Although **management** is responsible for maintaining effective internal control, the **auditors** must also **express an opinion on the company's internal control systems.**

Practice Problems: Q13, Q14 & Q15

Learning Outcome E	Identify and describe information sources that analysts use in financial statement analysis besides annual financial statements and supplementary information.
Introduction	When performing financial statement analysis, analysts should review all company sources of information as well as **information from external sources** regarding the economy, the industry, the company, and peer (comparable) companies.
Sources of Supplementary Information	1. **Interim Reports:** Interim reports (quarterly or semi-annually reports) **update the major financial statements and footnotes** but are **not necessarily audited.** 2. **SEC Filings:** SEC filings also provide information on various matters. 3. **Proxy Statements:** Proxy statements are issued to shareholders when there are matters that require a shareholder vote. These include information about the **election of (and qualifications of) board members, compensation, management qualifications**, and the **issuance of stock options.** 4. **Other Sources:** - Corporate Reports - Press Releases - Earnings Guidance - Trade Journals

Practice Problems: Q10, Q16 & Q17

Learning Outcome F	Describe the steps in the financial statement analysis framework.
Steps in the financial statement analysis framework.	**Step 1: Articulate the Purpose and Context of the Analysis:** State the objective and context of the financial statement analysis. **Step 2: Collect Input Data:** Acquire the company's financial statements and other relevant data on its industry and the economy. **Step 3: Process Data:** - Make appropriate **adjustments** to the input data. - Calculate **ratios** (ratio analysis). - Prepare **graphs**. - Prepare **common-size financial statements** **Step 4: Analyze/Interpret the Processed Data:** Processed data is served as input in this step for analysis & interpretation. **Example**: Ratios are an output of the process data step but are an input into the analyze/interpret data step. **Step 5: Develop and Communicate Conclusions & Recommendations:** Prepare a report and communicate it to its intended audience. **Step 6: Follow-Up:** The follow-up phase involves **gathering information and repeating the analysis** to determine whether it is necessary to **update reports and recommendations.**

Practice Problems: Q18 & Q19

READING

FINANCIAL REPORTING STANDARDS

Learning Outcome A	Describe the objective of financial reporting and the importance of financial reporting standards in security analysis and valuation.
Role of Financial Reporting	The objective of financial reporting is to **provide financial information about the reporting entity** that is useful to existing and potential investors, lenders, and other creditors in making decisions about providing resources to the entity.
Importance of Financial Reporting Standards	Financial reporting requires policy choices and estimates. These choices and estimates require judgment, which can vary from one preparer to the next. Accordingly, **standards are needed to ensure increased consistency in these judgments.**

Practice Problems: Q1

Learning Outcome B	Describe the roles of financial reporting standard-setting bodies and regulatory authorities in establishing and enforcing reporting standards.
Standard Setting Bodies	1. Standard setting bodies **establishes** the financial reporting standards. 2. The two primary standard-setting bodies are the **Financial Accounting Standards Board (FASB)** and the **International Accounting Standards Board (IASB**). 3. FASB formulates US-GAAP, while IASB formulates IFRS.
Regulatory Bodies	1. Regulators typically retain **legal authority to enforce financial reporting standards** in their jurisdiction. 2. The two primary regulators are **Securities and Exchange Commission (SEC)** in the United States and the **Financial Conduct Authority (FCA)** in the United Kingdom.
IOSCO	International Organization of Securities Commissions (IOSCO) is **not a regulatory body**, but its members work together to make national regulations and enforcement more uniform around the world. A core objective of IOSCO is to **ensure that markets are fair, efficient, and transparent**. The other core objectives are to **reduce, not eliminate, systemic risk** and to **protect investors, not all users of financial statements.**

Practice Problems: Q2, Q3 & Q4

Learning Outcome	Describe the International Accounting Standards Board's conceptual framework, including qualitative characteristics of financial reports, constraints on financial reports, and required reporting elements.
C	

IASB Conceptual Framework

The ideas on which the IASB bases its standards are expressed in the "Conceptual Framework for Financial Reporting". The IASB framework details the **qualitative characteristics** of financial statements and specifies the required **reporting elements**.

Qualitative Characteristics

1. FUNDAMENTAL CHARACTERISTICS:
   a. **Relevance**: Financial statements are relevant if the information in them can influence users' economic decisions or affect users' evaluations of past events or forecasts of future events. To be relevant, information should have predictive value, confirmatory value (confirm prior expectations), or both.
   b. **Faithful Representation**: Complete, unbiased & error-free.
2. ENHANCING CHARACTERISTICS:
   a. **Comparability**: Presentation should be consistent among firms and across time periods.
   b. **Verifiability**: Independent observers, using the same methods, should obtain similar results.
   c. **Timeliness:** Information should be available to decision makers before the information is stale.
   d. **Understandability**: Information should be provided in simple & understandable manner.

Constraints on Financial Reports

1. **Cost-benefit trade-off** should be done for all matters to be reported.
2. **Non-quantifiable information** cannot be captured directly in the financial statements.

Assumptions of Financial Reports

1. Accrual Accounting
2. Going Concern

Required Reporting Elements

1. **Assets:** Resources controlled as a result of past transactions that are expected to provide future economic benefits.
2. **Liabilities**: Obligations as a result of past events that are expected to require an outflow of economic resources.
3. **Equity:** The owners' residual interest in the assets after deducting the liabilities.
4. **Income:** An increase in economic benefits, either increasing assets or decreasing liabilities in a way that increases owners' equity (but not including contributions by owners). Income includes revenues and gains.
5. **Expenses:** Decreases in economic benefits, either decreasing assets or increasing liabilities in a way that decreases owners' equity (but not including distributions to owners). Losses are included in expenses.

Note: An item should be recognized in its financial statement element if a future economic benefit from the item (flowing to or from the firm) is **probable** and the item's value or cost can be **measured reliably**

Measurement Bases	1. **Historical cost:** the amount originally paid for the asset. 2. **Amortized cost:** historical cost adjusted for depreciation, amortization, depletion, and impairment. 3. **Current cost:** the amount the firm would have to pay today for the same asset. 4. **NRV:** the estimated selling price of the asset in the normal course of business minus the selling costs. 5. **Present value:** the discounted value of the asset's expected future cash flows. 6. **Fair value:** the price at which an asset could be sold, or a liability transferred, in an orderly transaction between willing parties.

Practice Problems: Q5, Q6, Q7, Q8, Q9, Q10 & Q11

Learning Outcome D	**Describe general requirements for financial statements under International Financial Reporting Standards (IFRS).**
Required Financial Statements [as per International Accounting Standard (IAS No. 1)]	1. Balance Sheet 2. Statement of Comprehensive Income 3. Cash Flow Statement. 4. Statement of Changes in Owners' Equity. 5. Explanatory Notes, including a summary of accounting policies.
Basic Features needed in Financial Statements	1. Fair presentation. 2. Going Concern Basis 3. Accrual Basis. 4. Consistency. 5. Materiality 6. Aggregation (of similar items). 7. No off-setting.

NOTE: Financial statements must be **prepared at least annually**, must **include comparative information** from the previous period, and **must be consistent**.

NOTE: Financial statements must follow certain **PRESENTATION REQUIREMENTS** including a **classified statement** of financial position (balance sheet) and **minimum information** on both the face of the financial statements and in the notes.

Practice Problems: Q12, Q13 & Q14

Learning Outcome E	Describe implications for financial analysis of alternative financial reporting systems and the importance of monitoring developments in financial reporting standards.
Implications of Alternative FR Systems on Financial Analysis	A significant number of the world's listed companies **report under either IFRS or US GAAP.** An analyst must maintain general caution in interpreting comparative financial measures produced under different accounting standards and **monitor significant developments** in financial reporting standard.
Importance of Monitoring Developments in FR Standards	Analysts should remain aware of ongoing developments in financial reporting by monitoring **new products** or **types of transactions**; actions of standard setters, regulators, and other groups; and **company disclosures regarding critical accounting policies and estimates.**

Practice Problems: Q15

READING

UNDERSTANDING INCOME STATEMENTS

Learning Outcome A	Describe the components of the income statement and alternative presentation formats of that statement.
About Income Statements	The income statement presents information on the financial results of a company's business activities over a period of time
Income Statement Equation	Income – Expenses = Net Income
Components of Income Statement	1. **Revenues:** a. Income generated from the sale of goods and services in the normal course of the business. b. Net revenue is the total revenue minus products that were returned and amounts that are unlikely to be collected 2. **Expenses:** Costs incurred to generate revenues are known as expenses. Expenses are grouped together by their nature or function. **Depreciation expense** is an example of grouping by nature of the expense. **Cost of goods sold** is an example of grouping by function 3. **Gains and Losses:** Amounts generated from non-operating activities 4. **Net Income:** Net income = Revenues – Expenses + Gains – Losses.
Presentation format of Income Statement	Income statements can be presented in the following two formats: 1. **Single Step**: All revenues and all expenses are grouped together. There are no sub-totals. 2. **Multi-step**: It includes subtotals such as gross profit and operating profit.

Practice Problems: Q1, Q2, Q3 & Q4

Learning Outcome B & C	Describe general principles of revenue recognition and accounting standards for revenue recognition Calculate revenue given information that might influence the choice of revenue recognition method.
Accrual Method of Accounting	Under the accrual method of accounting, revenue should be recognized when earned and not necessarily when cash is received.
Disclosure of revenue recognition policies	Companies must disclose their revenue recognition policies in the notes to their financial statements, and analysts should read these carefully to understand how and when a company recognizes revenue.

Revenue Recognition as per converged standard by IASB and FASB

1. **Introduction:** In May 2014, the IASB and FASB issued converged standards for revenue recognition. The standards take a principles-based approach to revenue recognition issues.
2. **Steps for Revenue Recognition:**
   a. Identify the contract(s) with a customer.
   b. Identify the performance obligations in the contract.
   c. Determine the transaction price
   d. Allocate the transaction price to the performance obligation in the contract
   e. Recognize revenue when (or as) the entity satisfies a performance obligation
3. **Recognition of Related costs:**
   a. Incremental costs of obtaining a contract or fulfilling a contract must be capitalized.
   b. If incremental costs were expensed in the years before adopting the converged standard, then the company's profitability will appear higher under the converged standards.
4. **Disclosure requirements:**
   a. Companies must disclose information about contracts with customers after segregating them into different categories of contracts. The categories may be based on the geographic region, the type of product, the type of customer, pricing terms, etc.
   b. Companies must disclose information related to revenue recognition. For example, any change in judgments, remaining performance obligations, and transaction price allotted to those obligations, and balances of contract-related assets and liabilities.

Note: Revenue reported by an agent will always be equal to his commission, not the value of goods he sold on consignment basis.

Practice Problems: Q5, Q6 & Q7

Learning Outcome	Describe general principles of expense recognition, specific expense recognition applications, and implications of expense recognition choices for financial analysis.
D	

General Principles

1. **Matching Principle:** As per Matching principle, the expenses incurred to generate revenue are recognized in the same period as revenue. For example, if some goods bought in the current year remain unsold at the end of the year, they are not included in the cost of goods sold for the current year. If they are sold in the next year, they will be included in the cost of goods sold for the next year
2. **Periodic Costs:** Expenses that cannot be tied directly to generation of revenues are called periodic costs. They are expensed in the period incurred.
3. **Inventory Methods:** Accounting standards permit the use of following methods to assign inventory expenses:
   a. First in, first out (FIFO)' assumes that the earliest items purchased are sold first.

	b. Last in, first out (LIFO)' assumes that the most recent items purchased are sold first. c. Weighted average cost' averages total cost over total units available. d. Specific identification' identifies each item in the inventory and uses its historical cost for calculating COGS, when the item is sold.
Specific Issues in Expense Recognition	1. **Doubtful accounts:** As per matching principle, an estimate of credit losses (using historical data) should be recognised at the time of revenue recognition. 2. **Warranties:** As per matching principle, an estimate of warranty expenses (using historical data) should be recognised at the time of revenue recognition. 3. **Depreciation:** Permitted methods are:- a. Straight-line method b. Declining balance method (WDV method)
Implications for financial analysis	An analyst should know whether the expense recognition policy is conservative or aggressive. If a company's policies result in early recognition of expenses, it can be considered a conservative approach. On the other hand if a company's polices delay the recognition of expenses, it can be considered an aggressive approach.

Practice Problems: Q8, Q9, Q10, Q11, Q12 & Q13
(All these sums are to be done later)

Learning Outcome	Describe the financial reporting treatment and analysis of non-recurring items (including discontinued operations, unusual or infrequent items) and changes in accounting policies.
E	

Non-Recurring Items	1. **Discontinued operations:** a. A discontinued operation is an operation which a company has disposed of or plans to dispose of. b. Net income from discontinued operations is shown (as a separate line item on the income statement) net of tax after net income from continuing operations. 2. **Unusual or Infrequent Items:** a. Both IFRS and US GAAP allow recognition of items that are unusual or infrequent (but not both). b. These items are also called exceptional items i.e. items not "inherent" to the company's current activities. c. Examples include restructuring charges and gains/losses from sale of equipment, receipts from a legal case, costs of integrating an acquisition, and impairment of intangible assets, etc. d. These items are shown as part of a company's continuing operations.

Changes in Accounting Policies	1. A change in accounting policy is applied retrospectively. 2. Changes in accounting estimates are applied prospectively. 3. Correction of an error for a prior period is another possible adjustment which requires a restatement of the four major financial statements.

Note: Modified retrospective approach: According to new revenue recognition standards, companies can also use "modified retrospective" method of adoption. Under this approach, companies can adjust opening balances of retained earnings (and other applicable accounts) for the cumulative impact of the new standard. They are not required to revise previously reported financial statements.

Practice Problems: Q14 & Q15

Learning Outcome F	**Distinguish between the operating and non-operating components of the income statement.**
Non-Operating activities as per IFRS	Under IFRS, there is no definition of operating activities and companies need to use judgment about which items can be classified as operating and non-operating.
Non-Operating activities as per US-GAAP	Under US GAAP, operating activities generally involve producing and delivering goods and providing services. All other transactions and events are defined as investing or financing activities. For example, interest expense would be an operating item for a bank but would be non-operating for a manufacturing firm.
Disclosure on net basis	In practice, investing and financing activities may be disclosed on a net basis. For example, a manufacturing firm may report net interest expense (interest expense minus interest revenue) in its income statement

Learning Outcome G & H	**Describe how earnings per share is calculated and calculate and interpret a company's earnings per share (both basic and diluted earnings per share) for both simple and complex capital structures.** **Distinguish between dilutive and antidilutive securities and describe the implications of each for the earnings per share calculation.**
Simple v/s Complex Capital Structure	Securities that can be converted into ordinary shares 1. **Simple capital structure:** If a company has no potentially dilutive securities it is said to have a simple capital structure. 2. **Complex capital structure:** If a company has potentially dilutive securities it is said to have a complex capital structure.
Basic EPS	1. **Formula:** Basic EPS = (Net Income – Preferred Dividends)/(Weighted average number of shares outstanding) 2. **Rules for calculating Basic EPS:** a. In this calculation we do not consider the effect of any potentially dilutive securities. b. Weighted average number of shares outstanding is the number of shares outstanding during the year, weighted by the portion of the year they were outstanding.

c. Stock splits and stock dividends are applied retroactively to the beginning of the year, so the old shares are converted to new shares for consistency.

3. **Illustration of Basic EPS:**
AB Ltd has 10,000 shares outstanding at the beginning of the year. On April 1, the company issues 4,000 new shares. On July 1, the company distributes a 10% stock dividend. On September 1, it repurchases 3,000 shares. AB Ltd. has a net income of $10,000. It has paid $1,000 as preferred dividends and $1,750 cash dividends to its common shareholders. Calculate AB Ltd.'s Basic EPS.

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1. **Formula:** Diluted EPS = (Net Income + After Tax Interest – Preferred Dividend + convertible preferred dividends)/ (Weighted Average shares + New shares if convertible debt is converted)

2. **Rules for calculating Diluted EPS:**
   a. If a firm has capital structure it has to report both basic and diluted EPS.
   b. For calculating dilutive EPS, we shall consider only dilutive securities
   c. For preference shares, we need to subtract preference share dividends from the numerator and add new shares issued from conversion to the denominator.
   d. For convertible bonds, we need to add the after tax interest cost savings [Interest (1-t)] to the numerator and new shares issued from conversion to the denominator.
   e. For stock options, we use the treasury stock method. Here, the numerator is unchanged but the number of shares to be added to the denominator = Number of shares created by exercising the options – Number of shares hypothetically repurchased with the proceeds of the exercise.

3. **Illustration of Diluted EPS:**
   a. At the year end, ABC Ltd reported a net income of ₹ 120 lakhs. It has a weighted average of 20 lakhs common shares outstanding. The company paid ₹ 800,000 as preferred dividends and had 100,000 options outstanding with an average exercise price of ₹ 20. ABC's market price is ₹ 25 per share. Calculate ABC's diluted EPS.

   b. At the year end, S Ltd. reported a net income of ₹ 200 million and a weighted average of 50 million common shares outstanding. There are 2 million convertible preferred shares outstanding that paid an annual dividend of ₹ 5. Each preferred share is convertible into two shares of the common stock. Calculate it's diluted EPS.

Practice Problems: Q16, Q17, Q18, Q19, Q20, Q21 & Q22

Learning Outcome	Convert income statements to common-size income statements.

I & J	Evaluate a company's financial performance using common-size income statements and financial ratios based on the income statement.
Common-size Income Statement	Common-size income statement presents each line item on the income statement as a percentage of revenue. This format standardizes the income statements and helps remove the effects of company size
Income Statement Ratios	The income statement is used to calculate income statement ratios to evaluate a firm's profitability. The commonly used ratios are: 1. **Gross profit margin** = Gross profit / Revenue 2. **Operating profit margin** = Operating profit / Revenue 3. **Net profit margin** = Net profit / Revenue
Other Comprehensive Income	Other comprehensive income includes transactions that are not included in net income. Four types of items treated as other comprehensive income under both IFRS and U.S. GAAP are: 1. Unrealized gain/losses from available for sale securities. 2. Foreign currency translation adjustments. 3. Unrealized gains/losses on derivative contracts used for hedging. 4. Adjustments for minimum pension liability. Besides the items stated above, under IFRS, other comprehensive income includes certain changes in the value of long-lived assets that are measured using the revaluation model rather than the cost model. Further, under IFRS, reclassification of items from OCI to P&L is not allowed.
Comprehensive Income	Comprehensive income measures all changes to equity apart from those resulting from transactions with shareholders (For example, dividends paid and stocks repurchased are not included in comprehensive income.) Comprehensive income is conceptually same under both IFRS and US GAAP. It is the sum of net income and other comprehensive income.

Practice Problems: Q23, Q24 & Q25

READING

UNDERSTANDING BALANCE SHEETS

Learning Outcome A	Describe the elements of the balance sheet: assets, liabilities, and equity.

Balance Sheet	The **balance sheet** reports the firm's **financial position** *at a point in time*.
Assets	1. Resources controlled as a result of past transactions. 2. Expected to provide future economic benefits.
Liabilities	1. Obligations as a result of past events. 2. Expected to require an outflow of economic resources.
Equity	1. Equity = Assets – Liabilities. 2. It is the residual interest in the net assets.
Conditions for recognition of a financial item	1. *Future economic benefit* from the item should be ***probable,*** and 2. The item's *value or cost* can be ***measured reliably***.

Learning Outcome B	Describe uses and limitations of the balance sheet in financial analysis.

Uses of Balance Sheet	1. Assessment of Liquidity (ability to meet short term obligations). 2. Assessment of Solvency (ability to meet long term obligations). 3. Assessment of the firm's ability to make distributions to shareholders.
Limitations of Balance Sheet	1. Balance Sheet Values ≠ Intrinsic Values (Fair Values). 2. Numerous valuation bases are used (heterogeneous valuations). 3. Even if the balance sheet was reported at fair value, the value may have changed since the balance sheet date.

Learning Outcome C	Describe alternative formats of balance sheet presentation.

Formats of Balance Sheet	**Classified Balance Sheet** Classify assets & liabilities in current/non-current format. **Liquidity Based Format** Present assets & liabilities in the order of liquidity. *Note: Mostly used by Banks.*
Applicability	1. Classified Balance Sheet – Both GAAP & IFRS. 2. Liquidity Based Format – Optional under IFRS.

Learning Outcome D	Distinguish between current and non-current assets and current and noncurrent liabilities.

Current Assets	1. Current assets are those assets that can be converted into cash or used up within *one year or operating cycle (earlier of the two)*. 2. Current assets provides information about operating activities.
Current Liabilities	1. Settlement within *one year or one operating cycle (earlier of the two)*. 2. Held primarily for trading purposes. 3. No unconditional right to defer settlement for more than one year.
Noncurrent assets	1. Non-current assets are those assets that cannot be converted into cash or used up within *one year or one operating cycle (earlier of the two)*. 2. Non-current provides information about investing activities.
Noncurrent liabilities	1. Non-current liabilities are those liabilities that cannot be settled within *one year or operating cycle (earlier of the two)*. 2. Non-current liabilities provides information about long term financing activities.

Learning Outcome E	Describe different types of assets and liabilities and the measurement bases of each.

Current Assets

Cash & Cash Equivalents

1. Cash & Bank
2. Liquid Instruments
   a. Near maturity
   b. Interest rate risk is insignificant
   c. Valued at amortized cost or fair value

Marketable Securities

1. Financial Assets
2. ***Examples:*** Treasury bills, notes, bonds, and equity securities.

Accounts Receivable & Allowance for Bad Debt (Contra A/C)

1. Reported at NRV.
2. When receivables are written off, both accounts receivables & allowance for bad debts are written off.

Inventories (RM + WIP + FG)

1. Purchase Cost + Conversion Cost + Other Necessary Costs.
2. ***Exclude:*** Abnormal waste, Storage Cost*, Administrative O/H, Selling O/H.
3. **Standard Costing** (Sum of all Costs) v/s **Retail Method** (MRP – Gross Margin).
4. **Valuation under IFRS:** Cost or NRV (whichever is lower).
   Valuation under GAAP: Cost or Market (whichever is lower).

Other Current Assets

1. Prepaid expenses.
2. DTA (if, Taxes Payable > Income Tax Expense).

Current Liabilities	1. Accounts Payable. 2. Notes Payable & Current portion of long term debt. 3. Accrued Liabilities / Accrued Expenses / Outstanding Expenses. 4. Unearned Revenue / Advance from Customer. ***Note:*** *Unearned revenue doesn't require a future outflow, it may be an indication of future revenue growth.*
Non Current Assets	**Property, Plant, and Equipment (PP&E)** 1. Methods used for reporting: a. *Under IFRS*: Cost or Revaluation Method. b. *Under GAAP*: Only Cost Method is permitted. 2. All tangible assets (except land) are depreciated. **Intangible Assets** 1. **Finite Lived:** Amortized + Tested for Impairment at least annually. 2. **Infinite Lived:** Not amortized + Tested for Impairment at least annually. 3. **Internally Generated:** Research & Development. a. *Under GAAP*: R&D expenses are expensed. b. *Under IFRS*: Research – Expensed; Development – Capitalized. **Investment Property** 1. These properties generate rental income & capital appreciation. 2. Under IFRS, these are reported at **Cost** or **Fair Value Model**. **Financial Instruments** Financial instruments are reported at/through: 1. Amortized Cost. 2. Fair Value Model. a. FV through P/L. b. FV through O/C/I.
Non Current Liabilities	**Long-term Financial liabilities** 1. Loans (at face value/amortized cost). 2. Notes or Bonds Payable (at amortized cost). 3. Shorted Stocks & Derivatives (at fair value). **Deferred Tax Liabilities (DTL)** DTL is generated when Tax Payable < Income Tax Expense.

Learning Outcome F	**Describe the components of shareholders' equity.**

Owners' equity	Residual interest in the net assets.
Contributed capital	Paid-up capital.
Par value	Face Value (not fair value).
Additional paid-in capital	Securities Premium.
Authorized shares	No. of shares mentioned in AOA.
Issued shares	Total no. of shares issued & subscribed.

Outstanding shares	Issued Shares – Treasury Stock.
Preferred stocks	Preference shares.
Non-controlling interest (Minority interest)	Pro-rata share of the net assets (equity) of a subsidiary that is not wholly owned by the parent.
Retained earnings	Reserves & Surplus.
Treasury stock	1. Stocks reacquired but not cancelled. 2. Not entitled to dividends & voting rights.
Accumulated OCI	All changes in equity except for transactions: - Recorded in Income Statement. - Related to shareholders.
Statement of Δ in Equity	1. Reconciles opening equity with ending equity. 2. Encompasses all of the above elements.

Learning Outcome G	**Convert balance sheets to common-size balance sheets and interpret common-size balance sheets.**
Common-size Balance-sheet	1. Expresses each item of the balance sheet as a % of total assets. 2. Eliminates the effects of size. 3. Facilitates both time series and cross sectional analysis. 4. Can be used to examine firm's strategy.

Learning Outcome H	**Calculate and interpret liquidity and solvency ratios.**
Balance Sheet Ratios	1. Facilitates both time series and cross sectional analysis. 2. Types of Ratios: a. Solvency: Ability to meet short term obligations. b. Liquidity: Ability to meet long term obligations.
Liquidity ratios	1. Current Ratio = 2. Quick Ratio = 3. Cash Ratio =

Solvency ratios	1. Long-Term Debt to Equity = 2. Debt-Equity Ratio = 3. Total Debt Ratio = 4. Financial Leverage =
Limitations	1. Peer comparison may be difficult because of differences in accounting treatment. 2. Comparison across industries is not possible. 3. Judgmental & valid only the date of balance sheet.

READING

UNDERSTANDING CASH FLOW STATEMENTS

Learning Outcome	Compare cash flows from operating, investing, and financing activities and classify cash flow items as relating to one of those three categories given a description of the items.
A	

Sources	Items on the cash flow statement come from two sources: (1) Income statement items and (2) Changes in balance sheet accounts.
Cash flow from operating activities	Cash flow from operating activities (CFO) consists of the inflows and outflows of cash resulting from transactions that affect a firm's net income. **Inflows** 1. Cash collected from customers 2. Interest and dividends received 3. Sale proceeds from trading securities **Outflows:** 1. Cash paid to employees and suppliers 2. Cash paid for other expenses 3. Acquisition of trading securities 4. Interest paid 5. Taxes paid
Cash flow from investing activities	Cash flow from investing activities (CFI) consists of the inflows and outflows of cash resulting from the acquisition or disposal of long-term assets and certain investments. **Inflows:** 1. Sale proceeds from fixed assets 2. Sale proceeds from debt and equity investments 3. Principal received from loans made to others **Outflows:** 1. Acquisition of fixed assets 2. Acquisition of debt and equity investments 3. Loans made to others
Cash flow from financing activities	Cash flow from financing activities (CFF) consists of the inflows and outflows of cash resulting from transactions affecting a firm's capital structure. **Inflows:** 1. Principal amounts of debt issued 2. Proceeds from issuing stock **Outflows:** 1. Principal paid on debt 2. Payments to reacquire stock 3. Dividends paid to shareholders

IMPORTANT ITEMS:

Particulars	GAAP	IFRS
Dividend Received	CFO	CFO/CFI
Dividend Paid	CFF	CFO/CFF
Interest Received	CFO	CFO/CFI
Interest Paid	CFF	CFO/CFF
Taxes	CFO	CFO/CFI/CFF

Learning Outcome B	Describe how non-cash investing and financing activities are reported.

Investing Activity	**Example** Purchasing an asset by obtaining a loan from the seller. - Neither CFI/CFF is reported.
Financing Activity	**Example** Conversion of debt to equity. - No CFF is reported.

Note: These transactions are disclosed through ***footnotes or supplementary schedule*** to the Cash Flow Statement.

Learning Outcome C	Contrast cash flow statements prepared under International Financial Reporting Standards (IFRS) and US generally accepted accounting principles (US GAAP).

Learning Outcome D	Distinguish between the direct and indirect methods of presenting cash from operating activities and describe arguments in favor of each method.

Methods	1. Name of the Methods: Direct & Indirect. 2. Applicability: Both methods are applicable in both IFRS & GAAP. 3. Major Difference: CFO (CFI & CFF are actually same).
Direct Method	1. Converts accrual basis I/S into cash basis I/S. 2. Provides more information than indirect method. 3. Reconciliation from net profit to CFO required under GAAP but not under IFRS.
Indirect method	1. Starting point is net profit i.e. "bottom line". 2. Focuses on the link between I/S & CFO. 3. Most commonly followed.

Understanding Cash Flow Statements

Learning Outcome E	Describe how the cash flow statement is linked to the income statement and the balance sheet.

Learning Outcome F	Describe the steps in the preparation of direct and indirect cash flow statements, including how cash flows can be computed using income statement and balance sheet data.

Learning Outcome G	Convert cash flows from the indirect to direct method.

CALCULATION OF CFO UNDER DIRECT METHOD

Cash Collected from Customers (Numerical #1)		XXX
Less:	Cash Paid for Production Activities	XXX
Less:	Cash Operating Expenses (WN)	XXX
Less:	Interest Paid	XXX
Less:	Taxes Paid	XXX
CASH FLOW FROM OPERATIONS		**XXX**

Numerical #1 [Cash Collected from Debtors]

Opening Debtors	$ 10,000
Closing Debtors	$ 12,000
Credit Sales	$ 78,000

Calculate Cash Collected from Debtors.

CALCULATION OF CFO UNDER INDIRECT METHOD

NET INCOME (PAT)		XXX
Add:	Non-Cash Items (Depreciation)	XXX
Add:	Non-Operating Items (Loss on sale of assets)	XXX
Add:	Provisions (since, they are book entries)	XXX
Less:	Actual Expenses Related to Provisions	XXX
CFO (Before Working Capital Changes)		**XXX**
Add:	Decrease in Current Assets	XXX
Add:	Increase in Current Liabilities	XXX
Less:	Increase in Current Assets	XXX
Add:	Decrease in Current Liabilities	XXX
CFO (After Working Capital Changes)		**XXX**

Numerical #2 [Cash Paid to Suppliers]

Cost of Goods Sold	$ 75,000
Decrease in Inventory	$ 6,000
Increase in Accounts Payable	$ 2,000

Calculate Cash Paid to Suppliers.

HOW TO CALCULATE "CASH EXPENSES"?

Expenses reported in the Income Statement		XXX
Add:	Opening Outstanding	XXX
Less:	Closing Outstanding	XXX
Add:	Closing Prepaid	XXX
Less:	Opening Prepaid	XXX

Numerical #3 [Sale Proceeds of PP&E]

Change in PP&E	$ 5,000
Change in Accumulated Depreciation	$ 6,000
Other Information:	
1. Loss on Sale of PP&E	$ 2,000
2. Depreciation	$ 8,000
3. Fresh Acquisition of PP&E	$ 10,000

Learning Outcome H	Analyze and interpret both reported and common-size cash flow statements.

1. Identify & evaluate the sources of CFO, CFI & CFF.
2. It is important that the firm must be able to generate enough CFO that exceeds capital expenditure needs & also provide a return to debt & equity holders.
3. Sources of CFO must be sustainable.
   Example: Increasing CFO by decreasing current assets is not sustainable.
4. A stable relationship between CFO & NI indicates of good quality earnings.
5. CFO > CFI is a good sign!
6. Capital expenditures (CFI) is an indication of growth.
7. Common size CFS measures cash flows as a % of revenues, or
   Common size CFS may measures: Inflows as a % of total inflows.
   Outflows as a % of total outflows.

Learning Outcome I	Calculate and interpret free cash flow to the firm, free cash flow to equity, and performance and coverage cash flow ratios.

Free Cash Flow to the Firm (FCFF)	1. FCFF is the cash available to all investors i.e. both equity owners & debt owners. 2. FCFF = NI + NCC + Interest (1 – t) – FC_{Inv} – WC_{Inv} 3. FCFF = CFO + Interest (1 – t) – FC_{Inv}
Free Cash Flow to Equity (FCFE)	1. FCFE is the cash available to equity owners. 2. FCFE = NI + NCC – FC_{Inv} – WC_{Inv} + Net Borrowing 3. FCFE = CFO – FC_{Inv} + Net Borrowing

Performance Ratios	1. CF to Revenue = 2. Cash Return on Assets = 3. Cash Return on Equity = 4. Cash to Income = 5. Cash Flow per Share =
Coverage Ratios	1. Debt Coverage = 2. Interest Coverage = 3. Reinvestment Ratio = 4. Debt Repayment = 5. Dividend Payout = 6. Investing & Financing Ratio =

READING

FINANCIAL ANALYSIS TECHNIQUES

Learning Outcome A	Describe tools and techniques used in financial analysis, including their uses and limitations.

Ratios

1. **Introduction:**
   a. A ratio is an indicator that tells us what happened, but not why it happened.
   b. Ratios help in analyzing the current financial health of a company, evaluate its past performance, and provide insights for future projections.
   c. Calculating ratios is straightforward, but interpreting them is subjective.
2. **Uses of Ratio Analysis**: Ratios allow us to evaluate:
   a. operational efficiency.
   b. financial flexibility.
   c. changes in company/industry over time.
   d. company performance relative to industry
3. **Limitations of Ratio Analysis:**
   a. **Need to use judgement:** Interpretation of ratios involve subjective judgement
   b. **Use of alternate accounting methods:** Use of alternate accounting methods makes comparison of ratios difficult
   c. **Nature of a company's business:** It is difficult to compare ratios of companies from diverse industries
   d. **Consistency of results of ratio analysis:** Conclusion cannot be drawn by reviewing just one ratio, hence consistency in various ratios is required to reach a conclusion
4. **Types of Analysis:**
   a. **Time Series Analysis:** Time-series or trend analysis is the comparison of financial data across different time periods.
   b. **Cross Sectional Analysis:** Cross-sectional analysis involves the comparison of companies with each other for the same time period

Common-size analysis

1. **Common-Size Analysis of the Balance sheet**
   a. **Vertical common-size balance sheet:** A vertical common-size balance sheet is prepared by dividing each item on the balance sheet by the total assets.
   b. **Horizontal common-size balance sheet:** In a horizontal common-size balance sheet, each balance sheet item is shown in relation to the same item in a base year. An analysis of horizontal common-size balance sheets highlights structural changes that have occurred in a business i.e trends.
2. **Common-size analysis of the Income Statement:** A vertical common-size income statement divides each income statement element by revenue.

Graphs	Graphs are a pictorial representation of the analysis done, be it ratio analysis or trend analysis. Analysts use appropriate graphs such as line charts and bar graphs that helps in quick comparison of financial performance and structure over time.
Regression Analysis	Regression Analysis is a statistical method of analysing relationship (correlations) between variables

Practice Problems: Q1

Learning Outcome	Classify, calculate, and interpret activity, liquidity, solvency, profitability, and valuation ratios. Describe relationships among ratios and evaluate a company using ratio analysis.
B & C	

Activity Ratios	Activity ratios measure how efficiently a company manages its assets. They are also known as asset utilization ratios or operating efficiency ratios 1. **Inventory turnover** = Cost of Goods sold/Average Inventory 2. **Days of Inventory on hand** = Number of days in hand/Inventory Turnover 3. **Receivables Turnover** = Revenue/Average Receivables 4. **Days of sales outstanding** = Number of days in period/Receivables Turnover 5. **Payables Turnover** = Purchase/Average Trade Payable 6. **Number of days of payables** = Number of days in period/Payable Turnover 7. **Working capital Turnover** = Revenue/Average Working Capital 8. **Fixed Assets Turnover**= Revenue/ Average Net Fixed Assets 9. **Total Assets Turnover** = Revenue/Average Total Assets
Liquidity Ratios	Liquidity ratios measure a company's ability to meet short term obligations. 1. **Current Ratio** = Current Assets/Current Liabilities 2. **Quick Ratio** = (Cash + Marketable Securities + Receivables)/Current Liabilities 3. **Cash Ratio** = (Cash + Marketable Securities)/Current Liabilities 4. **Defensive interval ratio** = (Cash + Marketable Securities + Receivables)/Daily Cash Expenditure 5. **Cash conversion cycle (net operating cycle)** = Days of inventory on hand (DOH) + Days of sales outstanding (DSO) – Number of days of payables
Solvency Ratios	Solvency ratios measure a company's ability to meet long term obligations. It has to be analyzed within an industry's perspective 1. **Debt to assets ratio** = Total Debt/Total Assets 2. **Debt to capital ratio** = Total Debt/(Total Debt + Total shareholder's equity) 3. **Debt to equity ratio** = Total Debt/Total shareholder's equity 4. **Financial leverage ratio** = Average Total Assets/ Average Total Equity 5. **Interest coverage ratio (also called times internet earned)** = EBIT/Interest Payments 6. **Fixed charge coverage ratio** = (EBIT + Lease Payments)/(Interest Payments + Lease Payments)

Profitability Ratios	1. **Gross Profit Margin** = Gross Profit/Revenue 2. **Operating Profit Margin** = Operating Income/Revenue 3. **Pretax margin** = EBT/Revenue 4. **Net profit margin** = Net Profit/Revenue 5. **Operating ROA** = Operating Income/Average Total Assets 6. **Return on Assets (ROA)** = Net Income/Average Total Assets 7. **Return on total capital** = EBIT/(Debt + Equity) 8. **Return on Equity (ROE)** = Net Income/Equity 9. **Return on common equity** = (Net Income–Preferred dividends)/Average common equity

Practice Problems: Q2 to Q16

Learning Outcome D	**Demonstrate the application of DuPont analysis of return on equity and calculate and interpret effects of changes in its components.**
Traditional DuPont Equation	**ROE** = (Net Income/Sales) x (Sales/Assets) x (Assets/Equity) **ROE** = (Net Profit Margin) x (Asset turnover) x (leverage Ratio)
Extended DuPont Equation	**ROE** = (Net Income/EBT) x (EBT/EBIT) x (EBIT/Revenue) x (Revenue/Total Assets) x (Total Assets/Total Equity) **ROE** = (tax burden) x (Interest burden) x (EBIT margin) x (asset turnover) x (financial leverage)

Practice Problems: Q17, Q18 & Q19

Learning Outcome E	**Calculate and interpret ratios used in equity analysis and credit analysis.**
Equity Analysis	1. **Introduction:** An equity analyst uses various tools (such as valuation ratios) before recommending a security to be included in an equity portfolio. The valuation process consists of the following steps: a. Understanding the company's business and existing financial profile. b. Forecasting company's performance such as revenue projections. c. Selecting the appropriate valuation model. d. Converting forecasts to a valuation. e. Making the investment decision to buy or not to buy. 2. **Use of Valuation Ratios:** a. **P/E** = Price per share/Earning per share b. **P/CF** = Price per share/Cash flow per share c. **P/S** = Price per share/Sales per share d. **P/BV** = Price per share/Book Value per share e. **Dividend payout ratio** = Dividends/Earnings f. **Retention rate** = 1 – payout rate g. **Sustainable growth rate** = Retention rate x ROE

	3. **Use of Industry specific Ratios:** a. Net income per employee and sales per employee are used in the analysis and valuation of service and consulting companies. b. Growth in same-store sales is used in the restaurant and retail industries to indicate growth without the effects of new locations that have been opened. c. Sales per square foot is another metric commonly used in the retail industry.
Credit Analysis	1. **Introduction:** Credit risk is the risk that the borrower will default on a payment when it is due. Credit analysis is the evaluation of this credit risk. Post credit analysis, credit ratings are issued to issuers & issues. Credit ratings are based on a combination of qualitative and quantitative factors. Qualitative factors include an industry's growth prospects, volatility, technological change, competitive environment, operational effectiveness, strategy, governance, financial policies, risk management practices, and risk tolerance. Quantitative factors include profitability, leverage, cash flow adequacy, and liquidity. 2. **Credit Analysis Ratios:** a. **EBITDA interest coverage** = EBITDA/Gross Interest Gross Interest include non-cash interest on conventional debt instruments b. **FFO (Funds from operations) to debt** = FFO/Total Debt c. **Free operating cash flow to debt** = CFO (adjusted) minus capital expenditures /Total debt d. **EBIT margin** = EBIT/Total revenue e. **EBITDA margin** = EBITDA/Total revenue f. **Debt to EBITDA** = Total debt/EBITDA g. **Return on capital** = EBIT/Average beginning - of- year and end-of-year capital

Practice Problems: Q20, Q21

Learning Outcome F	**Explain the requirements for segment reporting and calculate and interpret segment ratios.**
Business and Geographical Segments	A business or geographic segment is a portion of a company that has risk and return characteristics distinct from the rest of the company and accounts for more than 10% of the company's sales or assets. Companies are required to report some items for significant segments separately. Ratios can be computed for business segments to evaluate how units within a business are performing. Some of the key segment ratios are a. **Segment margin** = Segment Profit/Segment Revenue b. **Segment turnover** = Segment Revenue/Segment Assets c. **Segment ROA** = Segment Profit/Segment Assets d. **Segment debt ratio** = Segment Liabilities/Segment Assets

Learning Outcome G	Describe how ratio analysis and other techniques can be used to model and forecast earnings.
Model Building for forecasts	Analysts use several methods to forecast future performance. One commonly used method is to project sales and to combine the forecasted sales numbers with expected values for key ratios. This method is particularly useful for mature companies with stable margins.
Other techniques	Besides ratio analysis, techniques such as sensitivity analysis, scenario analysis, and simulations are often used as part of the forecasting process. **1.** Scenario analysis shows a range of possible outcomes as specific assumptions or input variables are changed. **2.** With scenario analysis, a number of different scenarios are defined and outcomes are estimated for each outcome. **3.** Simulations involve the use of computer models and input variables which are based on a pre-defined probability distribution.

Practice Problems: Q22

READING

INVENTORIES

Learning Outcome A	Distinguish between costs included in inventories and costs recognised as expenses in the period in which they are incurred.
Product costs	The costs included in inventory are similar under IFRS and U.S. GAAP. These costs, known as **product costs**, are capitalized in the Inventories account on the balance sheet and include: 1. Purchase cost less trade discounts and rebates. 2. Conversion (manufacturing) costs including labour and overhead. 3. Other costs necessary to bring the inventory to its present location and condition. By capitalizing inventory cost as an asset, expense recognition is delayed until the inventory is sold and revenue is recognized.
Period costs	Some costs are expensed in the period incurred. These costs, known as **period costs**, include: 1. Abnormal waste of materials, labor, or overhead. 2. Storage costs (unless required as part of production). 3. Administrative overhead. 4. Selling costs.

Learning Outcome B	Describe different inventory valuation methods (cost formulas).
Cost flow assumption or formula	Firms must select a cost flow method (known as the *cost flow assumption* under U.S. GAAP and *cost flow formula* under IFRS) to allocate the inventory cost to the income statement (COGS) and the balance sheet (ending inventory). Under IFRS, the permissible methods are: 1. Specific identification. 2. First-in, first-out. 3. Weighted average cost. U.S. GAAP permits these same cost flow methods, as well as the last-in, first-out (LIFO) method. LIFO is not allowed under IFRS. A firm can use one or more of the inventory cost flow methods. However, the firm must employ the same cost flow method for inventories of similar nature and use.
Specific identification	Specific identification is used when: 1. Items are unique in nature and not interchangeable. 2. Cost of inventory is high. 3. Every item in the inventory can be tracked individually. Here, items are shown on the balance sheet at their actual costs. ***Examples:*** Jewellery, highly valued art pieces, used cars, etc.

FIFO	1. Under the **first-in, first-out** (FIFO) method, the first item purchased is assumed to be the first item sold. 2. The advantage of FIFO is that ending inventory is valued based on the most recent purchases, arguably the best approximation of current cost. Conversely, FIFO COGS is based on the earliest purchase costs. 3. In an inflationary environment, COGS will be understated compared to current cost. As a result, earnings will be overstated.
LIFO	1. Under the **last-in, first-out** (LIFO) method, the item purchased most recently is assumed to be the first item sold. 2. In an inflationary environment, LIFO COGS will be higher than FIFO COGS, and earnings will be lower. Lower earnings translate into lower income taxes, which increase cash flow. 3. Under LIFO, ending inventory on the balance sheet is valued using the earliest costs. 4. In an inflationary environment, LIFO ending inventory is less than current cost.
WAC	1. Under **Weighted Average Cost (WAC)** the average cost per unit of inventory is computed by dividing the total cost of goods available for sale (beginning inventory + purchases) by the total quantity available for sale. 2. To compute COGS, the average cost per unit is multiplied by the number of units sold. Similarly, to compute ending inventory, the average cost per unit is multiplied by the number of units that remain. 3. During inflationary or deflationary periods, the weighted average cost method will produce an inventory value between those produced by FIFO and LIFO.

Learning Outcome C	**Calculate and compare cost of sales, gross profit, and ending inventory using different inventory valuation methods and using perpetual and periodic inventory systems.**
Periodic accounting system	In a **periodic inventory system**, inventory values and COGS are determined at the end of the accounting period. No detailed records of inventory are maintained; rather, inventory acquired during the period is reported in a Purchases account. At the end of the period, purchases are added to beginning inventory to arrive at cost of goods available for sale. To calculate COGS, ending inventory is subtracted from goods available for sale.
Perpetual inventory system	In a **perpetual inventory system**, inventory values and COGS are updated continuously. Inventory purchased and sold is recorded directly in inventory when the transactions occur. Thus, a Purchases account is not necessary.
Conclusion	For the FIFO and specific identification methods, ending inventory values and COGS are the same whether a periodic or perpetual system is used. However, periodic and perpetual inventory systems can produce different values for inventory and COGS under the LIFO and weighted average cost methods.

Learning Outcome D	Calculate and explain how inflation and deflation of inventory costs affect the financial statements and ratios of companies that use different inventory valuation methods.

Summary

Particulars	LIFO	FIFO
COGS	Higher	Lower
Income before taxes	Lower	Higher
Income taxes	Lower	Higher
Gross profit & net income	Lower	Higher
Total cash flow	Higher	Lower
Ending Inventory	Lower	Higher
Working capital	Lower	Higher

Learning Outcome E & F	Explain LIFO reserve and LIFO liquidation and their effects on financial statements and ratios. Convert a company's reported financial statements from LIFO to FIFO for purposes of comparison.

Warm up	These four relations hold when prices have been rising over the relevant period: 1. LIFO inventory < FIFO inventory. 2. LIFO COGS > FIFO COGS. 3. LIFO net income < FIFO net income. 4. LIFO tax < FIFO tax.
LIFO Reserve	Firms that report under LIFO must also report a **LIFO reserve**, the amount by which LIFO inventory is less than FIFO inventory. To make financial statements prepared under LIFO comparable to those of FIFO firms, an analyst must: 1. Add the LIFO reserve to LIFO inventory on the balance sheet. 2. Increase the retained earnings component of shareholders' equity by the LIFO reserve. **Note: Impact of taxes** When prices are increasing, a LIFO firm will pay less in taxes than it would pay under FIFO. For this reason, analysts often decrease a LIFO firm's cash by the tax rate times the LIFO reserve and increase its retained earnings by the LIFO reserve times (1 – tax rate) instead of the full LIFO reserve.
Reconciling inventory	Closing LIFO Inventory + Closing LIFO Reserve = Closing FIFO Inventory
Reconciling COGS	FIFO COGS = LIFO COGS – (ending LIFO reserve – beginning LIFO reserve)
EFFECT OF RATIOS	
Profitability	As compared to FIFO, LIFO produces higher COGS in the income statement and results in lower earnings. Any profitability measure that includes COGS will be higher under FIFO. For example, reducing COGS will result in higher gross, operating, and net profit margins as compared to LIFO.
Liquidity	Compared to FIFO, LIFO results in a lower inventory value on the balance sheet. Because inventory (a current asset) is higher under FIFO, the current ratio, a popular measure of liquidity, is also higher under FIFO. Working

	capital is higher under FIFO as well, because current assets are higher. The quick ratio is unaffected by the firm's inventory cost flow method because inventory is excluded from its numerator.
Activity	Inventory turnover (COGS / average inventory) is higher for firms that use LIFO compared to firms that use FIFO. Under LIFO, COGS is valued at more recent, higher costs (higher numerator), while inventory is valued at older, lower costs (lower denominator). Adjusting to FIFO values will result in lower turnover and higher days of inventory on hand (365 / inventory turnover).
Solvency	Adjusting to FIFO results in higher total assets because inventory is higher. Higher total assets under FIFO result in higher stockholders' equity (assets – liabilities). Because total assets and stockholders' equity are higher under FIFO, the debt ratio and the debt-to-equity ratio are lower under FIFO compared to LIFO.
Important Formulae to Remember	1. FIFO Inventory = LIFO Inventory + LIFO reserve 2. FIFO COGS = LIFO COGS – (End LIFO Reserve – Bgn LIFO Reserve) (The adjusted COGS is also impacted by Inventory Write-Downs) 3. FIFO NI = LIFO NI + Change in LIFO Reserve (1 – T) 4. FIFO Retained Earnings = LIFO Retained Earnings + LIFO Reserve (1 – T)

LIFO LIQUIDATION

In periods of rising inventory, the carrying amount of inventory under FIFO will exceed the carrying amount of inventory under LIFO. LIFO reserve is equal to the difference between LIFO inventory and FIFO inventory. LIFO reserve may increase for two reasons:

1. The number of inventory units manufactured or purchased exceeds the number of units sold.
2. Increasing difference between the older costs used to value inventory under LIFO and the more recent costs used to value inventory under FIFO.

If a firm is liquidating its inventory or if the prices are declining, the LIFO reserve will decline.

When the number of units sold in a period exceeds the number of units purchased or manufactured, it is called **LIFO liquidation**. In LIFO liquidation, the costs from older LIFO layers will flow to COGS and it can be used by the management to manipulate earnings and margins. The gross profits increase because the older inventory carrying amounts are used for COGS while sales are at current prices. An increase in gross profit accompanied by a decrease in LIFO reserve must be used as a warning sign. LIFO liquidation occurs for a number of reasons such as labour strikes, to reduce inventory during an economic recession when demand is low, and earnings manipulation.

The consequences of LIFO liquidation are as follows:

1. COGS does not reflect recent costs during periods of rising prices.
2. Overstates net income.
3. Higher taxable income and higher tax payments.
4. Positive cash flow.

Analysts must make the following adjustments to account for LIFO liquidation:

1. Net income must be lowered.
2. COGS must be adjusted to reflect current prices for the replaced units.

Learning Outcome G	Describe the measurement of inventory at the lower of cost and net realisable value.

Inventory Method Changes

1. Companies occasionally change their inventory valuation method. The change is acceptable if it results in the financial statements providing reliable and more relevant information.
2. If the change is justified, then it must be applied retrospectively.
3. Analysts must carefully analyse why a company is actually changing the inventory valuation method. Often, the company might be trying to reduce taxes or increase reported net income.

Inventory Adjustments

Basic Definitions:

1. **Net Realizable Value = Est. Sales Price – Est. Selling Costs**
   NRV is from a seller's perspective.
2. **Market Value Limits = (NRV – Normal Profit Margin, NRV)**
   Market value has upper limit of net realizable value and lower limit of NRV less a normal profit margin. Market value is from a buyer's perspective.

Inventory Measurement under IFRS

1. Inventory should be valued at lower of cost or net realizable value.
2. If NRV is less than the balance sheet cost, the inventory is "written down" to NRV. The loss in value is reflected in the income statement in cost of goods sold. Inventory write-down has a negative effect on profitability, liquidity and solvency ratios and positive effect on activity ratios.
3. If value recovers subsequently, inventory can be written up and gain is recognized in income statement. The amount of gain is limited to loss previously recognized.
4. Commodities and agricultural goods prices can be reported above historical cost.

Inventory Measurement under US GAAP

1. Inventory should be valued at lower of cost or market.
2. If cost exceeds market, inventory is written down to market value on balance sheet and the loss is recognized.
3. If value recovers subsequently, no write up is allowed. There is no reversal of write-downs. This may motivate companies not to record inventory-write-downs unless the decline is permanent as it affects profitability ratios.
4. Commodities and agricultural goods prices can be reported above historical cost.

Effect of Inventory Write Down on Various Ratios

1. **Liquidity Ratio:** Current Ratio ↓
2. **Activity Ratio:** Inventory Turnover ↑; Days of Inventory ↓
3. **Profitability Ratios:** NP Margin ↓; GP Margin ↓

Note: Companies that use weighted average, specific identification and FIFO are more likely to have inventory write-downs than companies using the LIFO method.

Learning Outcome H	Describe implications of valuing inventory at net realisable value for financial statements and ratios.

A write down of inventory to net realizable value affects the financial statements and ratios in several ways. Assuming the write down is reported as part of the cost of sales, these effects in the period of the write down include:

1. As inventory is part of current assets, an inventory write down decreases both current and total assets.
2. Current ratio (CA/CL) decreases. However, the quick ratio is unaffected because inventories are not included in the numerator of the quick ratio.
3. Inventory turnover (COGS/average inventory) is increased, which decreases days' inventory in hand and the cash conversion cycle.
4. The decrease in total assets increases total asset turnover and increases the debt-to-assets ratio.
5. Equity is decreased, increasing the debt-to-equity ratio.
6. The increase in COGS reduces gross margin, operating margin, and net margin.
7. The percentage decrease in net income can be expected to be greater than the percentage decrease assets or equity. As a result, both ROA and ROE are decreased.

For periods subsequent to a write down of inventory to net realizable value, COGS may be decreased by lower inventory carrying values, which will increase profitability. Together with the decreases in assets and equity from the prior-period write down, an increase in net income from decreased COGS will increase reported ROA and ROE in subsequent periods.

Learning Outcome I	Describe the financial statement presentation of and disclosures relating to inventories.

Inventory disclosure

Inventory disclosures, usually found in the financial statement footnotes, are useful in evaluating the firm's inventory management. The disclosures are also useful in making adjustments to facilitate comparisons with other firms in the industry.

Required inventory disclosures are similar under U.S. GAAP and IFRS and include:

1. The cost flow method (LIFO, FIFO, etc.) used.
2. Total carrying value of inventory, with carrying value by classification (raw materials, work-in-process, and finished goods) if appropriate.
3. Carrying value of inventories reported at fair value less selling costs.
4. The cost of inventory recognized as an expense (COGS) during the period.
5. Amount of inventory write downs during the period.
6. Reversals of inventory writedowns during the period, including a discussion of the circumstances of reversal (IFRS only because U.S. GAAP does not allow reversals).
7. Carrying value of inventories pledged as collateral.

Inventory changes	Although rare, a firm can change inventory cost flow methods. In most cases, the change is made retrospectively; that is, the prior years' financial statements are recast based on the new cost flow method. The cumulative effect of the change is reported as an adjustment to the beginning retained earnings of the earliest year presented. Under IFRS, the firm must demonstrate that the change will provide reliable and more relevant information. Under U.S. GAAP, the firm must explain why the change in cost flow method is preferable. An exception to retrospective application applies when a firm changes *to LIFO* from another cost flow method. In this case, the change is applied prospectively; no adjustments are made to the prior periods. With prospective application, the carrying value of inventory under the old method simply becomes the first layer of inventory under LIFO in the period of the change.

Learning Outcome J	**Explain issues that analysts should consider when examining a company's inventory disclosures and other sources of information.**

Merchandising firms, such as wholesalers and retailers, purchase inventory that is ready for sale. In this case, inventory is reported in one account on the balance sheet. On the other hand, manufacturing firms normally report inventory using three separate accounts: raw materials, work-in-process, and finished goods. Analysts can use these disclosures, along with other sources of information such as Management's Discussion and Analysis, economic data specific to the industry, industry trade publications, and other sections of the firm's financial reports, as a signal of a firm's future revenues and earnings.

For example, an increase in raw materials and/or work-in-process inventory may be an indication of an expected increase in demand. Higher demand should result in higher revenues and earnings. Conversely, an increase in finished goods inventory, while raw materials and work-in-process are decreasing, may be an indication of decreasing demand and potential inventory write downs in the future.

Analysts should also examine the relationship between sales and finished goods. Finished goods inventory growing faster than sales may indicate declining demand and excessive or potentially obsolete inventory. Obsolete inventory will result in lower earnings in the future when the inventory is written down. In addition, too much inventory is costly as the firm may incur storage costs, insurance premiums, and inventory taxes. Too much inventory uses cash that might be more efficiently used somewhere else.

The inventory turnover ratio measures how quickly a firm is selling its inventory. Generally, high inventory turnover (low days of inventory on hand) is desirable. However, inventory turnover can be too high. A firm with an inventory turnover ratio that is too high may not be carrying enough inventory to satisfy customers' needs, which can cause the firm to lose sales. High inventory turnover may also indicate that inventory write downs have occurred. Write downs are usually the result of poor inventory management.

To further assess the explanation for high inventory turnover, we can look at inventory turnover relative to sales growth within the firm and industry. High turnover with slower growth may be an indication of inadequate inventory quantities. Alternatively, sales growth at or above the industry average supports the conclusion that high inventory turnover reflects greater efficiency.

Learning Outcome	Calculate and compare ratios of companies, including companies that use different inventory methods.
K&L	Analyse and compare the financial statements of companies, including companies that use different inventory methods.

Effect on Ratios	Inventory turnover, days of inventory on hand, and gross profit margin can be used to evaluate the quality of a firm's inventory management. 1. Inventory turnover that is too low (high days of inventory on hand) may be an indication of slow-moving or obsolete inventory. 2. High inventory turnover together with low sales growth relative to the industry may indicate inadequate inventory levels and lost sales because customer orders could not be fulfilled. 3. High inventory turnover together with high sales growth relative to the industry average suggests that high inventory turnover reflects greater efficiency rather than inadequate inventory.
Comparison	Comparison of company financial statements may require statements to be adjusted to reflect the same inventory costing methods for both firms, or for the subject firm and any industry or peer group of firms used for comparison.

READING 26

LONG-LIVED ASSETS

Learning Outcome A	Distinguish between costs that are capitalised and costs that are expensed in the period in which they are incurred.

Capitalized Costs

1. If an item is expected to provide benefits to the company for a period longer than one year; its cost is capitalized.
2. Once an asset is capitalized, subsequent related expenditure that provide future economic benefits (ex: rebuilding an asset) are also capitalized.
3. **Examples of Capitalized Costs**
   a. Purchase price
   b. Delivery charges
   c. Installation charges
   d. Any cost that enhances performance
4. **Effects of capitalized cost at the time of the initial entry**
   a. Non-Current Assets ↑
   b. Cash Flow from Investing ↓
5. **Effects of capitalized cost at the subsequent periods**
   a. Non-Current Assets ↓ (because of depreciation)
   b. Net Income ↓; Retained Earnings ↓; Equity ↓

Expensed Costs

1. If an item is only expected to provide economic benefits in the current period, its cost is expensed in the income statement.
2. An item is also expensed if the flow of future economic benefit from it is unlikely or uncertain.
3. Effects of Expensed Costs
   a. Net Income ↓ [by the amount of Expensed Cost (1 – t)]
   b. No asset is recorded, no subsequent depreciation is recorded
   c. CFO ↓

Capitalized Interest

1. Companies must capitalize interest costs associated with financing the acquisition or construction of the asset that requires a long period of time to get ready for its intended use.
2. Capitalized interest is subsequently expensed in the income statement through depreciation expense (if the amount is held for use) or COGS (if the asset is held for sale).

Capitalized interest v/s Interest expense

Particulars	Capitalized Interest	Interest Expense
Initially recorded in	Balance Sheet	Income Statement
Cash Flow	CFI	CFO/CFF
Whether considered while calculating interest coverage ratio?	Yes	Yes

Learning Outcome B	Compare the financial reporting of the following types of intangible assets: purchased, internally developed, acquired in a business combination.

Intangible Assets

1. Intangible assets lack physical substance and include items that involve exclusive rights such as patents, copyrights, and trademarks.
2. Finite lived intangibles are amortized over their useful life.
3. Infinite lived intangibles are not amortized by tested for impairment annually. If impaired, assets value is reduced and a loss is recognized on the income statement.

Unidentifiable Intangible Assets

1. An unidentifiable asset is one that cannot be purchased separately and may have indefinite life.
2. **Example:** Purchased Goodwill.

Identifiable Intangible Assets

Identifiable intangible assets must meet the following two criteria:

Definition Criteria

1. It must be identifiable i.e. either be separable from the entity or must arise from legal rights.
2. It should be controlled by the firm.
3. It should be expected to provide future economic benefits.

Recognition Criteria

1. Expected future economic benefits must be probable.
2. The cost of the asset should be reliably measurable.

Research & Development Cost

Particulars	IFRS	US GAAP
Research Cost	Expensed	Expensed
Development Cost	Capitalized	Expensed
Software Creation Cost		
- If feasibility is established	Capitalized	Capitalized
- If feasibility is not established	Expensed	Expensed

Goodwill

1. Goodwill created by the use of acquisition method in a business combination is capitalized.
   Goodwill = Purchase Consideration – Fair Value of Net Assets Acquired.
2. Internally generated goodwill is expensed.

Learning Outcome C	Explain and evaluate how capitalising versus expensing costs in the period in which they are incurred affects financial statements and ratios.

Particulars	Capitalizing	Expensing
Total assets	Higher	Lower
Shareholders' equity	Higher	Lower
Income variability	Lower	Higher
Net income (first year)	Higher	Lower
Net income (subsequent years)	Lower	Higher
Cash flow from operations	Higher	Lower
Cash flow from investing	Lower	Higher
Debt ratio & Debt-to-equity	Lower	Higher
Interest coverage (first year)	Higher	Lower
Interest coverage (subsequent years)	Lower	Higher

Learning Outcome	Describe the different depreciation methods for property, plant, and equipment and calculate depreciation expense.
D & E	Describe how the choice of depreciation method and assumptions concerning useful life and residual value affect depreciation expense, financial statements, and ratios.

Straight Line Method (SLM)

$$\text{Depreciation} = \frac{\text{Original Cost} - \text{Estimated Salvage Value}}{\text{Depreciable Life}}$$

Accelerated Depreciation

1. Accelerated depreciation is essentially the WDV method.
2. Depreciation = Depreciation % x Opening Carrying Value of the Asset.
3. Under this method, more depreciation is charged in the first few years and lower depreciation is charged in the later years.

Double Declining Method

1. Depreciation = 2/N x Opening Carrying Value of the Asset.
2. Once the asset value reaches its salvage value, no additional depreciation is charged.

Unit of Production Method

This method is applied to natural resources by the name of depletion method.

$$\text{Depreciation} = \text{Output units in the period} \times \frac{\text{Original Cost} - \text{Est. Salvage}}{\text{Life in Output Units}}$$

Component Depreciation

1. Allowed in IFRS & GAAP but seldom used in GAAP.
2. Firms are required to depreciate the components of an asset separately, thereby requiring useful life estimate for each component.

SLM v/s Accelerated Depreciation Method

Particulars	SLM	Acc. Dep.
Depreciation	Lower	Higher
Net Income	Higher	Lower
Total Assets	Higher	Lower
Shareholder's Equity	Higher	Lower
ROA	Higher	Lower
ROE	Higher	Lower
Asset Turnover Ratio	Lower	Higher
Cash Flow	Same	Same

Effects of Assumptions

1. Estimated Useful Life ↑; Depreciation ↓; Net Income ↑
2. Estimated Salvage ↑; Depreciation ↓; Net Income ↑

Note: These changes are changes in accounting estimates and are put into effect in the current period and prospectively.

Depreciation for a manufacturing firm

The allocation of depreciation between COGS and SG&A by the manufacturing firm does not affect a firm's operating margin but affects the firm's gross margin & operating expenses.

Learning Outcome	Describe the different amortisation methods for intangible assets with finite lives and calculate amortisation expense.
F & G	Describe how the choice of amortisation method and assumptions concerning useful life and residual value affect amortisation expense, financial statements, and ratios.

Skipped (Not needed).

Learning Outcome	Describe the revaluation model.
H	

Revaluation Method	1. IFRS allows revaluation method that permits a long lived asset to be reported to its fair value, as long as an active market exists for the asset so its fair value can be reliably estimated. 2. If revaluation method is used, all assets in a particular class must be revalued.
Revaluation v/s Cost Method	Revaluation method allows for the reported value of the asset to be higher than its historical cost. Cost model, on the other hand, doesn't allow reported value of an asset to exceed its historical cost.
Treatment	1. **Revaluation Surplus:** Adjusted directly to equity. 2. **Revaluation Loss:** Recognized as a loss in the income statement. 3. **Reversal of Revaluation Surplus:** Adjusted from equity. 4. **Reversal of Revaluation Loss:** Recognised as gain in the I/S.

Illustration #1 Purchase price of an Asset: $ 10,000 At t = 1; Fair Value: $ 8,000 At t = 2; Fair Value: $ 15,000	**Solution** At t = 1, Loss in I/S = $ 2,000 At t = 2, Gain in I/S = $ 2,000 Increase in Equity = $ 5,000
Illustration #2 Purchase price of an Asset: $ 5,000 At t = 1; Fair Value: $ 7,700 At t = 2; Fair Value: $ 2,400	**Solution** At t = 1, Revaluation Surplus → Equity = $ 2,700 At t = 2, Revaluation Surplus Reversed = $ 2,700 Loss in I/S = $ 2,600

Learning Outcome	Explain the impairment of property, plant, and equipment and intangible assets.
I	

Impairment under IFRS	1. An asset is impaired when it's carrying value > recoverable amount. 2. Recoverable amount is greater of the following: 3. If impaired, Impairment Loss = Carrying value – Recoverable amount. 4. Impairment loss is recognised in the income statement. 5. Reversal of impairment is possible subject to the limit of original impairment loss.

Impairment under GAAP	1. An asset is considered impaired if carrying value > future undiscounted cash flow stream. 2. If impaired, impairment loss = Carrying value – Fair value (PV of future cash flows), and is recognised in the income statement. 3. Reversal of impairment is not allowed.
Special Notes	1. Indefinite lived intangible assets are not amortized but tested for impairment at least annually. Impairment loss = CV – FV. 2. Held for sale assets are impaired if its Carrying value > NRV. Impairment loss = CV – NRV, recognised in income statement. Reversal of impairment loss is allowed under both IFRS & US GAAP but the loss reversal is limited to the original impairment loss.

Learning Outcome J	Explain the de-recognition of property, plant, and equipment and intangible assets

Derecognition (sale)	1. Asset is removed from the balance sheet. 2. Gain/Loss recorded in the Income Statement = Sale proceeds – CV.
Derecognition (exchange)	1. Asset is removed & another one is recorded in the balance sheet. 2. Gain/Loss = FV of new assets – CV of the old assets.
Derecognition (abandonment)	1. Asset is removed from the balance sheet. 2. Loss is recorded in the I/S = CV of asset abandonment.

Learning Outcome K	Explain and evaluate how impairment, revaluation, and de-recognition of property, plant, and equipment and intangible assets affect financial statements and ratios.

Impact of Impairment	1. In the year of impairment a. Net Income ↓; Assets ↓; Equity ↓ b. ROA ↓; ROE ↓ 2. In the subsequent years a. Net Income ↑ (because of lower depreciation) b. ROA ↑; ROE ↑ c. Asset Turnover Ratio ↑ d. Cash flow is not impacted (because taxable income is not reduced).
Impact of Upward Revaluation	1. Total Assets ↑; Shareholder's Equity ↑ 2. Debt Ratio ↓; Debt/Equity Ratio ↓ 3. Depreciation ↑; Profitability ↓ 4. ROA ↓; ROE ↓

Learning Outcome L	Describe the financial statement presentation of and disclosures relating to property, plant, and equipment and intangible assets.

There are many differences in the disclosure requirements for tangible and intangible assets under IFRS and U.S. GAAP. However, firms are generally required to disclose:

1. Carrying values for each class of asset.
2. Accumulated depreciation and amortization.
3. Title restrictions and assets pledged as collateral.
4. For impaired assets, the loss amount and the circumstances that caused the loss.
5. For revalued assets (IFRS only), the revaluation date, how fair value was determined, and the carrying value using the historical cost model.

Learning Outcome M	Analyze and interpret financial statement disclosures regarding property, plant, and equipment and intangible assets.

$$\text{Total Useful Life} = \frac{\text{Historical Cost}}{\text{Annual Depreciation}}$$

$$\text{Remaining Useful Life} = \frac{\text{Ending Net PP\&E}}{\text{Annual Depreciation}}$$

$$\text{Average Age} = \frac{\text{Accumulated Depreciation}}{\text{Annual Depreciation Expense}}$$

Learning Outcome N	Compare the financial reporting of investment property with that of property, plant, and equipment.

Meaning of Investment Property	1. **Under IFRS:** Property that a firm owns for the purpose of collecting rental income, earning capital appreciation or both. 2. **Under GAAP:** No specific definition.
Treatment	IFRS allowed both cost model & fair value model. However, fair value surplus should be recognised as a gain on the income statement.
Disclosure	1. Firms that use fair value model must state how they determine the fair value of the investment property & reconcile its beginning & ending value. 2. Firms that use the cost model must disclose the fair value of their investment property, along with the disclosures that are required for other types of long lived assets.
Transfer to or from Investment Property	1. **Owner Occupied to Investment Property** Treat as revaluation; recognise gain only if loss reversal is over. 2. **Inventory to Investment Property** P/L should be recognised if FV is different from carrying value. 3. **Investment Property to Owner Occupied Property or Inventory** FV on the date of transfer will be its cost under new classification.

READING

INCOME TAXES

Learning Outcome	Describe the differences between accounting profit and taxable income and define key terms, including deferred tax assets, deferred tax liabilities, valuation allowance, taxes payable, and income tax expense.
A	

Financial accounting standards (IFRS and U.S. GAAP) are often different than income tax laws and regulations. As a result, the amount of income tax expense recognized in the income statement may differ from the actual taxes owed to the taxing authorities.

Tax Return Terminology

1. **Taxable income:** Income subject to tax based on the tax return.
2. **Taxes payable:** The tax liability caused by taxable income. This is also known as current tax expense, but do not confuse this with income tax expense (see below).
3. **Income tax paid**: The actual cash flow for income taxes including payments or refunds from other years.
4. **Tax loss carry forward:** A current or past loss that can be used to reduce taxable income (thus, taxes payable) in the future. Can result in a deferred tax asset.
5. **Tax base:** Net amount of an asset or liability used for tax reporting purposes

Financial Reporting Terminology

1. **Accounting profit:** Pretax financial income based on financial accounting standards. Also known as income before tax and earnings before tax.
2. **Income tax expense:** Expense recognized in the income statement that includes taxes payable and *changes* in deferred tax assets and liabilities (DTA and DTL). The income tax expense equation is:

Income Tax Expense = Taxes payable + ΔDTL – ΔDTA

3. **Deferred tax liabilities**: Balance sheet amounts that result from an excess of income tax expense over taxes payable that are expected to result in future cash outflows.
4. **Deferred tax assets:** Balance sheet amounts that result from an excess of taxes payable over income tax expense that are expected to be recovered from future operations. Can also result from tax loss carry forward.
5. **Valuation allowance:** Reduction of deferred tax assets based on the likelihood the assets will not be realized.
6. **Carrying value:** Net balance sheet value of an asset or liability.
7. **Permanent difference:** A difference between taxable income (tax return) and pretax income (income statement) that will not reverse in the future.
8. **Temporary difference:** A difference between the tax base and the carrying value of an asset or liability that will result in either taxable amounts or deductible amounts in the future. Several examples of how temporary differences arise are presented later in this review.

Learning Outcome	Explain how deferred tax liabilities and assets are created and the factors that determine how a company's deferred tax liabilities and assets should be treated for the purposes of financial analysis.
B	

Tax Reporting VS Financial Reporting	Differences between the treatment of an accounting item for tax reporting and for financial reporting can occur when: 1. The timing of revenue and expense recognition in the income statement and the tax return differ. 2. Certain revenues and expenses are recognized in the income statement but never on the tax return or vice-versa. 3. Assets and/or liabilities have different carrying amounts and tax bases. 4. Gain or loss recognition in the income statement differs from the tax return. 5. Tax losses from prior periods may offset future taxable income. 6. Financial statement adjustments may not affect the tax return or may be recognized in different periods.
Deferred Tax Liabilities	A deferred tax liability is created when income tax expense (income statement) is greater than taxes payable (tax return) due to temporary differences. Deferred tax liabilities occur when: 1. Revenues (or gains) are recognized in the income statement before they are included on the tax return due to temporary differences. 2. Expenses (or losses) are tax deductible before they are recognized in the income statement. Deferred tax liabilities are expected to reverse (i.e., they are caused by temporary differences) and result in future cash outflows when the taxes are paid. A deferred tax liability is most often created when an accelerated depreciation method is used on the tax return and straight-line depreciation is used on the income statement.
Deferred Tax Assets	A deferred tax asset is created when taxes payable (tax return) are greater than income tax expense (income statement) due to temporary differences. Deferred tax assets occur when: 1. Revenues (or gains) are taxable before they are recognized in the income statement. 2. Expenses (or losses) are recognized in the income statement before they are tax deductible. 3. Tax loss carry forwards are available to reduce future taxable income. Similar to deferred tax liabilities, deferred tax assets are expected to reverse through future operations. However, deferred tax assets are expected to provide future tax savings, while deferred tax liabilities are expected to result in future cash outflows. A firm that has taxable losses in excess of its taxable income can carry those excess losses forward and use them to reduce taxable income (and taxes) in future periods. Post-employment benefits, warranty expenses, and tax loss carry forwards are typical causes of deferred tax assets.

Treatment for Analytical Purposes	If deferred tax liabilities are expected to reverse in the future, they are best classified by an analyst as liabilities. If, however, they are not expected to reverse in the future, they are best classified as equity (DTL decreased and equity increased by the same amount). The key question is, "When or will the total deferred tax liability be reversed in the future?" In practice, the treatment of deferred taxes for analytical purposes varies. An analyst must decide on the appropriate treatment on a case-by-case basis.

Learning Outcome C	**Calculate the tax base of a company's assets and liabilities.**
Tax Base of Assets	An asset's **tax base** is the amount that will be deducted (expensed) on the tax return in the future as the economic benefits of the asset are realized. The **carrying value** is the value of the asset reported on the financial statements, net of depreciation and amortization
Depreciable equipment	The cost of equipment is $100,000. In the income statement, depreciation expense of $10,000 is recognized each year for ten years. On the tax return, the asset is depreciated at $20,000 per year for five years. At the end of the first year, the tax base is $80,000 ($100,000 cost – $20,000 accumulated tax depreciation) and the carrying value is $90,000 ($100,000 cost – $10,000 accumulated financial depreciation). A deferred tax liability ($10,000 × tax rate) is created to account for the timing difference from different depreciation for tax and for financial reporting. Sale of the machine for $100,000, for example, would result in a gain of $10,000 on the income statement and a gain of $20,000 on the tax return. This would reverse the deferred tax liability.
Research and development	At the beginning of this year, $75,000 of R&D was expensed in the income statement. On the tax return, the R&D was capitalized and is amortized on a straight-line basis over three years. At the end of the first year, the tax base is $50,000 ($75,000 cost – $25,000 accumulated tax amortization) and the asset has no carrying value (does not appear on the balance sheet) because the entire cost was expensed. Note that amortization for tax here leads to a deferred tax asset, since earnings before tax are less than taxable income.
Accounts receivable	Gross receivables totaling $20,000 are outstanding at year-end. Because collection is uncertain, the firm recognizes bad debt expense of $1,500 in the income statement. For tax purposes, bad debt expense cannot be deducted until the receivables are deemed worthless. At the end of the year, the tax base of the receivables is $20,000 since no bad debt expense has been deducted on the tax return. The carrying value is $18,500 ($20,000 – $1,500 bad debt expense). Again, a deferred tax asset is the result

Tax Base of Liabilities	A liability's tax base is the carrying value of the liability minus any amounts that will be deductible on the tax return in the future. The tax base of revenue received in advance is the carrying value minus the amount of revenue that will *not* be taxed in the future.
Customer advance	At year-end, $10,000 was received from a customer for goods that will be shipped next year. On the tax return, revenue received in advance is taxable when collected. The carrying value of the liability is $10,000. The carrying value will be reduced when the goods are shipped next year. For revenue received in advance, the tax base is equal to the carrying value minus any amounts that will *not* be taxed in the future. Since the customer advance has already been taxed, $10,000 will not be taxed in the future. Thus, the customer advance liability has a tax base of zero ($10,000 carrying value – $10,000 revenue not taxed in the future). Since the $10,000 has been taxed but not yet reported as revenue on the income statement, a deferred tax asset is created.
Warranty liability	At year-end, a firm estimates that $5,000 of warranty expense will be required on goods already sold. On the tax return, warranty expense is not deductible until the warranty work is actually performed. The warranty work will be performed next year. The carrying value of the warranty liability is $5,000. The tax base is equal to the carrying value minus the amount deductible in the future. Thus, the warranty liability has a tax base of zero ($5,000 carrying value – $5,000 warranty expense deductible in the future). Delayed recognition of this expense for tax results in a deferred tax asset.
Note payable	The firm has an outstanding promissory note with a principal balance of $30,000. Interest accrues at 10% and is paid at the end of each quarter. The promissory note is treated the same way on the tax return and in the financial statements. Thus, the carrying value and the tax base are both $30,000. Interest paid is included in both pre-tax income on the income statement and in taxable income on the tax return. With no timing difference, no deferred tax items are created.

Learning Outcome	
D	**Calculate income tax expense, income taxes payable, deferred tax assets, and deferred tax liabilities, and calculate and interpret the adjustment to the financial statements related to a change in the income tax rate.**

Covered separately in workbook.

Learning Outcome	
E	**Evaluate the impact of tax rate changes on a company's financial statements and ratios.**

When the income tax rate changes, deferred tax assets and liabilities are adjusted to reflect the new rate. The adjustment can also affect income tax expense.

An increase in the tax rate will increase both deferred tax liabilities and deferred tax assets. A decrease in the tax rate will decrease both deferred tax liabilities and deferred tax assets.

DTL and DTA values on the balance sheet must be changed because the new tax rate is the rate expected to be in force when the associated reversals occur. If there is an increase (decrease) in the tax rate, when previously deferred income is recognized for tax, the tax due will be higher (lower), and when expense items previously reported in the financial statements are recognized for tax, the benefit will be greater (less).

Changes in the balance sheet values of DTLs and DTAs to account for a change in the tax rate will affect income tax expense in the current period.

Income Tax expense = taxes payable + ΔDTL – ΔDTA

If tax rates increase, the increase in the DTL is added to taxes payable and the increase in the DTA is subtracted from taxes payable to arrive at income tax expense.

If tax rates decrease, the decrease in the DTL would result in lower income tax expense and the decrease in the DTA would result in higher income tax expense. In the case of the DTL we are adding a negative change, and in the case of the DTA we are subtracting a negative change.

Learning Outcome F	Distinguish between temporary and permanent differences in pre-tax accounting income and taxable income.
Permanent difference	A **permanent difference** is a difference between taxable income and pretax income that will not reverse in the future. Permanent differences do not create deferred tax assets or deferred tax liabilities. Permanent differences can be caused by revenue that is not taxable, expenses that are not deductible, or tax credits that result in a direct reduction of taxes. Permanent differences will cause the firm's **effective tax rate** to differ from the **statutory tax rate**. The statutory rate is the tax rate of the jurisdiction where the firm operates. The effective tax rate is derived from the income statement. **EFFECTIVE TAX RATE =** The statutory rate and effective rate may also differ if the firm is operating in more than one tax jurisdiction.
Temporary difference	A temporary difference refers to a difference between the tax base and the carrying value of an asset or liability that will result in taxable amounts or deductible amounts in the future. If the temporary difference is expected to reverse in the future and the balance sheet item is expected to provide future economic benefits, a DTA or DTL is created. Temporary differences can be taxable temporary differences that result in expected future taxable income or deductible temporary differences that result in expected future tax deductions.

Learning Outcome G	Describe the valuation allowance for deferred tax assets—when it is required and what impact it has on financial statements.

Although deferred taxes are created from temporary differences that are expected to reverse in the future, neither deferred tax assets nor deferred tax liabilities are carried on the balance sheet at their discounted present value. However, deferred tax assets are assessed at each balance sheet date to determine the likelihood of sufficient future taxable income to recover the tax assets. Without future taxable income, a DTA is worthless.

According to U.S. GAAP, if it is more likely than not (greater than a 50% probability) that some or all of a DTA will not be realized (insufficient future taxable income to recover the tax asset), then the DTA must be reduced by a **valuation allowance**. The valuation allowance is a contra account that reduces the net balance sheet value of the DTA. Increasing the valuation allowance will decrease the net balance sheet DTA, increasing income tax expense and decreasing net income. If circumstances change, the net DTA can be increased by decreasing the valuation allowance.

This would result in higher earnings. It is up to management to defend the recognition of all deferred tax assets. If a company has order backlogs or existing contracts which are expected to generate future taxable income, a valuation allowance might not be necessary. However, if a company has cumulative losses over the past few years or a history of inability to use tax loss carry forwards, then the company would need to use a valuation allowance to reflect the likelihood that a deferred tax asset will never be realized.

Because an increase (decrease) in the valuation allowance will decrease (increase) earnings, management can manipulate earnings by changing the valuation allowance.

Whenever a company reports substantial deferred tax assets, an analyst should review the company's financial performance to determine the likelihood that those assets will be realized. Analysts should also scrutinize changes in the valuation allowance to determine whether those changes are economically justified

Learning Outcome H	Explain recognition and measurement of current and deferred tax items.

The measurement of deferred tax items depends on the tax rate expected to be in force when the underlying temporary difference reverses. We previously noted the effects of a change in the income tax rate on deferred tax assets and liabilities. In some circumstances, the applicable tax rate will depend on how the temporary difference will be settled. As an example, consider a tax jurisdiction that has a capital gains tax rate that is lower than the marginal tax rate. If, given its tax base, the currently unrealized gains on an asset will be taxed at the capital gains rate when the asset is disposed of, that rate should be used to calculate the deferred tax liability.

Another issue with the measurement of deferred tax items is whether a change in asset value is recorded on the income statement or taken directly to equity. In a case where the change that leads to a deferred tax item is taken directly to equity, the deferred tax item should also be taken directly to equity.

Consider a company reporting under IFRS that revalues PP&E upward. The revaluation gain is taken directly to equity without affecting either pretax income (on the income statement) or taxes payable (the gain is unrealized) so balance sheet deferred tax liabilities are not affected. Because the revaluation gain is taken directly to equity, the related future tax liability should be taken to

equity as well. The adjustment is to reduce the amount of the gain added to revaluation surplus by the amount of the future tax liability on the revaluation gain.

The upward revaluation of the asset on the balance sheet will increase depreciation in subsequent periods, but will not affect the deferred tax liability. The tax liability on the increase in book value is incorporated into the recognition of the increase in revaluation surplus (rather than increasing the reported DTL). In each subsequent period, an amount equal to the additional depreciation from the upward revaluation of the asset, less the tax liability on that portion of the revaluation, is transferred from revaluation surplus to retained earnings. The previously unrealized gain in the asset's value is *realized* over time through use of the asset. The addition to retained earnings just offsets the after-tax decrease in net income (and retained earnings) from the additional depreciation resulting from the upward revaluation of the asset's carrying value.

Learning Outcome	Analyze disclosures relating to deferred tax items and the effective tax rate reconciliation and explain how information included in these disclosures affects a company's financial statements and financial ratios.
I	

Disclosures relating to deferred tax items

Companies are required to disclose details on the source of the temporary differences that cause the deferred tax assets and liabilities reported on the balance sheet. Changes in those balance sheet accounts are reflected in income tax expense on the income statement. Here are some common examples of temporary differences you may encounter:

A deferred tax liability results from using accelerated depreciation for tax purposes and straight-line depreciation for the financial statements. The analyst should consider the firm's growth rate and capital spending levels when determining whether the difference will actually reverse.

Impairments generally result in a deferred tax asset since the write-down is recognized immediately in the income statement, but the deduction on the tax return is generally not allowed until the asset is sold or disposed of.

Restructuring generates a deferred tax asset because the costs are recognized for financial reporting purposes when the restructuring is announced, but not deducted for tax purposes until actually paid. Note that restructuring usually results in significant cash outflows (net of the tax savings) in the years after the restructuring costs are reported.

In the United States, firms that use LIFO for their financial statements are required to use LIFO for tax purposes, so no temporary differences result. However, in countries where this is not a requirement, temporary differences can result from the choice of inventory cost-flow method.

Post-employment benefits and deferred compensation are both recognized for financial reporting when earned by the employee but not deducted for tax purposes until actually paid. These can result in a deferred tax asset that will be reversed when the benefits or compensation are paid.

A deferred tax adjustment is made to stockholders' equity to reflect the future tax impact of unrealized gains or losses on available-for-sale marketable securities that are taken directly to equity. No DTL is added to the balance sheet for the future tax liability when gains/losses are realized

Deferred tax information that is Disclosed	1. Deferred tax liabilities, deferred tax assets, any valuation allowance, and the net change in the valuation allowance over the period. 2. Any unrecognized deferred tax liability for undistributed earnings of subsidiaries and joint ventures. 3. Current-year tax effect of each type of temporary difference. 4. Components of income tax expense. 5. Reconciliation of reported income tax expense and the tax expense based on the statutory rate. 6. Tax loss carry forwards and credits
Analyzing the Effective Tax Rate Reconciliation	Some firms' reported income tax expense differs from the amount based on the statutory income tax rate. Recall that the statutory rate is the tax rate of the jurisdiction where the firm operates. The differences are generally the result of: 1. Different tax rates in different tax jurisdictions (countries). 2. Permanent tax differences: tax credits, tax-exempt income, nondeductible expenses, and tax differences between capital gains and operating income. 3. Changes in tax rates and legislation. 4. Deferred taxes provided on the reinvested earnings of foreign and unconsolidated domestic affiliates. 5. Tax holidays in some countries (watch for special conditions such as termination dates for the holiday or a requirement to pay the accumulated taxes at some point in the future). Understanding the differences between reported income tax expense and the amount based on the statutory income tax rate will enable the analyst to better estimate future earnings and cash flow. When estimating future earnings and cash flows, the analyst should understand each element of the reconciliation, including its relative impact, how it has changed with time, and how it is likely to change in the future. In analyzing trends in tax rates, it is important to only include reconciliation items that are continuous in nature rather than those that are sporadic. Items including different rates in different countries, tax-exempt income, and non-deductible expenses tend to be continuous. Other items are almost always sporadic, such as the occurrence of large asset sales and tax holiday savings. The disclosures of each financial statement should be reviewed based on the footnotes and management discussion and analysis.

Learning Outcome J	Identify the key provisions of and differences between income tax accounting under International Financial Reporting Standards (IFRS) and US generally accepted accounting principles (GAAP).

Particulars	US GAAP	IFRS
Revaluation of fixed assets and intangible assets	Not applicable, No revaluation allowed	Deferred taxes are recognised in equity
Undistributed profit from an investment in a subsidiary	No deferred taxes for foreign subsidiaries that meet the indefinite reversal criterion No deferred taxes for domestic subsidiaries if the amounts are tax free.	Deferred taxes are recognised unless the parent is able to control the distribution of profit and it is probable that the temporary difference will not reverse in the future.
Undistributed profit from an investment in a JV	No deferred taxes for foreign corporate JVs that meet the indefinite reversal criterion	Deferred taxes are recognised unless the venturer is able to control the sharing of profit and it is probable that the temporary difference will not reverse in the future
Undistributed profit from an investment in an associate firm	Deferred taxes are recognised from temporary differences	Deferred taxes are recognised unless the investor is able to control the sharing of profit and it is probable that the temporary difference will not reverse in the future
Deferred tax asset recognition	Recognised in full and then reduced if "more likely than not" that some or all of tax asset will not be realized	Recognised if "probable" that sufficient taxable profit will be available to recover the tax asset
Tax rate used to measure deferred taxes	Enacted tax rate only	Enacted or substantively enacted tax rate.
Presentation of deferred taxes on the balance sheet	Classified as current or non-current based on the classification of the underlying asset or liability	Classified as non-current

Reading #29 INCOME TAXES

BASICS

Example # 1

1. PBT (after prov. of Bad debts) ₹ 1,000
2. Provision for Bad debts ₹ 200
3. For tax purpose, PBDD is deductible only when actual bad debt happens.
4. Tax rate : 20%

Calculate :

(a) Taxes payable/Paid

(b) Income tax expense

(c) Deferred Tax Assets (DTA)

Solution :-

(a) Taxes payable : $(1000 + 200) \times 20\%$: ₹ 240

(b) Income Tax Exp : $1000 \times 20\%$: ₹ 200.

(c) DTA : Tax payable − Income Tax Exp

: ₹ 240 − ₹ 200 : ₹ 40/-

Formulae :-

1. Tax payable = Taxable Income as per I.T.R × Tax Rate
2. Tax paid = Tax payable − Refund + Advance Taxes
3. Income Tax Expense = Prov. for Taxation (shown in Income Statement)
4. ΔDTA = Tax payable − Income Tax Expense
5. Income Tax Expense = Tax payable − ΔDTA.

Learning Outcome : A & B

Q. What causes differential treatment of A/cing items for tax reporting & financial reporting?

1. Temporary & permanent differences.
2. Carrying amount (v/s) Tax Base.
3. Carryforward losses.
4. Accounting adjustments that do not affect tax liab.

Deferred Tax Liabilities

1. ΔDTL = Income tax expense – Taxes payable.
2. DTL is created due to temporary differences such as :–
   (a) Early revenue recognition in FR.
   (b) Delayed expense recognition in F.R.
3. When DTL reverses in the future, an outflow is required.
4. Examples :
   (i) Depreciation Methods → for tax ⇒ WDV; for FR ⇒ SLM
   (ii) Installment Sales → for FR ⇒ At once.; for tax ⇒ In Installments.

Deferred Tax Assets

1. ΔDTA : Tax Payable > Income Tax Expense.
2. DTA is created due to temporary differences such as :-
   (a) Delayed Revenue Recognition in F.R.
   (b) Early Expense Recognition in F.R.
3. When DTA reverses, an inflow is received.
4. Examples :-
   (i) Post employment benefits.
   (ii) Warranty expenses (provision).
   (iii) Tax loss carryforwards.

Note: Irreversability of DTA & DTL

DTA → Valuation Allowance is created

DTL → DTL ↓ Equity ↑

Note: Under IFRS → DTA & DTL are netted

Under GAAP → Both DTA & DTL are reported.

Learning Outcome : C

1. **Tax Base v/s Carrying Value of Assets.**

Tax Base → Value of asset as per tax records.

Carrying Value → Value of asset as per F.R.

DTA = (Tax Base − Carrying Value) × Tax Rate

DTL = (Carrying Value − Tax Base) × Tax Rate

2. **Tax Base & Carrying Value of Liabilities.**

Tax Base → Value of Liabs as per tax records.

Carrying Value → Value of Liab as per F.R.

DTA = (Carrying Value − Tax Base) × Tax Rate

DTL = (Tax Base − Carrying Value) × Tax Rate

3. **Definition of Tax Base :**

(a) Tax Base of an asset ⇒ Amt that will be deducted as depⁿ in the ITR in the future.

(b) Tax Base of a Liab ⇒ CV of liability (−) any amounts that will be deductible on the ITR in the future.

Learning Outcome : D & E

1. As tax rate changes, Income tax exp changes.
2. Tax Rate ↑ DTA ↑ & DTL ↑
3. Tax Rate ↓ DTA ↓ & DTL ↓
4. Income Tax Expense = Taxes Payable + ΔDTL − ΔDTA
5. Taxes payable = Inc. Tax Expense + ΔDTA − ΔDTL

Learning Outcome : F

1. Permanent differences will not reverse in the future.
2. Permanent differences do not create DTA or DTL.
3. Reasons behind permanent differences :—
   (a) Exempted Revenue.
   (b) Non-deductible Expenses.
   (c) Expenses that results in tax credit.

Statutory Tax Rate v/s Effective Tax Rate

1. Statutory tax rate (30%).
2. Effective tax rate = $\frac{\text{Income Tax Expense}}{\text{Pretax Income}}$
3. Permanent differences creates a difference between effective tax rate & Statutory tax rate.

Learning Outcome : G1

1. Valuation Allowance is a contra account that reduces the net balance sheet value of DTA.
2. As per GAAP, If probability of insufficient future taxable income is greater than 50%, Valuation Allowance should be reported.
3. As V/A ↑ DTA ↓ Inc. Tax Exp ↑ Net Income ↓
4. Subsequent w/off of Valuation Allowance is also allowed.

Learning Outcome : H

1. Measurement of deferred tax items depends on the tax rate expected to be in force when the underlying temporary difference reverses.
2. Applicable tax rate may also depend on how the temporary differences will be settled (ex: CG tax rate v/s statutory tax rate).
3. If the change that leads to a deferred tax item is taken directly to equity (ex: upward revaluation), the deferred tax item should also be taken directly to equity.

Learning Outcome: I

1. Major Disclosures :—

(i) Disclose the sources of temporary differences that cause the deferred tax assets & liabs reported on the B/S.

(ii) Reconcile the effective income tax rate with applicable statutory tax rate in the country where the business is domiciled.

Reasons for differences between Statutory tax rate & effective tax rate :—

1. Different tax rates in different tax jurisdictions.
2. Permanent tax differences.
3. Changes in tax rates & legislation.
4. Tax Holidays, etc.

Learning Outcome : J

(1) Revaluation of F/A & Intangible Assets

IFRS → Deferred taxes recognized in Equity

GAAP → No Reval^{n} allowed

(2) Undistributed profit from an invested subsidiary

IFRS → Recognized if parent doesn't control the distribution of profit & reversability.

GAAP → No deferred taxes for some specified subsidiaries.

(3) Undistributed profit from Joint Venture

Similar to point no. (2).

READING

NON-CURRENT (LONG TERM) LIABILITIES

Learning Outcome	Determine the initial recognition, initial measurement and subsequent measurement of bonds.
A & B	Describe the effective interest method and calculate interest expense, amortisation of bond discounts/premiums, and interest payments.

Relationship between Coupon Rate and Effective Interest Rate

When coupon rate = effective interest rate: Bond will trade at par.

When coupon rate < effective interest rate: Bond will trade at a discount.

When coupon rate > effective interest rate: Bond will trade at a premium.

Effect of Bond Issuance on the Financial Statements

Particulars	At Par ($100)	At Discount ($98)	At Prem ($102)
Impact on the Balance Sheet	Cash -up by $100 Bond -up by $100	Cash – up by $98 Bond – up by $98	Cash –up by $102 Bond –up by $102
Impact on the Cash Flow Statement	CFF – up by $100	CFF – up by $98	CFF – up by $102
Impact on the Income Statement	No Effect	No Effect	No Effect

Treatment of Bonds (During Life)

Particulars	At Par ($100)	At Discount ($98)	At Prem ($102)
Periodic Interest Expenses in I/S	Int Exp = Coupon	Int Exp > Coupon	Int Exp < Coupon
Interest Expense (Total)	Coupon	Coupon + Amort^{n}	Coupon - Amort^{n}
Carrying Value of Bond (Overtime)	CV = FV	CV < FV (increases overtime)	CV > FV (decreases overtime)

Treatment of Zero Coupon Bonds	**At Issuance:** Cash & Bond Liability shall increase by (CV = FV – Discount Amount). **During Life:** Interest Expense = Opening CV x Effective Interest Rate. : Discount shall be amortized gradually over time. : Coupon payment = Nil.
Issuance Costs	**Under GAAP:** Issuance costs are capitalized & shown as CFF. It will also be amortized over the term of the bond **Under IFRS:** Issuance costs reduce the carrying value of the debt & shown as CFF.

Methods of Amortization	**EFFECTIVE INTEREST RATE METHOD** 1. This method is required under IFRS and preferred under US GAAP. 2. Calculate interest expense using the effective interest rate at issuance. 3. Amortization Premium/Discount = Interest Expense – Interest Payment **STRAIGHT LINE METHOD** Under this method, amortization of premium or discount is evenly distributed over the life of the bond.
Fair Value Reporting Option	1. IFRS and U.S. GAAP give firms the irrevocable option to report debt at fair value. 2. Under this option, gains (decreases in bond liability) and losses (increases in bond liability) that result from changes in bonds' market yields (effective interest rate) are reported in the income statement.

Learning Outcome C	Explain the derecognition of debt.

Treatment for Derecognition of Debt	1. De-recognition of debt means redemption of the debt before maturity by the issuer company itself. 2. If a company decides to redeem (retire) bonds before maturity, a gain or loss is recognized in the I/S. **Gain or Loss =** Redemption Price – Book Value of the bond liability at the reacquisition date. 3. The cash used to retire the debt is classified under financing cash flow (CFF). 4. Additional detail about the de-recognition of debt is provided in MD&A or notes to financial statements. 5. Treatment of Issuance Cost (in case of de-recognition): **Under IFRS:** No write-off because issuance cost is included in book value of bond liability **Under GAAP:** Unamortized bond issuance costs must be written off and included in gain/loss calculations

Learning Outcome D	Describe the role of debt covenants in protecting creditors.

Terms to Understand	1. **Bond Indenture:** The terms of borrowing between investors and the company issuing the bond are defined in a document called the bond indenture. 2. **Covenants:** Covenants are restrictions imposed by the creditor (bondholder/lender) on the issuer (borrower) to protect the creditor's interest.

Types of Covenants	1. **Affirmative Covenants** require the borrower to take certain actions. Example: making interest payments on time, maintaining a certain level of working capital, or that it will maintain minimum acceptable financial ratios. 2. **Negative Covenants** restrict the borrowing company's actions. Example: The borrowing company may not be allowed to take on additional debt, pay dividends, sell assets, or any action that may affect the company's ability to pay interest and principal to its investors
Technical Default	Technical default occurs when the borrower violates a debt covenant (affirmative or negative).
Benefits of Covenants	The benefit of debt covenants is that they reduce the default risk for investors and lower the interest costs of borrowing for the borrower.

Learning Outcome E	**Describe the financial statement presentation of and disclosures relating to debt.**
Presentation in Balance Sheet	1. The total amount of a company's long-term debt (debt that is due after one year) is combined into a single line item and shown under the **non-current liabilities** section of the balance sheet. 2. The portion of the long-term debt that is due within one year is shown as a **current liability**.
Required Disclosures in Footnotes	1. The nature of the liabilities. 2. Maturity dates. 3. Stated and effective interest rates. 4. Call provisions and conversion privileges. 5. Restrictions imposed by creditors. 6. Assets pledged as security. 7. Amount of debt maturing in each of the next five years
Required Disclosures in MD&A	MD&A should provide other details about a company's capital resources, including debt financing and off-balance-sheet financing.

Learning Outcome F	**Explain motivations for leasing assets instead of purchasing them.**
Important Terms	A **lease** is a contract between a **lessor** (owner) and a **lessee** (who wants to use the asset) wherein the lessor allows the lessee to use the asset for a pre-determined period.
Advantages of Lease (Instead of Purchase)	1. Leases can provide a lessee with less costly financing as they usually require little down payment; 2. Leases are often at fixed interest rates. 3. The negotiated lease contract may have less restrictive provisions compared with other forms of borrowing. The lease also reduces the lessee's exposure to risks of obsolescence, residual value, and disposition as the asset is not owned by the lessee.

Learning Outcome G	Explain the financial reporting of leases from a lessee's perspective.
Under IFRS	1. For **short-term leases** and **leases of low-value assets**, no balance sheet entries are required. Rent expense is reported on the income statement and classified as an operating cash outflow. 2. For **long-term leases**, a lessee reports lease transactions very much like the purchase of a long-term asset financed by debt. An asset and a liability, both equal to the present value of the promised lease payments, are reported on the balance sheet. a. The asset recoded on the balance sheet is not the leased asset itself, but the right to use the leased asset for the specified period. b. This lease asset is depreciated over the term of the lease. The periodic lease payments are reported like payments on an amortizing loan. c. The interest portion of each lease payment is reported as interest expense, while the principal repayment portion of each payment reduces the outstanding lease liability.
Under GAAP	1. For a **finance lease**, a lessee is required to report an asset & a lease liability on its balance sheet at inception. The accounting for a finance lease under US GAAP is similar to that of long-term leases under IFRS. 2. For an **operating lease**, a lessee is required to report an asset & a lease liability on its balance sheet at inception. But, the lessee shall report a single lease expense (a straight-line allocation of lease cost) in the income statement. While, the entire cash payment is an operating cash outflow.
Determination of Lease Type (Under GAAP)	A lease must be classified by lessee as a finance lease if **any one** of the following four criteria is met: **1. Ownership transfer:** If the lease transfers ownership of the asset to the lessee by the end of the lease term. **2. Bargain purchase option:** The lessee has an option to purchase the asset at a price lower than the fair value. **3. Lease term:** If lease term is 75% or more of the useful life of the leased asset. **4. Minimum lease payment:** If the present value of lease payments is 90% or more of the fair value of leased asset.

Summary

Under IFRS

Particulars	Balance Sheet	Income Statement	Cash Flow Statement
Short-term leases & Low value leases	No effect	Report rent expense	Rent payment is operating cash outflow
Other Leases	Recognise "right-of-use" (ROU) asset and lease liability	Report depreciation expense on ROU asset & interest expense on lease liability	Reduction of lease liability is a financing cash outflow Interest portion of lease payment is either an operating or financing cash outflow

Under US-GAAP

Particulars	Balance Sheet	Income Statement	Cash Flow Statement
Finance Lease	Recognise "right-of-use" (ROU) asset and lease liability	Report depreciation expense on ROU asset & interest expense on lease liability	Reduction of lease liability is a financing cash outflow Interest portion of lease payment is either an operating or financing cash Outflow
Operating Lease	Recognise "right-of-use" (ROU) asset and lease Liability	Report single lease expense (a straight-line allocation of lease cost)	Entire cash payment is an operating cash outflow

Learning Outcome H	Explain the financial reporting of leases from a lessor's perspective.

Under IFRS

1. **FINANCE LEASE**
   a. At inception, the underlying leased asset is derecognized and a lease asset comprising the lease receivable and relevant residual value is recognized.
   b. If the lessor is a manufacturer or dealer, a revenue equal to the value of the leased asset, cost of goods sold equal to the carrying value of the leased asset, and selling profit or loss equal to the revenue minus the cost of goods sold is recognized.
   c. After inception, a finance income is recognized over the lease term.
2. **OPERATING LEASE**
   Lease receipts as income and related costs, including deprecation of the leased asset, are recognized as income and as expenses, respectively.

Under GAAP

1. **OPERATING LEASE**
   a. Retain asset on balance sheet.
   b. Report lease income.
   c. Report depreciation expense on leased asset.
2. **SALES TYPE LEASE**
   a. Remove leased asset from balance sheet but recognise lease receivable as an asset.
   b. Report interest received as income. If applicable, report revenue, cost of goods sold, and selling profit.
3. **DIRECT FINANCING LEASE**
   a. Remove leased asset from balance sheet and recognise lease receivable.
   b. Report interest revenue on lease receivable.

Summary

Under IFRS

Particulars	Balance Sheet	Income Statement	Cash Flow Statement
Operating Lease	Retain asset on balance sheet	Report lease income Report depreciation expense on leased asset	Lease payments received are an operating cash inflow
Finance Lease	Remove leased asset from balance sheet Recognise lease asset (lease receivable and residual)	Report interest revenue on lease receivable If applicable, report revenue, cost of goods sold, and selling profit.	Interest portion of lease payment received is either an operating or investing cash inflow under IFRS and an operating cash inflow under US GAAP. Receipt of lease principal is an investing cash inflow

Summary

Under US-GAAP

Particulars	Balance Sheet	Income Statement	Cash Flow Statement
Operating Lease	Retain asset on balance sheet	Report lease income Report depreciation expense on leased asset	Lease payments received are an operating cash inflow
Sales-Type Lease	Remove leased asset from balance sheet Recognise lease asset (lease receivable and residual)	Report interest revenue on lease receivable If applicable, report revenue, cost of goods sold, and selling profit.	Interest portion of lease payment received is either an operating or investing cash inflow under IFRS and an operating cash inflow under US GAAP. Receipt of lease principal is an investing cash inflow
Direct Financing Lease	Remove leased asset from balance sheet Recognise lease receivable	Report interest revenue on lease receivable	Interest portion of lease payment received is an operating cash inflow under US GAAP Receipt of lease principal is an investing cash inflow

Learning Outcome I	Compare the presentation and disclosure of defined contribution and defined benefit pension plans.

Types of Pension Plans

DEFINED CONTRIBUTION PENSION PLAN

Under this plan, a company contributes an agreed-upon amount to the plan. This contribution is recognized as a pension expense on the income statement and an operating cash outflow. Since there is no future payout or obligation, no liability is reported on the balance sheet

DEFINED BENEFIT PENSION PLAN

Under this plan, a company promises to pay a certain amount in the future to the employees. The amount of future obligation is based on a lot of assumptions such as retirement age of its employees, last drawn salary before retirement, mortality rate, etc. The pension obligation is the present value of future payments the company expects to make. A company fulfils this obligation by setting up a pension fund (also known as plan assets) and making payments to this fund. The ongoing pension obligations are paid from this fund. The amount in the fund remains invested until it has to be paid to the retirees.

Disclosures for Defined Benefit Plans

1. Under both IFRS and US GAAP, the net pension asset or liability is reported on the balance sheet. An underfunded defined benefit pension plan (FV of plan assets < PV of pension obligations) is reported as a non-current liability on the balance sheet. Whereas, an overfunded defined benefit pension plan (FV of plan assets > PV of pension obligations) is reported as an asset.
2. For each period, the change in net pension asset or liability is recognized either in profit or loss or in other comprehensive income.

Treatment under IFRS

Under IFRS, the change in net pension asset or liability has three components:

1. **Employee service costs and past service costs:** Recognized as pension expense in the income statement.
2. **Net interest expense or income accrued on the beginning net pension asset or liability:** Recognized as pension expense in the income statement.
3. **Remeasurements:** Recognized in other comprehensive income on the balance sheet.

Where,

1. Service cost is the present value of the benefit earned by an employee for one additional year of service. It is the sum of past service costs and present value of the increase in pension benefit earned by working for one more year.
2. Net interest expense = net pension asset or liability x discount rate used to estimate the present value of the pension obligation.
3. Remeasurements = actuarial gains and losses and the actual return on plan assets minus the net interest expense or income.
4. The actual return on plan assets = Interest, dividends and other income derived from the plan assets, including realized and unrealized gains or losses.

Treatment under GAAP	Under US GAAP, the change in net pension asset or liability has five components: 1. **Employees' service costs for the period:** Recognized in income statement. 2. **Interest expense accrued on the beginning pension obligation:** Recognized in income statement. 3. **Expected return on plan assets:** It is a reduction in the amount of expense recognized; Recognized in income statement. 4. **Past service costs:** Recognized as other comprehensive income. 5. **Actuarial gains or losses:** Recognized as other comprehensive income or income statement.

Learning Outcome J	Calculate and interpret leverage and coverage ratios.
Leverage Ratios	Leverage ratios focus on the balance sheet and measure the extent to which a company uses debt to finance its assets. These ratios provide information on how much debt a company has taken. A low leverage ratio implies the company has low leverage and is well positioned to fulfil its debt obligations. The ratios for a particular company should be interpreted in the context of the industry in which it operates. The commonly used leverage ratios are as follows: 1. **Debt-to-assets:** Total debt / Total assets 2. **Debt-to-capital:** Total debt / Total debt + Shareholders' equity 3. **Debt-to-equity:** Total debt / Total shareholders' equity 4. **Financial leverage:** Average total assets / Average total equity **Note:** "Debt" refers to interest-bearing obligations. Non-interest bearing liabilities, such as accounts payable, accrued liabilities, and deferred taxes, are not considered debt.
Coverage Ratios	Coverage ratios focus on the income statement and cash flow to measure a company's ability to service debt (make interest and other debt-related payments). Unlike leverage ratios, higher values for coverage ratios are better, all else equal. The commonly used coverage ratios are as follows: 1. **Interest coverage:** EBIT / Interest payments 2. **Fixed charge coverage:** EBIT + lease payments / Interest payments + lease payments

READING

FINANCIAL REPORTING QUALITY

Learning Outcome A	Distinguish between financial reporting quality and quality of reported results (including quality of earnings, cash flow, and balance sheet items).

Financial Reporting Quality	1. Financial reporting quality **pertains to the information disclosed**. High-quality reporting represents the economic reality of the company's activities. 2. The **primary criterion** for judging financial reporting quality is adherence to generally accepted accounting principles (GAAP) in the jurisdiction in which the firm operates. 3. High quality financial reporting must be **decision useful** i.e. possess both qualitative characteristics mentioned as per IASB Conceptual Framework (Reading: Financial Reporting Standards) viz. **relevance** & **faithful representation**.
Quality of Reported Results	1. Quality of reported results pertains to the earnings and cash generated by the company's actual economic activities and the resulting financial condition, relative to expectations of current and future financial performance. 2. The quality of reported earnings (not the quality of earnings reports) can be judged based on the **sustainability** of the earnings as well as on their **level**. 3. Earnings as a result of non-recurring activities is considered **unsustainable**.

Note: Highest-quality financial reports reflect both high financial reporting quality and high earnings quality.

Note: To properly assess a company's past performance, an analyst requires only high financial reporting quality.

Note: It is quite possible that a firm has high financial reporting quality but a low quality of reported earnings. However, **high quality of reported earnings cannot be warranted in case of low financial reporting quality.** Therefore, Low-quality financial reports impede assessment of earnings quality.

Practice Problems: Q1, Q2, Q3, Q4 & Q5

Learning Outcome B	Describe a spectrum for assessing financial reporting quality.

Categorization of the quality of financial reports along a spectrum from best to worst	1. Reporting is **compliant with GAAP** and **decision useful**; **earnings are sustainable and adequate.** 2. Reporting is **compliant with GAAP** and **decision useful**, but **earnings quality is low** (earnings are not sustainable or not adequate).

	3. Reporting is **compliant with GAAP**, but **earnings quality is low** and **reporting choices and estimates are biased** (i.e. conservative or aggressive accounting is practiced). 4. Reporting is **compliant with GAAP**, but the amount of **earnings is actively managed** to increase, decrease, or smooth reported earnings (Earnings Management by Real Actions or Accounting Choices). 5. Reporting is **not compliant with GAAP,** although the numbers presented are based on the company's actual economic activities. 6. Reporting is not compliant and includes numbers that are essentially **fictitious or fraudulent.**

Practice Problems: Q6 & Q7

Learning Outcome C	Distinguish between conservative and aggressive accounting.
Aggressive Accounting	Aggressive accounting refers to choices that aim to enhance the company's reported performance and financial position by **inflating the amount of revenues, earnings, and/or operating cash flow** reported in the period; or by **decreasing expenses for the current period and/or the amount of debt** reported on the balance sheet.
Conservative Accounting	Conservative accounting refers to choices that aim to influence the company's reported performance and financial position by **decreasing the amount of revenues, earnings, and/or operating cash flow** reported in the period; or by **increasing expenses for the current period and/or the amount of debt** reported on the balance sheet. Conservatism in financial reports can result from either (1) **accounting standards** that specifically require a conservative treatment of a transaction or an event or (2) **judgments made by managers when applying accounting standards** that result in conservative results.
Impact of Aggressive & Conservative Accounting	1. Aggressive accounting often results in decreased earnings in future periods, while conservative accounting will tend to increase future period earnings. 2. Both these types of bias are sometimes used by management, for different periods, in an attempt to smooth earnings over time because greater earnings volatility tends to reduce the value of a company's shares. This mechanism is called "**Earnings Smoothing**". 3. Conservatism technically allows deferral of the recognition of current period earnings to a future period for which earnings are less than expected. This mechanism is called "**Cookie Jar**".
Benefits of Conservatism	1. Reduces **future litigation** from users claiming that they were misled. 2. Reduces current **tax liability**. 3. **Protects the interests** of those who have less complete information than the company management.

Practice Problems: Q8, Q9, Q10, Q11 & Q12

Learning Outcome D	Describe motivations that might cause management to issue financial reports that are not high quality.
Motivation for Aggressive Accounting Choices	1. To **meet/exceed earnings benchmark**. 2. **Carrier Orientation**: To enhance reputation, improve future career opportunities & receive incentives and compensations (such as stock based compensation). 3. **Gain credibility** amongst equity market investors. 4. For improving **company/brand image**. 5. To **avoid violations** of debt covenants.
Motivation for Conservative Accounting Choices	1. When **earnings far exceed benchmark.** 2. When management expects **weakening business environment.**

Practice Problems: Q13 & Q14

Learning Outcome E	Describe conditions that are conducive to issuing low-quality, or even fraudulent, financial reports.
Conditions to Issue Low Quality Financial Reports	1. MOTIVATION [covered in previous learning outcome]. 2. OPPORTUNITIES. - Weak **internal controls**. - Inadequate **oversight by BOD.** - Opportunities provided by **accounting standards**. a. Large range of acceptable accounting treatment. b. Insignificant penalties in case of fraud. 3. RATIONALIZATION (justifying the breaking of law).

Practice Problems: Q15, Q16, Q17, Q18 & Q19

Learning Outcome F	Describe mechanisms that discipline financial reporting quality and the potential limitations of those mechanisms.
Mechanisms that discipline financial reporting quality	1. **Regulations** (such as registration requirements, discourse requirements, independent audits, management commentary requirements, signing of financial reports by an accountable person & periodic reviews). 2. **Enforcement actions** by the regulators. - Fines & Suspensions from Stock Market. - Public disclosure of disciplinary proceedings. - Criminal prosecution. 3. **Independent audit** of: (i) Financial Statements (ii) Internal Controls. 4. **Private contracts** (such as debt covenants).

Limitations of Independent Audit	1. **Reasonable assurance**, not complete assurance. 2. Auditor is after all **selected by the firm** itself.

Practice Problems: Q20

Learning Outcome G	Describe presentation choices, including non-GAAP measures that could be used to influence an analyst's opinion.
Reporting Requirements for Companies that Report Non-GAAP Measures in their SEC Filings	1. Display the most **comparable GAAP measure** with equal prominence. 2. Provide an **explanation by management** as to why the non-GAAP measure is thought to be useful. 3. **Reconcile the differences** between the non-GAAP measure and the most comparable GAAP measure. 4. **Disclose other purposes** for which the firm uses the non-GAAP measure. 5. Disclose, in any, any items reported as **nonrecurring, unusual, or infrequent** but likely to recur in future.
Reporting Requirements for Companies that Report Non-IFRS Measures in their SEC Filings	1. **Define and explain the relevance** of such non-IFRS measures. 2. **Reconcile the differences** between the non-IFRS measure and the most comparable IFRS measure.

Practice Problems: Q21

Learning Outcome H	Describe accounting methods (choices and estimates) that could be used to manage earnings, cash flow, and balance sheet items.
Use of Accounting Methods to Practice Aggressive Accounting	1. **Revenue Recognition** - FOB at shipping point rather than FOB at destination. - Channel stuffing (overloading a distribution channel). - Bill & hold transactions (fictitious). 2. Underestimation of **credit losses & warranty expenses**. 3. Underestimation of **valuation allowance** & other contra asset accounts. 4. Use of **SLM method over accelerated depreciation method** & higher estimation of useful life. 5. Ignoring/delaying **impairment**. 6. Use of **FIFO method over Weighted Average Cost Method**. 7. **Related party transactions**. 8. **Capitalization of expenses** (also affects CFS).

Learning Outcome	Describe accounting warning signs and methods for detecting manipulation of information in financial reports.
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Accounting warning signs and methods for detecting manipulation of information in financial reports.

1. Revenue growth out of line with peer firms.
2. Changes in revenue recognition methods.
3. Lack of transparency about revenue recognition.
4. Declining turnover ratios.
5. Types of following transactions: bill & hold transactions, barter transactions & related party transactions.
6. Ratio of Operating Cash Flow by Net Income, persistently below zero.
7. Unreasonable capitalization of expenses.
8. Fourth quarter earnings (except for seasonality).
9. Frequent appearance of non-recurring items.
10. Non-GAAP measures.

Practice Problems: Q22, Q23, Q24, Q25, Q26 & Q27

READING

APPLICATIONS OF F.S. ANALYSIS

Learning Outcome A	Evaluate a company's past financial performance and explain how a company's strategy is reflected in past financial performance.
Evaluating Past Financial Performance	1. Evaluating past performance helps analysts assess how the company performed and the reasons behind its performance. 2. To evaluate how a company performed, an analyst can process data by creating **common-size financial statements, calculating ratios**, and **analyzing industry-specific metrics.** 3. Some of the factors an analyst must be aware of when evaluating financial performance are discussed below: a. **Change in company's strategy**. b. **Differences in accounting standards**. 4. To understand why a company performed better or worse, analysts should gather information from the management commentary, MD&A, and industry sources such as consumer surveys.

Learning Outcome B	Forecast a company's future net income and cash flow.
Projecting Future Financial Performance	To estimate the target price for a company's stock, an analyst needs to forecast EPS. The inputs for estimating EPS are future sales and profit. The steps usually followed for projecting performance are illustrated below: 1. **Forecast sales** using top-down approach & also **profit margin** (gross, operating or net). 2. **Forecast individual expenses or aggregate expenses**. 3. **Forecast income and cash flows**.
Forecasting Sales	Analysts often take a top-down approach to forecasting sales. 1. Forecast **expected GDP growth rate**. 2. Forecast **expected industry sales** based on historical relationship with GDP. 3. Forecast **expected change in company's market share** based on historical data or forward-looking analysis. 4. Forecast **expected company sales** by multiplying projected market share by projected total industry sales.
Forecasting Expenses	The following steps are to be followed in order to forecast expenses: 1. **For stable (mature) firms:** use historical margins. 2. **For less-stable firms**: estimate each expense item. 3. Remove **non-recurring expenses** for all types of companies. 4. Estimate **interest expense** on the basis of debt level & **tax expense** on the basis of PBT. 5. **Special charges** that are reported every year should be included in evaluating past and future margins.

Forecasting Cash Flows	Forecasting cash flows involve the following: 1. Estimate **changes in working capital**. 2. Estimate **investment expenditures**. 3. Estimate **dividend payments**.

Practice Problems: Q1 & Q2

Learning Outcome C	**Describe the role of financial statement analysis in assessing the credit quality of a potential debt investment.**
Credit Risk & Credit Analysis	Credit risk is the risk that the borrower will fail to make the obligated interest and principal payments. Credit analysis is the evaluation of credit risk. The purpose of credit analysis is to determine whether a company will be able to service its debt (interest and principal payments) on time. A credit analysis exercise is likely to include an evaluation of the following: 1. **Profitability** (net profit margin, operating margin, etc.). 2. **Cash flows and the variability of cash flows**. 3. **Business risk** (low revenues and high fixed expenses). 4. **Financial risk** (high debt and low operating profit).

Practice Problems: Q3

Learning Outcome D	**Describe the use of financial statement analysis in screening for potential equity investments.**
Meaning of Screening	Screening is a process to filter investments (for example stocks, bonds) based on a set of criteria. **Example:** If an analyst wants to keep risk low, he might screen for companies with positive earnings and a low leverage ratio (assets/equity). If he wants low P/E firms which are financially strong, he might use criteria such as P/E less than 10, and debt/equity less than 0.2.
Types of screens for different types of investors	1. **Growth Investors**: Screens use criteria related to growth or momentum. 2. **Value Investors**: Screens use valuation ratios (such as low P/E & P/B) as criteria. 3. **Market-Oriented Investors:** Investors who cannot be classified as growth or value investors.
Back Testing	Often, an analyst may be interested in finding how a portfolio based on a stock screen would have performed historically. For instance, assume you go back 5 years and apply the same stock screen to form a portfolio of stocks to see how much the portfolio would have earned had the strategy been implemented.
Limitations of Back Testing	Back testing approach involves various biases: 1. **Survivorship bias**: Companies that are no longer in operation (or delisted) will be eliminated. The surviving companies appear to have performed better. 2. **Look-ahead bias**: If companies have restated their financial statements, then there is a mismatch between what the investor would have known at the time of the investment decision and the information used now in back-testing.

3. **Data-snooping bias:** The bias that may exist if excessive analysis is applied to the same data set.

Practice Problems: Q4, Q5 & Q6

Learning Outcome E	Explain appropriate analyst adjustments to a company's financial statements to facilitate comparison with another company.
Analyst Adjustments to Reported Financials	When comparing ratios of companies using different accounting standards, adjustments may be required. These **adjustments should be made prior to common-size and ratio analysis.** Before making adjustments, consider the following: 1. Materiality of effect of the adjustment. 2. Difference between accounting standards. 3. Differences in accounting methods. 4. Differences in estimates.
Analyst Adjustments Related to Investments	Remember, the differences in classifications of investments lead to significant differences in reported net income or balance sheet asset values for otherwise comparable companies, thereby, an analyst should use disclosures to **adjust net income & assets** of one firm to what they would have been had their classifications been the same.
Analyst Adjustments for Inventory	To make the results of the two companies comparable, the inventory values of the company following LIFO must be adjusted to FIFO using the following formula: **FIFO Inventory = LIFO inventory + LIFO Reserve**
Analyst Adjustments Related to Property, Plant, and Equipment	Over an asset's life, differences between depreciation methods, estimates of useful lives, and estimates of salvage values used by otherwise comparable firms can lead to significant differences in reported income and balance sheet asset values. Therefore, an **adjustment to net income and fixed asset** carrying values may be appropriate.
Analyst Adjustments Related to Goodwill	Two companies with identical assets, but where one has grown through acquisition of some business units while the other has grown internally by creating such business units, will show different balance sheet values for the same assets. For the company that has grown through acquisition: 1. Tangible assets of the acquired units will be recorded at fair value as of the acquisition date, rather than at historical cost net of accumulated depreciation. 2. Identifiable intangible assets of the acquired units will be valued at their acquisition cost, rather than not being included in balance sheet assets. 3. Goodwill, the excess of acquisition price over the fair value of acquired net assets, will be shown on the balance sheet. Two adjustments are typically made to goodwill to improve comparability in such a case. First, **goodwill should be subtracted from assets** when calculating financial ratios. Second, **any income statement expense from impairment of goodwill in the current period should be reversed**, increasing reported net income.

Practice Problems: Q7, Q8, Q9, Q10 & Q11