CS EXECUTIVE CHART BOOK
QUICK REVISION GUIDE

CORPORATE ACCOUNTING AND FINANCIAL MANAGEMENT

MODULE - I

- Summarised Tabular Chart Format for revising the subject matter in an easy-to-learnformat
- Point-wise Summaries of each chapter are provided in a nutshell
- Full-coverage of the New Syllabus for CS-Executive June 2024/Dec 2024 exams

EDITION: 2024-25

Published By: Physicswallah Private Limited

Physics Wallah Publication

ISBN: 978-93-6034-252-4

MRP: ???/-

Mobile App: Physics Wallah (Available on Play Store)

Website: www.pw.live

Youtube Channels: Physics Wallah - Alakh Pandey

Commerce Wallah by PW (@CommerceWallahPW)

CA Wallah by PW (@CAWallahbyPW)

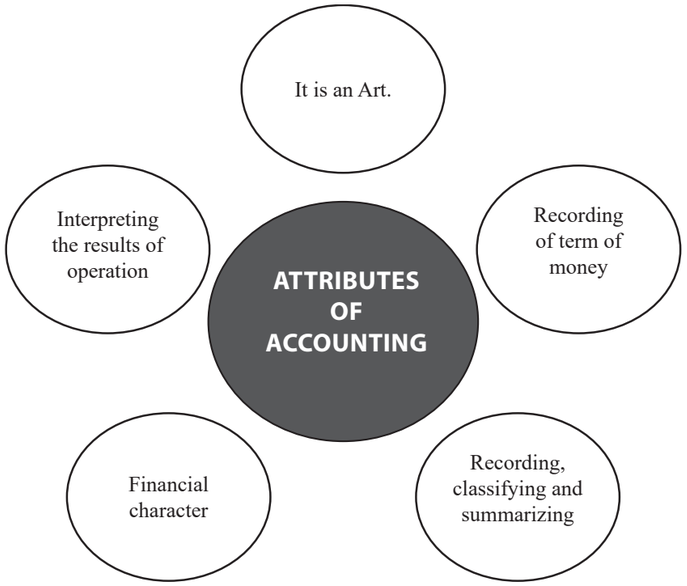
CA Intermediate by PW (@CAintermediatebyPW)

Email: publication@pw.live

Contents

CORPORATE ACCOUNTING

1 INTRODUCTION OF ACCOUNTING



ATTRIBUTES OF ACCOUNTING

(*i*) **Accounting is an Art:** Accounting is considered an art because it helps us figure out our financial goals by studying and understanding financial information. It requires special skills, knowledge, and judgment.

(*ii*) **It involves recording, classifying and summarizing:** Recording means writing down transactions as they happen. Classifying is grouping similar transactions together. Summarizing involves making reports and statements from the classified data, like profit and loss accounts and balance sheets.

(*iii*) **It records transactions in terms of money:** All transactions are written down using money as the common measure. This helps to understand the business's financial situation better.

(*iv*) **It records only those transactions and events which are of financial character:** If something doesn't involve money, it won't be recorded in accounting.

(*v*) **It is the art of interpreting the results of operations:** To figure out how well a business is doing financially, how much progress it's made, and how it's doing overall.

BOOK-KEEPING

Book-keeping involves:

- ❖ Collection of basic financial information
- ❖ Identification of events and transactions with financial character, i.e., economic transactions.

Difference between Book-Keeping and Accounting

Book-Keeping	Accounting
Output of book-keeping is an input for accounting.	The output of accounting helps take holders makes informed decisions.
The goal of bookkeeping is to keep a systematic record of financial transactions and events in the order they happen.	The purpose of accounting is to determine how a business is performing and to report its financial health.
Book-keeping is the foundation of accounting.	Accounting is considered as a language of business.
Book-keeping is carried out by the junior staff.	Skilled senior staff analyse and interpret accounting data.

SINGLE ENTRY SYSTEM

Single-entry book keeping uses one-sided entries for financial records, while double-entry book keeping records both aspects of every transaction.

DOUBLE ENTRY SYSTEM

Double-entry book keeping uses two-sided entries to record financial information. Each entry in an account has a corresponding entry in an other account. This system has two sides called debit and credit. It was Luca Pacioli, an Italian mathematician, who first published a comprehensive guide to the principles of the double-entry system in 1494.

Features of Double Entry System:

(*a*) **Every transaction involves two aspects:** one party giving a benefit and the other receiving it.

(*b*) **In every transaction, there are two parts:** debit and credit. One account gets debited, and the other gets credited.

Advantages of Double Entry System:

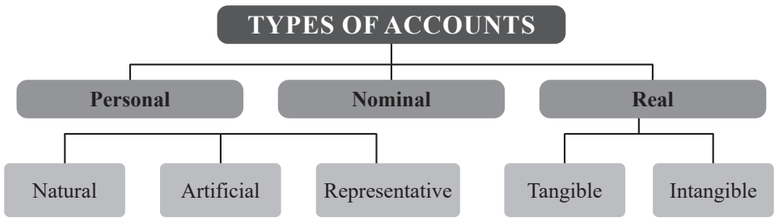
(*a*) It prevents and minimizes error. Moreover, frauds can be detected early.

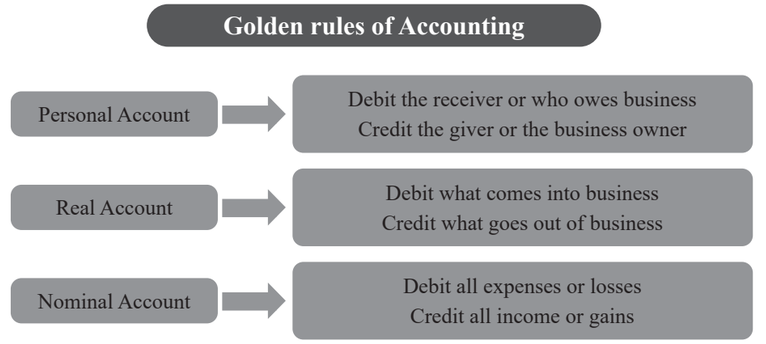
(*b*) Errors can be checked and rectified easily.

Limitations of Double Entry System:

(*a*) The system does not disclose all the errors committed in the books of accounts.

(*b*) It is costly as it involves maintenance of numbers of books of accounts.





JOURNAL

A journal, also known as the Book of Prime Entry or Book of Original Entry, records transactions in the order they occur. The act of recording transactions in a journal is called "journalizing", and each entry in this book is called a "journal entry."

Advantages of Journal

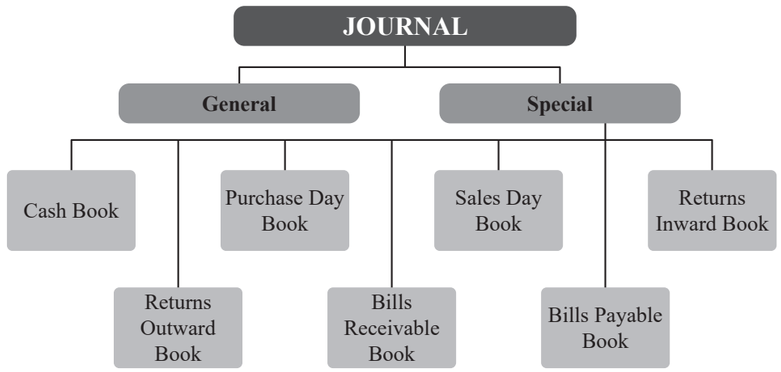
The following are the advantages of a journal:

(*i*) **Chronological Record:** Transactions are recorded as they occur, providing detailed day-to-day information.

(*ii*) **Minimizing the possibility of errors:** Recording and analysing transactions in both debit and credit aspects help determine their nature and impact on the business's financial position.

(*iii*) **Narration:** It means explanation of the recorded transactions.

(*iv*) **Helps to finalize the accounts:** The journal is used to post entries to the ledger and create the Trial Balance. The Trial Balance is essential for preparing the final accounts.



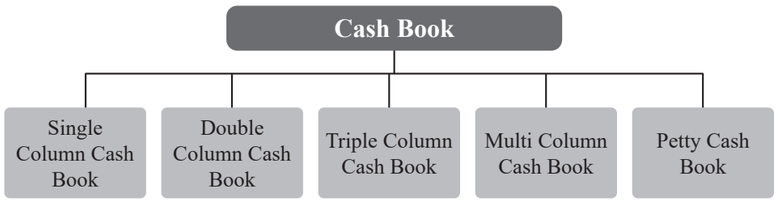
The sub-division of journal is done as follows:

Transaction	Subsidiary Book
All cash and bank transactions	Cash Book has columns for cash, bank and cash discount
All credit purchase of goods — only those goods that are purchased for resale are covered here	Purchase Day Book or Purchase Register
All credit sale of goods	Sales Day Book or Sales Register
All purchase returns — i.e., return of goods back to suppliers due to defects	Purchase Return Book or Return Outward Book
All sales returns — i.e., return of goods back from Customers	Sales Return Book or Return Inward Book
All bill receivables — these are bills accepted by Customers to be honoured at an agreed date	Bills Receivable Book
All bills payable - these are bills accepted by the business to be honoured by paying to suppliers at an agreed date	Bills Payable Book
For all other transactions not covered in any of the above categories — i.e., purchase or sale of assets, expense accruals, rectification entries, adjusting entries,opening entries and closing entries	Journal Proper

CASHBOOK

A Cash Book records all cash receipts and payments. It's a book of original entry because transactions are first recorded from source documents. The Cash Book resembles a Cash Account,showing receipts on the debit side and payments on the credit side. So, it serves as both a journal and a ledger.

Types of Cashbook:



1. Single Column Cash Book

Dr. **Specimen of Single Column Cash Book** **Cr.**

Receipts				Payments			
Date	Particulars	L.F.	Cash	Date	Particulars	L.F.	Cash

2. Double Column Cash Book

Dr. **Specimen of Double Column Cash Book** **Cr.**

Receipts					Payments				
Date	Particulars	L.F.	Cash	Disc. Allowed	Date	Particulars	L.F.	Cash	Disc. Received

3. Triple Column Cash Book

Dr. **Specimen of Triple Column Cash Book** **Cr.**

Receipts						Payments					
Date	Particulars	L.F.	cash	Bank	Discount Allowed	Date	Particulars	L.F.	Bank	Discount Received

4. The multi-column cashbook has multiple columns on both the sides of the cashbook.

5. The petty cashbook.

Purchase Day Book

In the Books of Purchase Day Book

Date	Name of the Suppliers and details of Goods purchased	Invoice reference	L.F.	Amount (Rs.)	Remarks

The format for Purchase Return Book is exactly the same; hence separate illustration is not given.

Sales Day Book

In the Books of Sales Day Book

Date	Name of the Suppliers and details of Goods purchased	Invoice reference	L.F.	Amount (Rs.)	Remarks

The format of sales return book is exactly the same; hence a separate illustration is not given.

Other Subsidiary Books — Returns Inward, Return Outward, Bills Receivable, Bills Payable.

(*i*) **Return Inward Book**

Returns Inward Day Book

Date	Particulars	Outward Invoice	L.F.	Details	Totals	Remarks

(*ii*) **Return Outward Book**

Return Outward Day Book

Date	Particulars	Debit Note	Date	Details	Totals	Remarks

(*iii*) **Bills Receivable Book**

Bills Receivable Day Book

No. of Bills	Date of Receipt of Bill	From whom	Name of the Receiver	Name of Drawer	Name of Acceptor	Date of Bill	Due Date	L.F.	Amount of Bill	How disposed off

(*iv*) **The Bills Payable Book**

Bills Payable Day Book

No. of Bills	Date of Acceptance	To whom given	Name of Drawer	Name of Payee	Name of Payable	Date of Bill	Term	Due Date	L.F.	Amount of Bill How disposed off

LEDGER ACCOUNTS

Ledger Posting

Transactions are first recorded in the journal as journal entries when they occur. Then, these entries are posted to the respective ledger accounts following the double-entry principle. This process is called ledger posting.

To summarize:

Dr.	Assets	Cr.	Dr.	Expenses or Losses	Cr.
Increase		Decrease	Increase		Decrease
Dr.	Liabilities & Capital	Cr.	Dr.	Income or Gains	Cr.
Decrease		Increase	Decrease		Increase

Trial balance

Trial Balance may be defined as a statement or a list of all ledger account balances taken from various ledger books on a particular date to check the arithmetical accuracy.

Features of a Trial balance

(*a*) It is a statement of debit and credit balances.

(*b*) It is not an account. It is only a statement of account.

Specimen of Trial balance as on ……

Sl No.	Name of the Account	L.F.	Debit Balance(Rs.)	Credit Balance

Basic Accounting Terms:

Transaction	**Example:** Rohan went to a book store and bought a book for ₹10. He paid for it using his debit card. This is a transaction because it involves the exchange of money
Event	**Example:** The company received a shipment of inventory worth ₹5,000. This event involves an increase in the company's assets (inventory) and can affect its financial position.
Goods/Services	**Example:** A bakery sells tangible goods like bread and cakes to customers. In contrast, a consulting firm provides intangible services, offering advice and guidance to clients.
Capital Expenditure	**Example:** A company buys a ₹30,000 delivery truck to expand its services. This is a capital expenditure since the truck, as a fixed asset, is meant for long-term use to boost business profits.
Revenue Expenditure	**Example:** A company spends ₹2,000 on machinery repairs for operational efficiency. This is a revenue expenditure as it's for maintaining machinery's current performance and benefits are expected within the same accounting period.
Profit and Loss Account or Income Statement	**Example:** At year-end, a company summarizes its revenue, expenses, and calculates net profit or loss. For instance, it might report a ₹50,000 net profit after deducting all expenses from revenue.
Profit	**Example:** A lemonade stand earns ₹100 from selling lemonade during the summer. After subtracting expenses such as the cost of lemons, sugar, and cups, totalling ₹40, the lemonade stand has a profit of ₹60 (₹100 - ₹40).

Loss	**Example:** A small business spends ₹500 on advertising but only generates ₹300 in revenue from sales. In this case, the business has incurred a loss of ₹200 (₹300-₹500).
Trade Discount	**Example:** A retailer buys 20 pairs of shoes at ₹100 each from a wholesaler, who offers a 10% trade discount. Instead of ₹2,000, the retailer records the transaction at ₹1,800 after the discount. They pay ₹1,800 to the wholesaler.
Cash Discount	**Example:** A customer buys ₹1,000 worth of goods with a 10% trade discount, reducing it to ₹900. If paid within 10 days, they get an extra 5% cash discount, saving ₹45 (5% of ₹900). Thus, they pay a net amount of ₹855 after both discounts.
Balance Sheet	**Example:** At year-end, a company's balance sheet summarizes its financial status. It lists assets like cash, liabilities such as loans, and owner's equity. For instance, assets total ₹100,000, liabilities ₹60,000, and owner's equity ₹40,000, showing the company's financial position.
Asset	**Example:** A company's fleet of delivery trucks is a tangible asset used for transporting goods to customers, contributing to future profits through delivery services.
Tangible Assets	**Example:** A manufacturing company owns a factory building where production takes place, machinery used for manufacturing, and vehicles for transporting goods. These assets have physical existence and can be seen, touched, and felt.
Intangible Assets	**Example:** A software company owns patents and trademarks, intangible assets with no physical form. These assets grant exclusive rights and benefits, aiding future revenue generation.

Current Assets	**Example:** A retail company's inventory, including clothing and electronics, is intended for sale within 12 months after the reporting date. These items are current assets on the balance sheet.
Non-Current Assets	**Example:** A construction company owns heavy machinery like excavators and bulldozers for long-term projects, not for near-future sale. These assets are classified as non-current assets on the balance sheet.
Current Investments	**Example:** A company purchases shares of a mutual fund for short-term gains, intending to sell them within a year. These are current investments, easily sellable within a year.
Non-Current Investments:	**Example:** A company invests in 10-year treasury bonds, planning to hold them for over a year. These are non-current investments, kept for potential future sale.
Debtor	**Example:** A furniture store sells ₹1,000 worth of furniture to a customer on credit. The amount owed by the customer to the store becomes a debtor.
Fictitious Assets	**Example:** A company records a provision for discounts to be given to creditors. This entry represents an expected future expense rather than a tangible asset. Since it's not a real asset but only an accounting entry, it's classified as a fictitious asset.
Wasting Assets	**Example:** A mining company owns a coal mine. Overtime, as coal is extracted, the mine's value decreases until it's exhausted. The coal mine is a wasting asset as its value diminishes with extraction.

Liability	**Example:** A company buys goods worth ₹5,000 on credit. This creates an obligation to pay the supplier ₹5,000 in the future, making it a liability.
Current Liabilities	**Example:** A company owes ₹10,000 to suppliers for inventory purchased on credit, due for payment within the next month. This is a current liability as it needs to be settled within 12 months after the reporting date.
Non-Current Liabilities	**Example:** A company takes out a loan with a repayment period of 5 years. This loan is classified as a non-current liability because it's not due for settlement within the next 12 months after the reporting date.
Contingent Liability	**Example:** If a supplier files a legal suit against a business, the potential obligation to pay damages would be considered a contingent liability until the outcome of the lawsuit is determined.
Capital	**Example:** John invests ₹50,000 of his own savings into starting a new bakery business. This ₹50,000 represents John's capital in the business.
Drawings	**Example:** Sarah withdraws ₹500 from the cash register of her business to pay her personal bills. This withdrawal is her drawings, reducing her capital in the business.
Networth	**Example:** A company's net worth is ₹100,000, derived from subtracting its total liabilities (₹50,000) from its total assets (₹150,000).
Creditor	**Example:** A company owes ₹10,000 to a supplier for goods bought on credit. The supplier is a creditor, listed as a current liability on the balance sheet.

2 INTRODUCTION TO CORPORATE ACCOUNTING

TOPICS TO BE COVERED

- Introduction
- Records of accounts to be maintained by a company
- Financial statements
- Preparation and presentation of financial statements
- Schedule III of the companies act, 2013
- Presentation of balance sheet
- Part I – form of balance sheet
- **Disclosure requirement:** schedules forming part of financial statements
- Part II – form of statement of profit and loss
- General instructions for preparation of statement of profit and loss
- What is XBRL (Extensible Business Reporting Language)?
- What are the features of XBRL?
- What are the advantages of XBRL?

INTRODUCTION

Sole proprietorships and partnerships aren't legally required to prepare final accounts. However, companies must follow statutory obligations outlined in the Companies Act. Sections 128 to 138 of the Act, along with Schedules II and III, became effective on April 1, 2014. Relevant rules were also notified. These provisions, schedules, and rules apply to financial years starting on or after April 1, 2014.

RECORDS OF ACCOUNTS TO BE MAINTAINED BY A COMPANY

Section 128 of the Companies Act, 2013 mandates that every company must maintain books of account, financial statements, and relevant documents at its registered office. These records should accurately reflect the company's financial status, including any branch offices, and detail all transactions. They must be kept using accrual accounting and the double entry system. However, the board of directors can choose to keep these records at a different location in India, in which case they must inform the Registrar within seven days.

Conditions Regarding Maintenance and Inspection of Certain Financial Information by Directors

The summarised returns of the books of account of the company kept and maintained outside India shall be sent to the registered office at quarterly intervals, which shall be kept and maintained at the registered office of the company and kept open to directors for inspection.

Where any other financial information maintained outside the country is required by a director, the director shall furnish a request to the company setting out the full details of the financial information sought, the period for which such information is sought.

The company shall produce such financial information to the director within fifteen days of the date of receipt of the written request.

The financial information shall be sought for by the director himself and not by or through his power of attorney holder or agent or representative.

FINANCIAL STATEMENTS

- Balance Sheet as the end of the financial year;
- Profit and loss account, or in case of a company carrying on any activity not for profit, an income and expenditure account for the financial year;
- Cash Flow Statement for the financial year; and
- Any explanatory not annexed to, or forming part of, any document referred to in sub-clause (i) to sub-clause (iv).

Preparation and Presentation of Financial Statements

(*i*) The items contained in such financial statements shall be in accordance with the accounting standards.

(*ii*) Nothing contained in this sub-section shall apply to any insurance or banking company or any company engaged in the generation or supply of electricity, or to any other class of company for which a form of financial statement has been specified in or under the Act governing such class of company.

(*iii*) The financial statements shall not be treated as not disclosing a true and fair view of the state of affairs of the company, merely by reason of the fact that they do not disclose

(*a*) in the case of an insurance company, any matters which are not required to be disclosed by the Insurance Act, 1938, or the Insurance Regulatory and Development Authority Act, 1999;

(*b*) in the case of a banking company, any matters which are not required to be disclosed by the Banking Regulation Act, 1949;

(*c*) in the case of a company engaged in the generation or supply of electricity, any matters which are not required to be disclosed by the Electricity Act, 2003;

(*d*) in the case of a company governed by any other law for the time being in force, any matters which are not required to be disclosed by that law

(*iv*) At every annual general meeting of a company, the Board of Directors of the company shall lay before all members financial statements for the financial year.

(*v*) Where a company has one or more subsidiaries, it shall, in addition to financial statements provided under Sub-section (2), prepares a consolidated financial statement of the company and of all the subsidiaries in the same form and manner as that of its own which shall also be laid before the annual general meeting of the company along with the laying of its financial statement under Sub- section (2).

(*vi*) The company shall also attach along with its financial statement, a separate statement containing the salient features of the financial statement of its subsidiary or subsidiaries. According to the rules, the statement shall contain the salient features of the financial statement of a company's subsidiary or subsidiaries, associate company and joint venture.

Schedule III of the Companies Act, 2013

According to Section 129 of the Companies Act, 2013, all the companies registered under this Act will have to present its financial statements in Schedule III of the Companies Act.

It has several new features like:

(*i*) A vertical format for presentation of Balance Sheet with classification of Balance Sheet items into current and non-current categories.

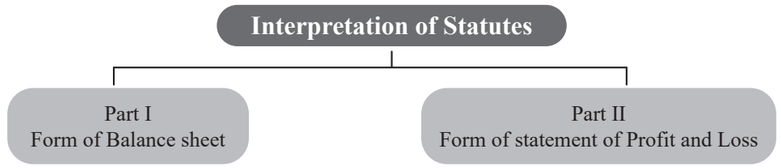
(*ii*) A vertical format of Statement of Profit and Loss with classification of expenses based on nature.

(*iii*) Elimination of the concept of "Schedules" and such information is now to be furnished in terms of "Notes to Accounts".

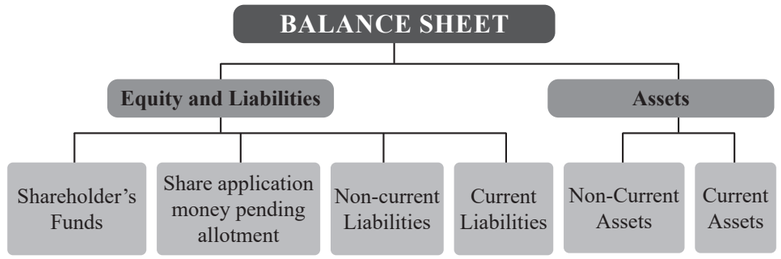
(*iv*) Debit Balance of Statement of Profit & Loss A/c will be disclosed under the head, Reserves & Surplus as the negative figure.

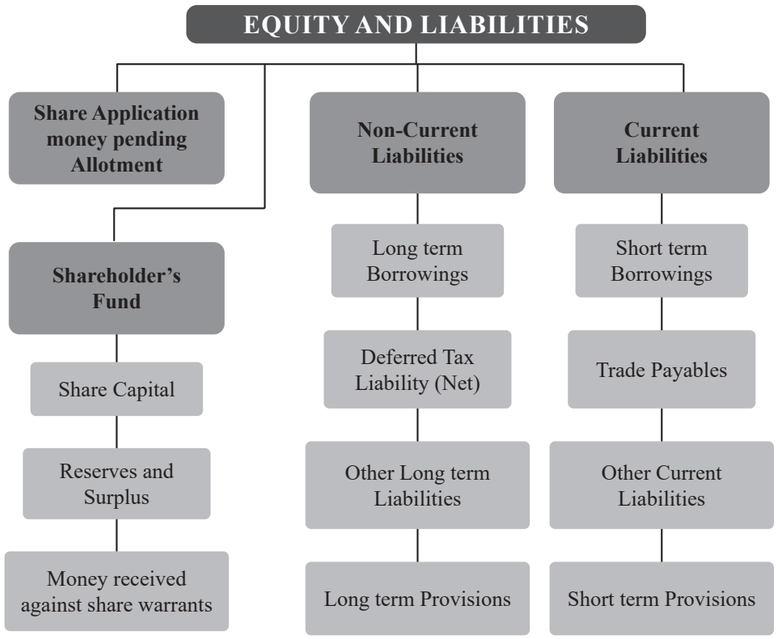
(*v*) No change in the format of cash flow statement as per revised schedule and therefore its preparation continues to be as per AS-3 i.e. cash flow statement.

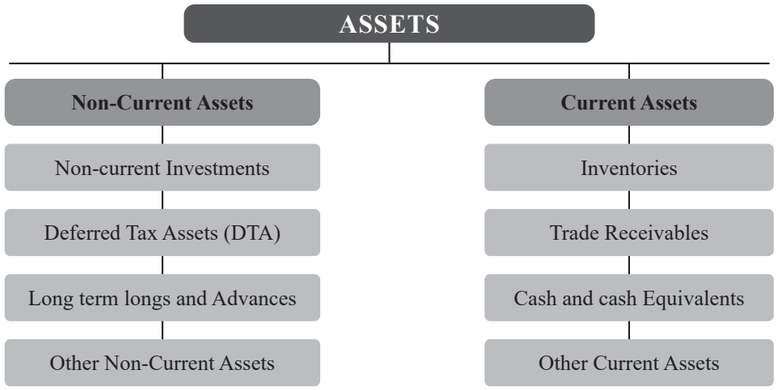
Presentation of Balance Sheet



Part I - Form of Balance Sheet







PART I – FORM OF BALANCE SHEET

Name of the Company:.....

Balance Sheet as at .....

	Particulars	Note No.	Figure as at the end of Current Reporting Period (Rs.)	Figures as at the end of the Previous Reporting Period (Rs.)
I.	**EQUITY AND LIABILITIES**			
(1)	Shareholders' Funds			
	(*a*) Share Capital			
	(*b*) Reserves & Surplus			
	(*c*) Money Received against Share Warrants			
(2)	Share Application money pending allotment			
(3)	Non-Current Liabilities			
	(a) Long-Term Borrowings			
	(b) Deferred Tax liabilities (Net)			
	(c) Other Long-Term Liabilities			
	(d) Long-Term Provisions			
(4)	Current Liabilit1ies			
	(a) Short-Term Borrowings			
	(b) Trade Payables (A) Total outstanding dues of micro enterprises and small enterprises and (B) Total outstanding dues of creditor other than micro enterprises and small enterprises.			
	(c) Other Current Liabilities			
	(d) Short-Term Provisions			
	TOTAL			
II.	**ASSETS**			
(1)	Non-Current Assets			
	(a) Property, plant and equipment and Intangible assets			
	(i) Property, Plant and Equipment			
	(ii) Intangible Assets			
	(iii) Capital work-in-progress			
	(iv) Intangible assets under Development			
	(b) Non-current Investments			
	(c) Deferred Tax Assets (DTA) (Net)			
	(d) Long-term Loans & Advances			
	(e) Other Non-Current Assets			
(2)	Current Assets			
	(a) Current Investments			
	(b) Inventories			
	(c) Trade Receivables			
	(d) Cash & Cash Equipments			
	(e) Short-Term Loans & Advances			
	(f) Other Current Assets			
	Total			

DISCLOSURE REQUIREMENT: SCHEDULES FORMING PART OF FINANCIAL STATEMENTS

(A) for "equity and liabilities" items

(1) Shareholders' funds

(*a*) Share Capital

Schedule III Disclosure Requirement	Points to be considered
General	Schedule III deals only with presentation and disclosure requirements. Accounting classification into Debt and Equity components is governed by the applicable Accounting Standard.
For each Class of Share Capital (different classes of Preference Shares to be treated separately):	
(*a*) Authorized Capital	It is the maximum number and face/par value, of each class of shares that a corporate entity may issue in accordance with its instrument of incorporation.
(*b*) Number of Shares Issued, Subscribed and Fully Paid, and Subscribed but not Fully Paid	"Subscribed Share Capital" is the part of issued shares that investors buy and receive from the company, including bonus shares. "Paid-up Share Capital" is the amount of subscribed shares for which payment, in cash or other forms, has been received. This includes bonus shares and shares issued for non-cash consideration by the company.
(*c*) Face/Par Value per Share	Face Value/Par Value as per Capital Clause in Memorandum of Association should be disclosed.
(*d*) Reconciliation of No. of Shares	For the Amount of Share Capital; For comparative previous period; Create distinct statements for Equity and Preference Shares, broken down and displayed for each share class.
(*e*) Rights, Preferences and Restrictions attaching to shares including restrictions on the distribution of Dividends and the Repayment of Capital	For Equity Share Capital, such rights / preferences / restrictions may be with voting rights, or with differential voting rights as to dividend, voting or otherwise as per Companies (Issue of Share Capital with Differential Voting Rights) Rules, 2001. For Preference Shares, the rights include dividend and/ or capital related rights. Further, Preference Shares can be cumulative, non-cumulative, redeemable, convertible, non- convertible, etc.

(*f*) Shares held in the Company held by its Holding Company or its ultimate Holding Company including Shares held by Subsidiaries or Associates of the Holding Company or the ultimate Holding Company in aggregate	Disclose number of Shares held by the entire chain of Subsidiaries and Associates starting from the Holding Company and ending right up to the Ultimate Holding Company. All such disclosures should be made separately representing for each class of Shares, (for both Equity and Preference Shares).
(*g*) List of Shareholders holding more than 5% shares as on the Balance Sheet Date	Date for computing the 5% limit should be taken as the Balance Sheet date. So, if during the year, any Shareholder held more than 5% Equity Shares but does not hold as much at the Balance Sheet date, disclosure is not required. Companies should disclose the Shareholding for each class of Shares, both within Equity and Preference Shares. So, such% should be computed separately for each class of Shares.
(*h*) Shares Reserved for issue under Options and Contracts/ commitments for the sale of Shares/ Disinvestment, including the Terms and Amounts	❖ Shares under Options generally arise under Promoters or Collaboration Agreements, Loan Agreements or Debenture Deeds (including Convertible Debentures), agreement to convert Preference Shares into Equity Shares, ESOPs or Contracts for supply of Capital Goods, etc. ❖ Disclosure is required for the Number of Shares, Amounts and Other Terms for Shares so reserved. Such options are in respect of Unissued Portion of Share Capital.
(*i*) For the period of 5 years immediately preceding the date as at which the Balance Sheet is prepared Aggregate Number & Class of Shares allotted as Fully Paid up Pursuant to Contract(s) without payment being received in Cash Aggregate No. and Class of Shares allotted as fully Paid up by way of Bonus Shares Aggregate Number & Class of Shares bought back	Disclose only if such event has occurred during a period of 5 years immediately preceding the Current Year Balance Sheet date. The aggregate number of shares allotted or bought back If the company is in operation for a period of less than 5 years, then disclosure should cover all such earlier financial years.
(*j*) Terms of any Securities Convertible into Equity / Preference Shares issued along with the earliest date of conversion in descending order starting from the farthest such date	In case of Compulsorily Convertible Securities, where conversion is done in fixed tranches, all the dates of conversion have to be considered.
(*k*) Calls Unpaid (showing aggregate value of Calls Unpaid by Directors and Officers)	Unpaid Amount towards Shares subscribed by the Subscribers of Memorandum of Association should be considered as 'Subscribed and paid-Up Capital' in the Balance Sheet and the Debts due from the Subscribers should be appropriately disclosed as an Asset in the Balance Sheet
(*l*) Forfeited Shares (amount originally paid up)	
(*m*) Shareholding of Promoter	**Share held by promoter at the end of year** / **% change during the years** **Sr. No.** / **Promoters Name** / **No. of Shares** / **% of Total Shares** Total

(*b*) Reserves & Surplus

Schedule III Disclosure Requirement	Points
Reserves and Surplus shall be classified as- (*a*) Capital Reserves	❖ Capital Reserve is a reserve of a Corporate Enterprise which is not available for distribution as Dividend. ❖ Profit on Re-issue of Forfeited shares is basically profit of a Capital Nature and, hence, it should be credited to Capital Reserve.
(*b*) Capital Redemption Reserve	Capital Redemption Reserve (CRR) is required to be created u/s 55 and 68 (for redemption of Preference Share Capital and buyback of Equity Share Capital), subject to conditions specified in the respective Sections.
(*c*) Securities Premium	
(*d*) Debenture Redemption Reserve	Debenture Redemption Reserve (DRR) is required to be created u/s 71 and maintained until such Debentures are redeemed. On redemption of the Debentures, the amounts no longer necessary to be retained in this Account should be transferred to the General Reserve
(*e*) Revaluation Reserve	Revaluation Reserve is a Reserve created on the revaluation of Assets or Net Assets of an Enterprise represented by the surplus of the estimated Replacement Cost or estimated market values over the Book Values thereof
(*f*) Share Options Outstanding Account	As per ICAI Guidance Note on ESOP, Share Options Outstanding should be shown as separate line item. Under Schedule III, this line item should be shown separately under Reserves & Surplus.
(*g*) Other Reserves (specify the nature & purpose of each Reserve and the amount in respect thereof)	This includes any other Statutory Reserves, e.g. Tonnage Tax reserve to be created under the Income Tax Act, 1961.
(*h*) Surplus, i.e., balance in Statement of P&L disclosing allocations & appropriations, such as, Dividend, Bonus Shares and Transfer to/ from Reserves, etc.	
(Additions & Deductions since last Balance Sheet to be shown under each of specified heads	Appropriations to the Profit for the year (including carried forward balance) is to be presented under the main head 'Reserves and Surplus'. Under Schedule III, the Statement of P&L will no longer reflect any appropriations, like Dividends transferred to Reserves, Bonus Shares, etc.

(*c*) Money received against share warrants

Schedule III Disclosure Requirement	Points
To be shown as a separate line item on the face of Balance Sheet	In case of Listed Companies, Share warrants are issued to Promoters & others in terms of the Guidelines for Preferential Issues, viz. SEBI (Issue of Capital and Disclosure Requirements), Guidelines, 2009. Effectively, Share Warrants are amounts which would ultimately form a part of the Shareholder's Funds. Since Shares are yet to be allotted against the same, these are not reflected as a part of Share Capital, but as a separate line- item

(2) Share application money pending allotment

Schedule III Disclosure Requirement	Points
To be shown as a separate line item on the face of Balance Sheet	Excess application money over authorized capital goes under "Other Current Liabilities." "Share Application Money Pending Allotment" excludes refundable or non-compliant amounts, listed separately under "Other Current Liabilities." Prepaid calls also fall under "Other Current Liabilities,"along with accruing interest.

(3) Non-Current Liabilities

(A) long-term borrowings

Schedule III Disclosure Requirement	Points
Long-Term Borrowings shall be classified as (*a*) Bonds/Debentures	……
(*b*) Terms Loans (i) from Banks, and	Loans with repayment period beyond 36 months are usually known as "Term Loans". So,Cash Credit, Overdraft and Call Money
(ii) from Other Parties,	Accounts/Deposits are not covered by the expression "Term Loans".
(*c*) Deferred Payment Liabilities,	Deferred Payment Liabilities would include any Liability for which payment is to be made on deferred credit terms, e.g., Deferred Sales Tax Liability, Deferred Payment for Acquisition of fixed Assets,etc.

(*d*) Deposits,	Deposits classified under Borrowings would include Deposits accepted from Public and Inter-Corporate Deposits which are in the nature of Borrowings.
(*e*) Loans & Advances from Related Parties,	Loans and Advances from related parties are required to be disclosed. Advances under this head should include those Advances which are in the nature of loans
(*f*) Long-Term Maturities of Finance Lease Obligations	
(*g*) Other Loans & Advances (specify nature)	

(B) Other Long-Term liabilities

Schedule III Disclosure Requirement	Points
It shall be classified as (*a*) Trade Payables	Sundry Creditors for Goods or Services, and Acceptances should be disclosed as part of Trade Payables. Disclosure Requirements under MICRO, SMALL & MEDIUM ENTERPRISES DEVELOPMENT (MSMED) Act will also be required to be made in the annual Financial Statements
(*b*) Others	Amounts due under contractual obligations, e.g., payables in respect of statutory obligations, like contribution to Provident Fund, Purchase of Fixed Assets, Contractually Reimbursable Expenses, Interest Accrued on Trade Payables, etc., should be classified as "Others" and each such item should be disclosed nature wise.

(C) Long-Term Provisions

Schedule III Disclosure Requirement	Points
It shall be classified as (*a*) Provision for Employee Benefits	This should be classified into short-term and long-term portions, and the latter amount should be included here.
(*b*) Others (Specifying nature)	This would include items like Provisions for Warranties.

(4) Current Liabilities

(*a*) Short-Term borrowings

Schedule III Disclosure Requirement	Points
1. Short-Term Borrowings shall be classified as	❖ Short-Term Borrowings will include all Loans within a period of 12 months from the date of the loan, Loans payable on demand, etc., but they will not include Current Maturity of Long-Term Borrowings (which should be treated only as "Other Current Liabilities").
❖ Loans Repayable on demand- (*i*) from Banks, & (*ii*) Other Parties, ❖ Loans and Advances from Related Parties, ❖ Deposits, ❖ Others Loans and Advances (specify nature) ❖ Current maturities of Long Term Borrowing	❖ In case of Short-Term Borrowings, all defaults (not continuing defaults as in the case of Long Term Borrowings) existing as at the date of the Balance Sheet should be disclosed (item wise) ❖ A 3-Year Loan taken for a business with a 4-year Operating Cycle will be categorized only as Short-Term Borrowings, and not as Long-Term Borrowings.

(*b*) Trade Payables

Schedule III Disclosure Requirement	Points
It shall be classified as (*a*) Total outstanding dues of micro enterprises and small enterprises; and (*b*) Total outstanding dues of creditors other than micro enterprises and small enterprises."	❖ Liability for Capital Goods Purchases: Amount due towards purchase disclosed under "Other Current Liabilities" with a suitable description. ❖ Liability under Contractual Obligations: Liability towards Employees, Leases or other Contractual Liabilities should not be included under Trade Payables. Only "Commercial Dues" can be included under Trade Payables.

(*c*) Other current liabilities

Schedule III Disclosure Requirement	Points
It shall be classified as- (*a*) Current Maturities of Finance Lease Obligations, (*b*) Interest Accrued but not due on Borrowings, (*c*) Interest Accrued and due on Borrowings, (*d*) Income Received in Advance, (*e*) Unpaid Dividends, (*f*) Application Money received for allotment of Securities and due for Refund and Interest Accrued there on (Refer note below) (*g*) Unpaid Matured Deposits and Interest Accrued there on, (*h*) Unpaid Matured Debentures and Interest Accrued there on, (*i*) Other Payables (specify nature).	❖ The portion of Long-Term Debts/ Lease Obligations, which is due for payments within 12 months of the reporting date is required to be classified under "Other Current Liabilities",while the balance amount should be classified under Long-Term Borrowings. ❖ Trade Deposits and Security Deposits which are not in the nature of Borrowings should be classified separately under Other Non-Current/ Current Liabilities.

(*d*) Short term provisions

Schedule III Disclosure Requirement	Points
It shall be classified as (*a*) Provision for Employee Benefits	This should be classified into short-term and long-term portions, and the former amount should be included here.
(*b*) Others (Specifying nature)	This includes Provision for Dividend, Provision for Taxation, Provision for Warranties, etc

(B) Disclosure Requirements For "Assets" Items

(1) Non-Current Assets

***(A)* (*i*) Property Plant And Equipment (Also Refer AS – 6, 10)**

Schedule III Disclosure Requirement	Points
1. Classification shall be given as (*a*) Land, (*b*) Buildings, (*c*) Plant and Equipment, (*d*) Furniture & Fixtures, (*e*) Vehicles, (*f*) Office Equipment, (*g*) Others (Specify Nature)	AS-19 excludes Land Leases from its scope. Leasehold Land should be presented as a separate assets class under Tangible Assets. Also, Freehold Land should be presented as a separate asset class.

Schedule III Disclosure Requirement	Points
2. Assets under Lease shall be separately specified under each class of Asset.	The term "under lease" should mean: (*a*) Assets given on Operating Lease in the case of Lessor, and (*b*) Assets held under Finance Lease in the case of Lessee. Lease hold Improvements should continue to be shown as a separate asset class.
3. **Re-evaluation:** Where sums have been written off on a Reduction of Capital or Re-evaluation of Assets of where sums have been added on Re-evaluation of Assets, every Balance Sheet subsequent to date of such write off, in addition shall show the Reduced or Increased figures as applicable and shall be way of a Note also show the amount of the Reduction or Increase as applicable together with the date thereof for the first 5 years subsequent to the dare of such Reduction or Increase.	AS-10 requires disclosure of details such as Gross Book Value of Re-evalued Assets, Method adopted to compute re-evalued amounts, Nature of indices used, Year of appraisal, Involvement of External Valuer, etc. as long as the concerned assets are held by the Enterprise. [but only 5 years period is specified in Schedule III]
4. **Reconciliation:** A Reconciliation of the Gross and Net Carrying Amounts of each Class of Assets at the Beginning and End of the Reporting period showing Additions, Disposals, Acquisitions through Business Combinations and other Adjustments and the related Depreciation and Impairment Losses / Reversals shall be disclosed separately.	(*a*) Since reconciliation of Gross and Net Carrying Amounts of Fixed assets is required, the Depreciation/ Amounts of fixed assets is required, the Depreciation/ Amortization for each class of asset should be disclosed in terms of (i) Opening Accumulated Depreciation, (ii) Depreciation/Amortization for the year, (iii) Deductions/Other Adjustments, and l Closing Accumulated Depreciation/ Amortization. (*b*) Similar disclosures should also be made for Impairment, if any, as applicable.

(*ii*) Intangible Assets (Also Refer AS-26)

Schedule III Disclosure Requirement	Points
Classification shall be given as (*a*) Goodwill, (*b*) Brands / Trademarks, (*c*) Computer Software, (*d*) Mastheads and Publishing Titles, (*e*) Mining Rights, (*f*) Copyrights, and Patents and Other Intellectual Property Rights, Services and Operating Rights, (*g*) Recipes, Formula, Models, Designs and Prototypes, (*h*) Licenses and Franchise, (*i*) Others (specify nature).	Classification of Intangible Assets has been introduced under Schedule VI (R). Intangible Assets under development should also be disclosed separately, if AS-26 criteria are met

(*iii*) Capital work in progress

Schedule III Disclosure Requirement	Points
To be shown as a separate line item on the face of Balance sheet	Capital Advances should be included under Long-term Loans and Advances and hence, cannot be included under Capital WIP.

(B) Non-Current Investments (Also refer AS–13)

Schedule III Disclosure Requirement	Points
Non-Current Investments shall be classified as Trade Investments and Other Investments, and further classified as Investments in (*a*) Property, (*b*) Equity Instruments, (*c*) Preference Shares, (*d*) Government/Trust Securities, (*e*) Debentures or Bonds, (*f*) Mutual Funds, (*g*) Partnership Firms,and (*h*) Other Non-Current Investments (specify nature).	❖ If a Debenture is to be redeemed partly within 12 months and balance again after 12 months, the amount to be redeemed within 12 months should be disclosed as current, and balance as non-current. ❖ "Trade Investment" is normally understood as an investment made by a Company in Shares or Debentures of another Company, to promote the trade or business of the first Company.

(C) Long-term loans and advances

Schedule III Disclosure Requirement	Points
1. **General Classification:** Long-Term Loans and Advances shall be classified as (*a*) Capital Advances, (*b*) Loans and Advances to Related Parties (giving details there of), (*c*) Other Loans and Advances (specify nature)	**Capital Advances:** It should be specifically included under Long-Term Loans and Advances and hence, cannot be included under Capital Work-In-Progress: Capital Advances are advances given for procurement of Fixed Assets which are Non-Current Assets. They are not realized back in cash, and over a period, get converted into Fixed Assets. Hence,they are always Long-Term Advances, irrespective of when the Fixed Assets are expected to be received.
2. **Security wise Classification:** The above shall be separately sub-classified as (*a*) Secured, considered Good (*b*) Unsecured, considered Good (*c*) Doubtful.	……
3. **Bad/Doubtful:** Allowance for Bad and Doubtful Loans and Advances shall be disclosed under the relevant heads separately.	……
4. **Directors etc.:** Loans and advances owed by directors, officers, or firms where a director holds a position should be listed separately.	The term "Details" of Loans and Advances of Related Parties would mean disclosure requirements contained in AS-18.

(D) Other Non-Current Assets

Schedule III Disclosure Requirement	Points
1. Other Non-Current Assets shall be classified as: (*a*) Long-term Trade Receivables (including Trade Receivables on Deferred Credit Terms) (*b*) Securities Deposits (*c*) Others (specify nature)	A Receivable shall be classified as 'Trade Receivable' if it is in respect of the amount due on account of goods sold or services rendered in the normal course of business.
2. **Security wise Classification:** Long-Term Receivables shall be separately sub classified as (*a*) Secured, considered good (*b*) Unsecured, Considered Good (*c*) Doubtful.	Dues in respect of Insurance Claims, Sale of Fixed Assets, Contractually Reimbursable Expenses, Interest Accrued on Trade Receivables, etc., should be classified as "Others" and each such item should be disclosed according to their nature.
3. For Trade Receivables Outstanding	Trade Receivables ageing schedule

2. Current Assets

(A) Current investments (Also refer AS–13)

Schedule III Disclosure Requirement	Points
Current Investments shall be classified as: (*a*) Investments in Equity Instruments, (*b*) Investment in Preference Shares,	Principles given for Non-current Investments will apply here also to the relevant. However, Trade vs Non-Trade Classification, is not required for Current Investments.
(*c*) Investments in Government or Trust Securities, (*d*) Investments in Debentures or Bonds, (*e*) Investments in Mutual Funds, (*f*) Investments in Partnership Firms, (*g*) Other Investments (specify nature).	

(B) Inventories (Also refer AS-2)

Schedule III Disclosure Requirement	Points
Inventories shall be classified as (*a*) Raw materials, (*b*) Work In Progress, (*c*) Finished Goods, (*d*) Stock-in-Trade (in respect of goods acquired for Trading), (*e*) Stores and Spares, (*f*) Loose Tools, (*g*) Others (specify nature). **Note:** Goods-in-Transit shall be disclosed under the relevant subhead of Inventories. Mode of Valuation shall be stated.	❖ Goods in Transit should be included under relevant heads with suitable disclosure ❖ The heading "Finished Goods" should comprise all Finished Goods other than those acquired for trading purposes. Those acquired for trading purposes are to be shown under "Stock in Trade".

(C) Trade Receivables

Schedule III Disclosure Requirement	Points
1. Aggregate amount of Trade Receivables outstanding for a period exceeding 6 months from the date they are due for payment should be separately stated. 2. **Security wise Details:** Trade Receivables shall be separately sub classified as (*a*) Secured, considered Good (*b*) Unsecured, considered Good (*c*) Doubtful. 3. **Bad/Doubtful:** Allowance for Bad and Doubtful Loans and Advances shall be disclosed under the relevant heads separately. 4. **Directors, etc.:** Debts due by Directors or Other Officers of the Company or any of them either severally or jointly with any other person or debts due by Firms or Private Companies, respectively in which any Director is a Partner, or a Director, or a Member should be separately stated. 5. Trade Receivables ageing schedule	Schedule III requires separate disclosure of "Trade Receivables O/s for a period exceeding 6 months from the date they become due for payment", only for the current portion of Trade Receivables. Where no due date is specifically agreed upon, normal credit period allowed by the Company should be taken into consideration for computing the due date, which may vary depending upon the Nature of Goods or Services sold and the Type of Customers, etc.

(D) Cash and Cash Equivalents (Also refer AS-3)

Schedule III Disclosure Requirement	Points
Cash and Cash Equivalents shall be classified as (*a*) Balances with Banks, (*b*) Cheques, Drafts on Hand, (*c*) Cash on Hand, (*d*) Other (Specify nature).	"Other Bank Balances" would comprise items like Balances with Banks to the extent of holding as Margin Money or Security against Borrowings, etc., and Bank Deposits with more than 3 months maturity. Bank Deposits with more than 12 months maturity will also need to be separately disclosed under the above subhead.

(E) Short-term Loans and Advances

Schedule III Disclosure Requirement	Points
1. **General Classification:** Short-Term Loans and Advances shall be classified as (*a*) Loans and Advances to Related Parties (giving details thereof), (*b*) Others (specify nature).	Principles given for Long-Term Loans and Advances will apply here to the relevant extent.
2. **Security wise Classification:** The above shall also be sub classified as- (*a*) Secured, considered Good, (*b*) Unsecured, considered Good, (*c*) Doubtful.	

3. Bad Doubtful: Allowance for Bad and Doubtful Loans and Advances shall be disclosed under the relevant heads separately.	
4. Directors, etc.: Loans & Advances due by Directors or Other Officers of the Company or any of them either severally or Jointly with any other person or amounts due by Firms or Private Companies, respectively in which any Director is a Partner or a Director or a Member shall be separately stated	

(F) Other Current Assets

Schedule III Disclosure Requirement	Points
❖ This is an all-inclusive heading, which incorporates Current Assets which do not fit into any other Asset Categories. ❖ Nature of each item should be specified ❖ In case any amount classified under this category is doubtful, it is advisable that such doubtful amount as well as any provision made there against should be separately disclosed.	❖ This is an all-inclusive heading, which incorporates Current Assets that do not fit into any other asset categories, e.g.. Unbilled Revenue, Unamortized Premium on Forward Contracts, etc.

PART II – FORM OF STATEMENT OF PROFIT AND LOSS

Name of the Company……

Profit and Loss Statement for the year ended ……...(Rs. in .....)

Particulars	Note No.	Figures for the Current Reporting Period	Figures for the Previous Reporting Period
I.	Revenue from Operations	XXX	XXX
II.	Other Income	XXX	XXX
III.	Total Income (I + II)	XXX	XXX
IV.	**Expenses:**		
	Cost of Materials Consumed Purchases of Stock-In-Trade	XXX	XXX
	Changes in Inventories of Finished Goods/Work-in-progress and Stock-In-Trade	XXX	XXX
	Employee Benefits Expense	XXX	XXX
	Finance Costs	XXX	XXX
	Depreciation and Amortization Expense	XXX	XXX
	Other Expenses	XXX	XXX
	Total Expenses	**XXX**	**XXX**
V.	Profit before exceptional & Extraordinary items and tax (III – IV)	XXX	XXX
VI.	Exception all ltems	XXX	XXX
VII.	Profit before Extrraordinary Items (VVI)	XXX	XXX
VIII.	Extraordiniary ltems	XXX	XXX
IX.	Profit before Tax (VII-VIII.I)	XXX	XXX
X.	**Tax Expenses:** (1) Current Tax (2) Deferred Tax	XXX	XXX
XI.	Profit/(Loss) for the period from Continuing Operations (IX – X)	XXX	XXX
XII.	Profit/(Loss) from Discontinuing Operations	XXX	XXX
XIII.	Tax Expense of Discontinuing Operations	XXX	XXX
XIV.	Profit/(Loss) from Discontinuing Operations (After Tax) (XII-XIII)	XXX	XXX
XV.	Profit/(Loss) for the period (XI + XIV)	XXX	XXX
XVI.	**Earnings per (Equity) Share:** (1) Basic (2) Diluted	XXX	XXX

GENERAL INSTRUCTIONS FOR PREPARATION OF STATEMENT OF PROFIT AND LOSS

(*i*) **Employee benefits, Expense, Income Items, etc.:**

(*a*) Employee Benefits Expense [showed separately – (*i*) Salaries & Wages, (*ii*) Contribution to PF and Other Funds,(*iii*) Expense on ESOP and Employee Stock Purchase Plan (ESPP), (*iv*) Staff Welfare Expenses],

(*b*) Depreciation and Amortization Expenses,

(*c*) Any item of Income of Expenditure which exceeds 1% of Revenue from Operations or Rs. 1,00,000 whichever is higher.

(*ii*) **Materials, goods, Services, etc.:**

(*a*) In the case of **Manufacturing Companies:**

Raw Materials under broad heads, Goods Purchased under broad heads.

(*b*) In the case of Trading Companies, Purchases in respect of goods Traded in by the Company under broad heads.

(*iii*) In the case of all concerns regarding Works-in-Progress are shown under broad heads.

(*iv*) **Reserves–Creation & Utilization:**

(*a*) The aggregate, if material, of any amounts set a side or proposed to be set aside to Reserve, without including Provisions made to meet any Specific Liability, Contingency or Commitment known to exist at the date as to which the Balance Sheet is made up.

(*b*) The aggregate, if material, of any amounts withdrawn from such Reserves.

(*v*) **Provision–Creation & Utilization:**

(*a*) The aggregate, if material, of the amounts set a side to Provisions made for meeting Specific Liabilities, Contingencies or Commitments.

(*b*) The aggregate, if material, of the amounts withdrawn from such provisions, as no longer required.

(*vi*) **Expenses, etc.:** Expenditure incurred on each of the following items, separately for each item:

(*a*) Consumption of Stores and Spare Parts,

(*b*) Power and Fuel,

(*c*) Rent,

(*d*) Repairs of Buildings,

(*vii*) **Subsidiaries Information:**

(*a*) Dividends from Subsidiary Companies.

(*b*) Provisions for Losses of Subsidiary Companies.

(*viii*) **Forex Information:** The P & LA/c shall also contain by way of a Note the following Information, namely

(*a*) Value of Imports calculated on CIF basis by the Company during the Financial Year in respect of – (I) Raw Materials, (II) Components and Spare Parts, (III) Capital Goods

(*b*) Expenditure in Foreign Currency during the Financial Year on account of Royalty, Know-How, Professional and Consultation Fees, Interest, and Other Matters

(*ix*) **Undisclosed income:**

The company must disclose any income from transactions not recorded in the books but declared during tax assessments under the Income Tax Act, 1961.

This includes instances like searches or surveys. It should also mention if this income and related assets were properly recorded in the books during the year, except when there's immunity for disclosure under any scheme.

(*x*) **Corporate Social Responsibility (CSR):**

Where the company covered under section 135 of the companies act, the following shall be disclosed with regard to CSR activities:

(*a*) amount required to be spent by the company during the year,

(*b*) amount of expenditure incurred,

(*xi*) **Details of Crypto Currency or virtual Currency:**

Where the Company has traded or invested in Cryptocurrency or Virtual Currency during the financial year, the following shall be disclosed:

(*a*) profit or loss on transactions involving Cryptocurrency or Virtual Currency

(*b*) amount of currency held as at there porting date;

WHAT IS XBRL (EXTENSIBLE BUSINESS REPORTING LANGUAGE)?

XBRL (Extensible Business Reporting Language) is a software standard that was developed to improve the way in which financial data is communicated, making it easier to compile and share this data. Notably, Extensible Business Reporting Language is an implementation of XML (extensible markup language), which is a specification that is used for organizing and defining data online.

WHAT ARE THE FEATURES OF XBRL?

Machine-readability: A machine-readable language is XBRL. XBRL tags and the data they mark-up are understood by computers. As a result, managing XBRL data becomes simple for businesses, investors, and analysts.

Extensibility: The tags that are available in a (open) taxonomy do not restrict XBRL reporting. Custom XBRL tags allow businesses to communicate disclosures for which there isn't a suitable taxonomy notion. As a result, corporations may communicate their disclosures to their various stakeholders more effectively and XBRL reporting becomes more detailed.

Interoperability: Interoperability between software systems is facilitated by XBRL's intuitive language. Due to this, XBRL reports may now be produced by XBRL readers—used by investors and analysts—and transferred effortlessly between report creation software, used by firms, and report collecting software, used by regulators. In addition, Application Programming Interfaces (APIs) allow the intelligent use of XBRL data for a range of uses that support superior business judgments.

WHAT ARE THE ADVANTAGES OF XBRL?

Transparency: Due to the XBRL tagging and digital recording of every data point, XBRL reporting greatly increases the transparency of both financial and non-financial disclosures.

Accessibility: Due to its digital nature, an XBRL report is simpler to transfer between computer terminals. Furthermore, an XBRL/iXBRL report's data can be readily extracted for analysis into a spreadsheet because it is machine-readable. This improves XBRL information accessibility.

Comparability: Reports from different entities become click-by-click comparative when they file financial data in XBRL. Spread sheets don't require analysts to manually enter data. XBRL information is easier for them to access and compare than data that is restricted to PDFs or other static documents.

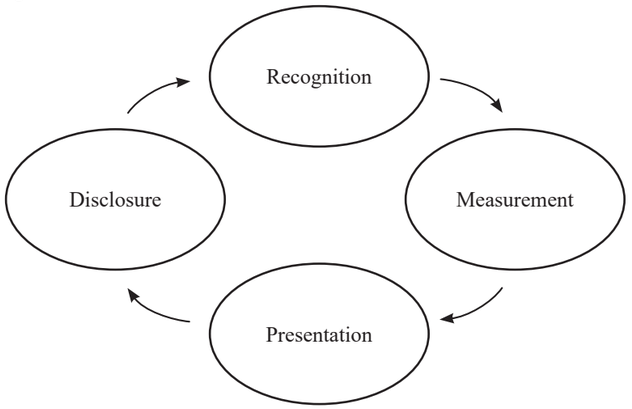
3 ACCOUNTING STANDARDS (AS)

TOPICS TO BE COVERED

- Introduction - Accounting Standards
- Need of Accounting Standard
- List of Accounting Standards Issued by ICAI
- Applicability of Accounting Standards
- Overview of Accounting Standard
- International Financial Reporting Standards (IFRS) as Global Standards
- Convergence of Accounting Standard with IFRS in India
- List of IFRS
- IFRS vs IGAAP
- Comparison of Ind AS 1 with Existing Indian GAAP 1
- Comparison of Ind AS 2 with Existing Indian GAAP 2
- Comparison of Ind AS 8 with existing Indian GAAP 5
- Comparison of Ind AS 16 with existing Indian GAAP 10
- Comparison of Ind AS 19 with existing Indian GAAP 15
- Comparison of Ind AS 20 with existing Indian GAAP 12

INTRODUCTION - ACCOUNTING STANDARDS

Accounting Standards are official documents created by accounting experts or government bodies. They outline rules for recognizing, measuring, presenting, and disclosing accounting transactions in financial statements.



(*i*) **Recognition of transactions and other events:** Recognition is adding an item to the Balance Sheet and Profit and Loss statement, describing it and assigning a monetary value. Accounting standards guide us on what to include in these statements.

(*ii*) **Measurement of the transactions and other events:** Accounting standards also guide how to quantify transactions and events. For instance, AS 10 'Property, Plant and Equipment' outlines the costs to consider for recognizing an asset, such as purchase price, taxes, duties, and direct costs for asset preparation.

(*iii*) **Presentation of transactions and other events:** Accounting Standards also cover how transactions and events are presented in the Balance Sheet and Profit and Loss statement. For instance, AS 3 'Cash Flow Statements' specifies how operating, investing, and financing activities should be presented in the cash flow statement.

(*iv*) **Disclosure of transactions and other events:** Accounting standards also address how transactions are disclosed in financial statements. For example, AS 10 requires separate disclosure of gross and net carrying amounts of Property, Plant, and Equipment, along with details of additions, disposals, acquisitions, and other movements.

NEED OF ACCOUNTING STANDARD

(*i*) Improvement of credibility and reliability of financial statements
(*ii*) Comparability of financial Statements made easy
(*iii*) Benefits to the accountants and auditors
(*iv*) Additional disclosures
(*v*) Evaluation of the managerial ability
(*vi*) Helpful to the Government

LIST OF ACCOUNTING STANDARDS ISSUED BY ICAI

AS 1	Disclosure of Accounting Policies
AS 2	Valuation of Inventories (Revised)
AS 3	Cash Flow Statements
AS 4	Contingencies and Events Occurring After Balance Sheet Date (Revised)
AS 5	Net profit or Loss for the period, Prior Period Items and Changes in Accounting Policies
AS 7	Construction Contracts
AS 9	Revenue Recognition
AS 10	Property, Plant and Equipment (Revised)
AS 11	The Effects of Changes in Foreign Exchange Rates
AS 12	Government Grants
AS 13	Accounting for Investments (Revised)
AS 14	Accounting for Amalgamations (Revised)
AS 15	Employee Benefits
AS 16	Borrowing Costs
AS 17	Segment Reporting
AS 18	Related Party Disclosures
AS 19	Leases
AS 20	Earnings per Share
AS 21	Consolidated Financial Statements (Revised)
AS 22	Accounting for Taxes on Income
AS 23	Accounting for Investments in Associates
AS 24	Discontinuing Operations
AS 25	Interim Financial Reporting
AS 26	Intangible Assets
AS 27	Financial Reporting of Interests in Joint Ventures
AS 28	Impairment of Assets
AS 29	Provisions, Contingent Liabilities and Contingent Assets (Revised)

APPLICABILITY OF ACCOUNTING STANDARDS

(*a*) Sole proprietorship concerns/individuals
(*b*) Partnership firms
(*c*) Societies
(*d*) Trusts
(*e*) Hindu Undivided families
(*f*) Association of Persons (AOP)
(*g*) Body of individuals (BOI)
(*h*) Co-operative societies
(*i*) Companies and LLPs

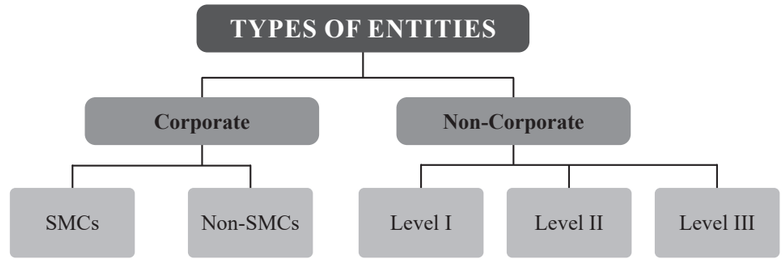
Accounting Standard and Auditors

Auditors must ensure adherence to Accounting Standards mandated by the Central Government. Section 143(3)(*e*) of the Companies Act, 2013 requires auditors to report if financial statements comply with Accounting Standards under section 133 of the Companies Act, 2013.

Accounting Standard and Board's Report

Section 134(5)(*a*) of the Companies Act, 2013 mandates that the Directors' Responsibility Statement must confirm adherence to applicable Accounting Standards in preparing annual accounts and provide explanations for any significant deviations.

For the purpose of applicability of Accounting Standard, entities are grouped as follows:



Corporate Entities		
Type	**Conditions**	**Applicability of Accounting Standard**
Small and Medium Companies (SMCs)	SMCs are companies that satisfy the following conditions: (*a*) Equity and debt securities of the company are not listed or are not in the process of listing on any stock exchange. whether in India or outside India (*b*) Company is not a bank or financial institution or insurance company (*c*) Company's turnover (excluding other income) does not exceed Rs. 50 crores in the immediately preceding accounting year (*d*) Company does not have borrowing (including public deposits) exceeding Rs. 10 crores at any time during the immediately preceding accounting year and (*e*) Company is not a holding company or subsidiary of a non-SMC.	**Partial Exemption:** Certain relaxations are provided with respect to following Accounting Standard: AS 17-Segment Reporting AS 15 - Employee Benefits AS 19-Leases AS 20 - Earnings Per Share (EPS) AS 29 Provisions, contingent liabilities and contingent assets **Full Exemption** AS 3 Cash Flow Statements, shall not apply to SMCs if it is a One Person Company (OPC), dormant company and Small Company
Non-SMCs	Any Other Corporate Entities not falling under SMCS	All the accounting standards are applicable to Non-SMCS.

Non-Corporate Entities		
Level	**Conditions**	**Accounting Standards applicable**
Level I	❖ Entities whose equity or debt instruments are listed or are in process of listing on any stock exchange (in or outside India) ❖ Banks (including co-operative banks), financial institutions or entities carrying on Insurance business ❖ All commercial, industrial or business reporting entities having: ◆ Borrowings > 10 crores (at any time during immediately preceding accounting year) ◆ Turnover > 50 crores (during preceding accounting year) ❖ Holding or subsidiary entities of any of the above.	All the accounting standards are applicable to Level I entities. However, AS 21, 23 and 27 will apply based on regulatory requirement.
Level II	❖ Other than Level I entities if they fall under the following limit. ❖ All commercial, industrial or business reporting entities having: ◆ Borrowings > 1 crores (at any time during immediately preceding accounting year) ◆ Turnover > 10 crores (during preceding accounting year) ❖ Holding or subsidiary entities of any of the above.	Fully applicable AS All accounting standards are applicable to Level II entities except AS 21, 23, 25, 27 and those discussed below. AS applicable but certain relaxations regarding disclosure requirement AS 19 - Leases AS 20-Earning Per Share AS 29 Provisions, contingent liabilities and contingent assets. Accounting standards not applicable AS 3-Cash Flow Statement AS 17-Segment Reporting.
Level III	❖ All non-corporate entities other than Level I and Level II.	In addition to partial and full exemption as given in Level II, full exemption with respect to these two are also available: AS 18-Related Party Disclosures AS 24-Discontinuing Operations.

OVERVIEW OF ACCOUNTING STANDARD

AS	Deals with	Details
AS 1	**Disclosure of Accounting Policies**	Disclosure of accounting policies involves sharing the principles and methods used for financial statement preparation. These disclosures are vital and should be included in the financial statements in one place. While fundamental assumptions don't need specific disclosure, it's important to note that disclosing policies doesn't correct any accounting errors.
AS 2	**Valuation of Inventories**	Valuing inventories means deciding their worth for financial statements before they're sold. It involves calculating their cost and adjusting for any decrease in value. Inventories should be valued at the lower of cost or net realizable value, which includes purchase costs, conversion costs, and other expenses to prepare them for sale.
AS 3	**Cash Flow Statements**	Cash flow statements show how a company's cash and cash equivalents change over time, covering three main activities: operating, investing, and financing. They provide a historical record of where cash came from and where it went during a period. It's a mandatory part of financial statements and helps investors understand a company's liquidity and financial health.
AS 4	**Contingencies and Events Occurring After the balance Sheet Date**	This standard covers how financial statements should deal with uncertainties and events that happen after the balance sheet date. Contingencies are conditions whose outcomes depend on uncertain future events. Events after the balance sheet date are significant occurrences, good or bad, between the balance sheet date and when the financial statements are approved by the board or relevant authority.
AS 5	**Net Profit or Loss for the Period, Prior Period Items and Changes in Accounting Policies**	This standard sets rules for how certain items are classified and disclosed in the statement of profit and loss to ensure consistency across different enterprises' financial statements. It covers extraordinary and prior period items, profit or loss from ordinary activities, changes in accounting estimates, and disclosure of changes in accounting policies. All enterprises must follow these guidelines for presenting their financial statements.
AS 7	**Construction Contracts**	This standard outlines how revenue and costs related to construction contracts should be accounted for. It addresses the challenge of allocating revenue and costs to different accounting periods due to the nature of construction work spanning multiple periods. The standard follows recognition criteria from the Framework for Financial Statements to determine when contract revenue and costs should be recognized. It applies to contractors' financial statements and defines a construction contract as one specifically negotiated for building assets closely linked in design, technology, or purpose.
AS 9	**Revenue Recognition**	This standard outlines how revenue should be recognized in a company's profit and loss statement. It covers revenue generated from selling goods, providing services, and leasing out company resources like interest, royalties, and dividends. Revenue is defined as the total cash, receivables, or other benefits received from these activities. It's measured by the charges customers pay for goods or services and the income earned from leasing resources. In agency relationships, revenue is the commission earned, not the total inflow of cash or benefits.
AS 10	**Property, Plant and Equipment**	This standard outlines how to account for property, plant, and equipment (PPE). PPE refers to tangible assets used for producing goods or services, renting out, or administrative purposes. The goal of this standard is to provide guidelines for recognizing these assets, determining their value, depreciating them, and recognizing impairment losses if necessary. PPE is initially recorded at cost, then valued using either the cost model or revaluation model, and depreciated over its useful life.
AS 11	**The Effects of Changes in Foreign Exchange Rates**	This standard addresses how to account for foreign currency transactions and operations in financial statements. When a company deals with foreign currencies or operates abroad, its financial transactions need to be converted into its reporting currency for inclusion in financial statements. This standard provides guidelines for recording transactions in foreign currencies and translating the financial statements of foreign operations into the reporting currency.

AS 12	**Accounting for government grants**	This standard outlines how to account for government grants received by an enterprise. These grants, also known as subsidies or incentives, are provided by the government in cash or kind to help the enterprise meet certain conditions. They exclude assistance that cannot be valued or transactions indistinguishable from normal business activities. Government grants impact financial statements in two ways: first, they require appropriate accounting treatment upon receipt, and second, they should indicate the extent of benefit received during the reporting period. This helps in comparing financial statements across periods and with other enterprises.
AS 13	**Accounting for Investments**	This standard guides how enterprises should handle investments in their financial reports, including necessary disclosures. Investments are assets held to earn income through dividends, interest, etc., excluding those held as stock-in-trade. Enterprises hold investments for diverse reasons, impacting their performance. Financial statements should differentiate between current and long-term investments, following statutory guidelines or specifying types like government securities, shares, etc., if statutory rules are absent.
AS 14	**Accounting for Amalgamations**	This standard outlines how to account for amalgamations and how to handle any resulting goodwill or reserves. It primarily applies to companies, although some requirements extend to other enterprises. An amalgamation, as defined by this standard, occurs under the provisions of the Companies Act, 2013, or any other applicable statute. It can take two forms: (*a*) a merger-like amalgamation or (*b*) a purchase-like amalgamation.
AS 15	**Employee benefits**	This standard outlines how to account for and disclose employee benefits. It requires a company to recognize a liability when employees provide services in exchange for future benefits and to record an expense when the company uses the economic benefits resulting from employee services. Employee benefits include all forms of compensation given by a company for services rendered by employees.
AS 16	**Borrowing Costs**	This standard sets out how to account for borrowing costs. Borrowing costs include interest and other expenses related to borrowing funds. If borrowing costs are directly linked to acquiring, constructing, or producing a qualifying asset, they should be added to the cost of that asset. The amount eligible for capitalization should be determined according to this standard. Other borrowing costs should be recognized as an expense in the period they are incurred. Financial statements should disclose the accounting policy for borrowing costs and the amount capitalized during the period.
AS 17	**Segment Reporting**	This standard outlines rules for reporting financial information about different products, services, and geographic areas an enterprise operates in. This helps users of financial statements understand the enterprise's performance, assess its risks and returns, and make informed judgments. If a financial report includes both consolidated and separate financial statements, segment information is only required in the consolidated statements. When reporting segment information in consolidated statements, references to financial statement items should be interpreted as relevant items in the consolidated statements.
AS 18	**Related Party Disclosures**	This standard sets out rules for disclosing: ❖ Relationships with related parties ❖ Transactions between a company and its related parties It applies to both the financial statements of individual companies and the consolidated financial statements of holding companies.
AS 19	**Leases**	This standard outline accounting rules and disclosures for finance leases and operating leases, for both lessees and lessors. It applies to all leases except those for natural resources exploration, licensing agreements, and land leases.
AS 20	**Earnings per Share**	This standard sets principles for calculating and presenting earnings per share (EPS) to facilitate performance comparison among different companies and periods. It focuses on the denominator of the EPS calculation for consistency. All companies should apply this standard, but small and medium-sized companies may not need to disclose diluted EPS. In consolidated financial statements, the requirements of this standard apply based on consolidated information.
AS 21	**Consolidated Financial Statements**	This standard outlines rules for preparing and presenting consolidated financial statements, which a parent company (also known as a holding enterprise) produces to show the financial activities of its group. These statements combine the finances of the parent and its subsidiaries into a single entity, revealing the group's resources, obligations, and performance. It applies when preparing consolidated financial statements for a group under the control of a parent, and also when accounting for investments in subsidiaries in the parent's separate financial statements.
AS 22	**Accounting for Taxes on Income**	This standard sets rules for accounting for taxes on income, a significant item in a company's profit and loss statement. Taxes are accrued in the same period as the related revenue and expenses, following the matching concept. However, differences between taxable income and accounting income can arise due to variations in revenue and expenses for tax purposes. This standard guides how to determine the tax expense or saving for a period and requires disclosing this information in the financial statements.
AS 23	**Accounting for Investments in Associates in Consolidated Financial Statements**	This standard outlines guidelines for including the impacts of investments in associates in consolidated financial statements. It ensures that the financial position and performance of a group reflect the effects of these investments accurately. The standard applies when preparing consolidated financial statements and accounting for investments in associates.
AS 24	**Discontinuing Operations**	This standard aims to improve financial statement users' ability to forecast an enterprise's cash flows and financial position by separating information about discontinuing operations from continuing ones. It applies to all discontinuing operations and includes requirements for cash flow statement presentation where applicable.
AS 25	**Interim Financial Reporting**	This standard outlines the minimum requirements for interim financial reports and the principles for recognition and measurement in such reports. Timely and reliable interim reporting helps investors and creditors understand an enterprise's earnings, cash flows, financial condition, and liquidity. It doesn't specify which enterprises must issue interim reports, how often, or how soon after a period ends, but those that do must adhere to this standard.
AS 26	**Intangible Assets**	This standard guides the accounting for intangible assets not covered elsewhere. It mandates recognizing such assets only if certain conditions are met: probability of future economic benefits and reliable cost measurement. All enterprises must comply except in specific cases like financial assets or mineral rights. Assessing future benefits requires reasonable assumptions about economic conditions during the asset's useful life.
AS 27	**Financial Reporting of Interests in Joint ventures**	This standard outlines how to account for interests in joint ventures and report joint venture assets, liabilities, income, and expenses in financial statements. It applies regardless of the structure or form of joint venture activities.
AS 28	**Impairment of Assets**	This standard outlines procedures for ensuring that assets are carried on the balance sheet at no more than their recoverable amount. If an asset's carrying amount exceeds this amount, it is impaired, and the standard requires recognition of an impairment loss. It applies to all assets except inventories, assets from construction contracts, financial assets, and deferred tax assets.
AS 29	**Provisions, Contingent Liabilities and Contingent Assets**	This standard ensures that provisions, contingent liabilities, and contingent assets are appropriately recognized and disclosed in financial statements. It applies to all cases except certain financial instruments carried at fair value, executory contracts (except if onerous), provisions in insurance contracts, and those addressed by other accounting standards.

INTERNATIONAL FINANCIAL REPORTING STANDARDS (IFRS) AS GLOBAL STANDARDS

The IASC, now called the IASB, formed in 1973, aims to develop International Accounting Standards for global financial reporting consistency. With members from 75+ countries, including India's Institute of Chartered Accountants, it promotes and adopts these standards worldwide.

Total 16 International Financial Reporting Standards (IFRS) issued after 2001 by IASB.

Total 24 International Accounting Standards (IAS) issued before 2001 by IASC whihc are still valid.

Total 12 Interpretations issued by International Financial Reporting Interpretations Committee (IFRIC) after 2001.

Total 4 Interpretations issued by Standing Interpretations Committee (SIC) before 2001.

Following are some of the advantages of IFRS:

(*i*) It would facilitate increased comparability of financial information among companies operating in different countries.

(*ii*) The financial reporting process would become more transparent.

(*iii*) It would also permit international capital to flow more freely.

CONVERGENCE OF ACCOUNTING STANDARD WITH IFRS IN INDIA

(*a*) Single set of Accounting Standards would enable internationally to standardize and assure better quality on a global screen.

(*b*) It would also permit international capital to flow more freely, enabling companies to develop consistent global practices on accounting problems.

(*c*) It would be beneficial to the regulators too, as the complexity associated with needing to understand various reporting regimes would be reduced.

(*d*) For investors, it gives a better understanding to the financial statements and assess the investment opportunities other than their Home Country.

(*e*) It also benefits the accounting professionals in a way that they will be able to sell their services in the different parts of world.

LIST OF IFRS & IAS

IFRS 1-First time Adoption of International Financial Reporting Standards
IFRS 2-Share Based Payments
IFRS 3-Business Combinations
IFRS 4-Insurance Contracts
IFRS 5-Non-current Assets Held for Sale and Discontinued operations I
FRS 6-Exploration for and Evaluation of Mineral Resources
IFRS 7-Financial Instruments: Disclosures
IFRS 8-Operating Segments
IFRS 9-Financial Instruments
IFRS 10-Consolidated Financial Statements
IFRS 11-Joint Arrangements
IFRS 12-Disclosure of Interests in other Entities
IFRS 13-Fair Value Measurement
IFRS 14-Regulatory Deferral Accounts
IFRS 15-Revenue from Contracts with Customers
IFRS 16-Leases
IAS-1-Presentation of Financial Statements
IAS-2- Inventories
IAS-7- Statement of Cash Flows
IAS-8- Accounting Policies, Change in Accounting estimates and Errors
IAS-10- Events after balance sheet date
IAS-12- Income Taxes
IAS-16-Property, Plant and Equipment's
IAS-19- Employee Benefits
IAs-20-Accounting for Govt. Grant and Disclosure of Govt. Assistance
IAS-21- The Effect of Changes in Forex Rates
IAS-23-BorrowingCosts
IAS-24- Related Party Disclosures
IAS-26- Accounting and reporting by retirement benefit plans
IAS-27- Separate Financial Statements
IAS-28- Investment in Associates and Joint Ventures
IAS-29- Financial Reporting in Hyper inflationary Conditions
IAS-32- Financial Instruments- Presentation
IAS-33- Earnings Per Share
IAS-34- Interim Financial Reporting
IAS-36- Impairment of Assets
IAS-37- Provisions, Contingent Liabilities and Contingent Assets
IAS-38- Intangible Assets
IAS-40-Investment Property
IAS-41-Agriculture

IFRS VS IGAAP

Basis	IFRS	IGAAP
First time adoption	Full retrospective application of IFRS to P&L Account and Balance Sheet. Reconciliation of P&L Account and Balance Sheet with respect of last year's reported numbers under previous GAAP.	No needs to prepare reconciliation on first time adoption.
Components of Financial Statements	Comprises of Balance Sheet, Profit and Loss A/c. Cash Flow Statement, changes in equity and accounting policy and notes to Accounts.	Comprises of Balance Sheet, Profit and Loss A/c. Cash Flow Statement (if applicable), and Notes to Accounts.
Balance Sheet	No particular format, a current/ non current presentation of assets and liabilities is used.	As per Format Prescribed in Schedule III for Companies, adherence to Banking Regulation for Banks, etc.
Income Statement	No particular format prescribed (IAS-1).	As per Format Prescribed in Schedule III (AS-1).
Cash Flow Statements	Mandatory for all entities (IAS-7).	Level 3 entities are exempted (AS-3).
Dividends	Liability to be recognized in the period when dividend is declared. (IAS-10).	Recognized as an appropriation against the profit, and recorded as liability at BS date even if declared subsequent to reporting period but before the approval of Financial statements (AS-4).
Cost of major repairs and overhaul expenditure on fixed assets	Recognized in carrying amount of the assets (IAS-16).	Expensed off. Only expenses which increases the FEB are to be capitalized. (AS-10).
Re-evaluation	Re-evaluation (if done) to be updated periodically so that carrying amount does not differ from fair value at the end period. Re-evaluation to be done for entire class of assets (IAS-16).	No specific requirement for re-evaluation. Re-evaluation can be done on systematic basis like for one location leaving aside the assets of other location. (AS-10).
Change in the method of depreciation	Considered as a change in accounting estimate. To Be applied prospectively. (IAS-16 and IAS 8).	Considered as change in accounting policy, retrospective computation and excess or deficit is adjusted in same period. Required to be disclosed (AS-6).
Earnings Per Share	Disclosure to be made in only consolidated financials of the parent Co. (IAS-33).	Disclosure of EPS in both consolidated and separate financials (AS-20).

Component Accounting	Required each major part of No such requirement (AS-10). PPE with a cost that is significant in relation to total cost, should be depreciated separately (IAS-16).	No such requirement (AS-10).
Intangible Assets	Intangible assets can have indefinite useful life and hence such assets are tested for impairment and not amortized.	There is no concept of indefinite useful life. Assets have definite life (usually 10 years).
Reporting Currency	Requires the measurement of profit using the functional currency. Entities may, however, present financial state- ments in a different currency (IAS-21).	Schedule III to the Companies Act, 2013 specifies Indian Rupees as the reporting currency (AS-11).
Key Management Personnel (KMP)	Includes Executive as well as non executive directors (IAS-24).	Excludes non-executive directors (AS- 18).
Compensation to KMP	Disclosure to be made for total compensation such as short term employee benefits and employment benefits. post	AS-18 does not require the break- up of compensation cost.
Fringe Benefits Tax	Included as part of related expense (fringe benefit) which gives rise to incurrence of the tax.	Disclosed as a separate item after profit before tax on the face of the income statement.
Uniform Accounting Policies	Prepared using uniform accounting policies across all entities in a group. (IAS-27)	Policies may differ due to impracticability. (AS-21)
Disclosure of extra ordinary items	Prohibits such disclosure (IAS-1). No such term in IFRS.	Disclosure to be made in notes (AS-5).

COMPARISON OF IND AS 1 WITH EXISTING INDIAN GAAP 1

Sr. No.	Basis of Comparison	Ind AS 1 Presentation of Financial Statements	AS 1 Disclosure of Accounting Policies
1.	**Presentation of Extraordinary Item**	Prohibits presentation of any item as extraordinary item in the statement of profit and loss or in the notes	Allows for extraordinary items to be disclosed separately.
2.	**Disclosure of Critical Assumption**	Requires disclosure of critical assumptions about the future and other sources of measurement uncertainty that can affect carrying amounts of assets and liabilities within next financial year.	Does not require any such disclosure.
3.	**Classification of Expenses**	Requires classification of expenses be presented on the basis of nature of expenses.	Does not require any such classification.
4.	**Reclassification**	Reclassification of items, nature, amount and reason for reclassification are disclosed in notes to financial statement.	No such nature, amount and reason for reclassification are required to be disclosed.
5.	**Statement of changes in equity**	Requires a statement of changes in equity including reconciliation between opening and closing balance for each component of equity.	Statement of changes in equity is not required.

COMPARISON OF IND AS 2 WITH EXISTING INDIAN GAAP 2

Sr. No.	Basis of Comparison	Ind AS 2 Inventories	AS 2 Inventories
1.	Reversal of Written down value to Net Realizable value	Provides for reversal of the write-down of inventories to net realizable value limited to the amount of original write-down, and requires recognition and disclosure thereof in the financial statements.	Does not provide any specific guidance on the same.
2.	Exclusion	Excludes from its scope inventories held by commodity broker traders (who measure their inventories at a fair value minus costs to sell), producers of agricultural and forest products, agricultural produce after harvest, and minerals and mineral products.	Excludes from its scope only the measurement of such inventories. Further Ind AS 2 defines fair value and provides an explanation in respect of distinction between net realizable value and fair value.
3.	Explanation	Provides explanation with regard to inventories of service providers	Does not contain such an explanation
4.	Formula	Requires only the use of consistent cost formulas for all inventories having a similar nature and use to the entity	Specifically requires that the formula used in determining the cost of an item of inventory should reflect the fairest possible approximation to the cost incurred in bringing the items of inventory to their present location and condition.

COMPARISON OF IND AS 8 WITH EXISTING INDIAN GAAP 5

Sr. No.	Bases of Comparison	Ind AS 8 "Accounting Policies Changes in Accounting Estimates and Errors"	AS 5 "Net Profit or loss for the period, prior period and Changes in Accounting Policies"
1.	Rectification of Prior period errors	Ind AS 8 requires rectification of prior period errors with retrospective effect subject to limited exceptions.	AS 5 requires the rectification of prior period items with prospective effect.
2.	Prior period items	Ind AS8 defines the term errors as arising from a failure to use or misuse reliable information that was available when the financial statements of the prior periods were approved for issuance and could reasonably be expected to obtained and taken into account in the preparation and presentation of those financial statements..	Existing AS 5 defines prior period items as incomes or expenses which arise in the current period as a result of errors or omissions in the preparation of financial statements of one or more prior periods.

COMPARISON OF IND AS 16 WITH EXISTING INDIAN GAAP 10

Sr. No.	Bases of comparison	Ind AS 16 Property, Plant and Equipments	AS 10 Property, Plant and Equipments
1.	Property, plant and equipment retired from active use and held for sale	Ind AS 16 does not deal with the assets held for sale because the treatment of such assets is covered under Ind AS 105 "Non-current assets held for sale and Discontinued operations".	AS 10 deals with the accounting for items of fixed assets retired from active use and held for sale.
2.	Stripping costs in the production phase of a surface mine	Ind AS 16 provides guidance on measuring the stripping cost in the production phase of a surface mine.	AS 10 does not contain this guidance.

COMPARISON OF IND AS 19 WITH EXISTING INDIAN GAAP 15

Bases of comparison	Ind AS 19 Employee Benefits	AS 15 Employee Benefits
Constructive Obligation	Ind AS 19 covers employee benefits arising from constructive obligations.	Existing AS 15 is silent on the same.
Employee Includes	Ind AS 19 the term employee includes directors.	AS 15, the term employee includes whole time directors.
Scope Cover	Ind AS 19 in its scope covers situations of contractual agreement between a multi-employer plant and its participants that determines how the surplus in the plan will be distributed to the participants (or the deficit funded).	Existing AS 15 is silent on the same.
	Ind AS 19 defines the same as the total of (i) any cumulative unrecognized past service cost and (ii) the present value of economic benefits available in the form of refunds from the plant or reduction in future contributions to the plan.	Existing AS 15 defines the limit for asset ceiling as present value of economic benefits available in the form of refunds from the plant or reductions in future contributions to the plan.

COMPARISON OF IND AS 20 WITH EXISTING INDIAN GAAP 12

Bases of comparison	Ind AS 20 Accounting for Government Grants and Disclosure of Government Assistance	AS 12 Government Grants
Government grants of the nature of promoters contribution	Ind AS 20 does not recognize government grants of such nature and accordingly recognize as income over the periods.	Existing AS 12 requires government grants of the nature of promoter's contribution to be credited directly to capital reserve and treated as a part of shareholders funds.
Non-Monetary Grants	Ind AS 20 value non-monetary grants at their fair value.	AS 12 which records it at nominal value.
Presentation	Ind AS 20 requires such grants to be presented as deferred income only.	Under existing AS 12, grants related to assets (including non-monetary grants) can be presented as deferred income or by deducting the grant from the gross value of asset concerned in arriving at its bookvalue.

4 ACCOUNTING FOR SHARE CAPITAL

TOPICS TO BE COVERED

- Meaning of Shares, Share Capital, Kinds of Share Capital, Disclosure of Share Capital
- Terms of Issue of Share
- Subscription
- Calls-In-Advance
- Calls-In-Arrear
- Issue of Shares for consideration other than Cash
- Forfeiture of Shares
- Buy-Back of Shares
- Issue of Bonus Shares [Section 63]
- Redemption of Preference Shares
- Capital Redemption Reserve Account
- Underwriting of Shares

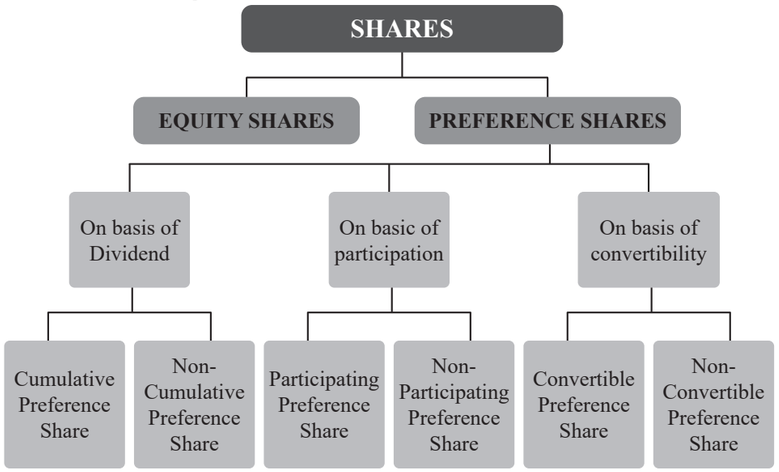
MEANING OF SHARES

Shares represent units of ownership in a company, divided from its total share capital. They're utilized to raise capital, with each share offering a portion of ownership for sale.

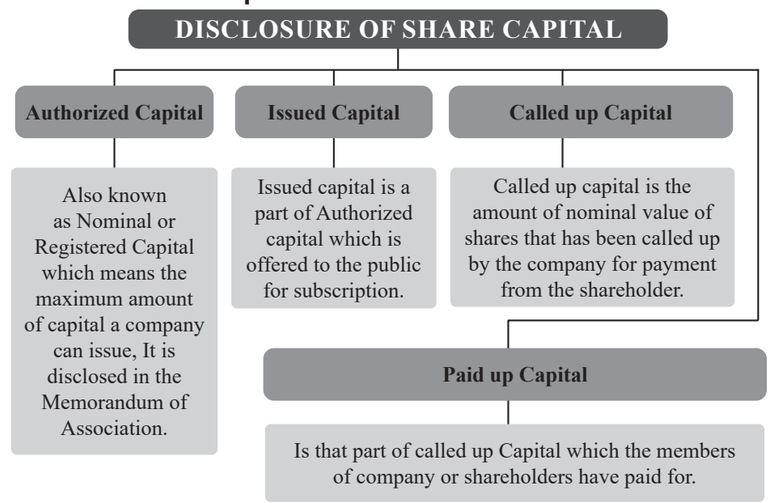
MEANING OF SHARE CAPITAL

A company, being an artificial person, cannot generate its own capital which has necessarily to be collected from several persons. These persons are known as shareholders and the amount contributed by them is called share capital.

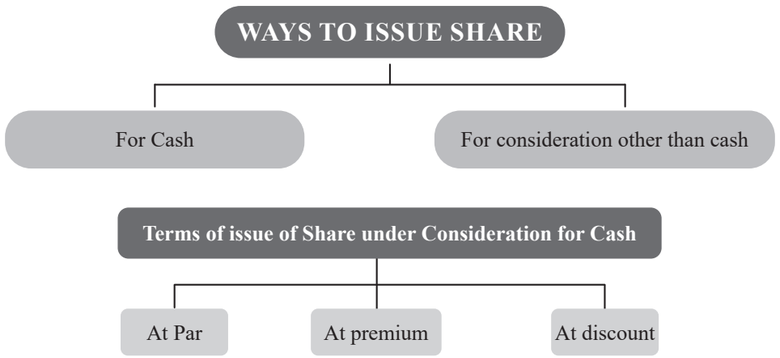
Kinds of Share Capital:



Disclosure of Share Capital:



TERMS OF ISSUE OF SHARE



A. Issue of shares at par:

(a) When shares are issued at par and are payable in full in a lump sum:

Accounting Treatment

(1) On receipt of application money:

Bank A/c Dr. (With the amount received on application)

To Share Application A/c

(Being application money received)

(2) On allotment of shares:

Share Application A/c Dr. (With the money received on the number of A/c shares allotted)

To Share Capital

(Being application money transferred to share capital)

(b) When shares are issued at par and the amount is payable in installments:

1st installment	Application Money
2nd installment	Allotment Money
3rd installment	First Call Money
4th installment	Second Call Money
……..	……
Last installment	Final Call Money

Accounting Treatment

(*i*) **On receipt of application money with the total amount received on application:**

Bank A/c Dr.

To Share Application Account

(Being the application money received in respect of shares @ Rs. per share)

(*ii*) **On allotment of shares:** After receiving application within prescribed time, Board proceeds to allot shares:

Share Application Account Dr. (with the amount of application money on allotted)

To Share Capital Account

(Being the application money on allotted shares now transferred to share capital account)

(*iii*) **On refund of application money on rejected applications:**

Share Application Account Dr. (with the amount actually repaid)

To Bank Account

(Being application money on shares refunded)

(*iv*) **Allotment money becoming due and received (second installment):**

Share Allotment Account Dr. (with the amount due on allotment)

To Share Capital Account

(Being the allotment money due in respect of allotment of shares @ Rs___ each)

(*v*) **On receipt of allotment money is received the following journal entry is made:**

Bank Account Dr. (with the actual amount received as allotment money)

To Share Allotment Account

(Being the amount received on shares @Rs___ each)

(*vi*) **On making the first call Share:**

First Call Account Dr. (with the amount due on first call)
To Share Capital Account
(Being the amount due on first call @ Rs___ per share on shares)

(*vii*) **On receipt of first call money:**

Bank Account Dr. (with the amount received on first call)
To Share First Call Account
(Being the amount received in respect of first call @ Rs___ per share on ___ shares)

(*viii*) **When second call is made:**

Share Second Call Account Dr. (with the amount due on second call)
To Share Capital Account
(Being the amount due on second call @ Rs___ per share on ___ shares)

(*ix*) **On receipt of second call money:**

Bank Account Dr. (with the amount actually received on second call)
To Share Second Call Account
(Being the amount received in respect of second call @ Rs___ per share on ___ shares)

(*x*) **When the final call is made:**

Share Final Call Account Dr. (with the amount due on final call)
To Share Capital Account
(Being the amount due on final call @ Rs ___ per share on ___ shares)

(*xi*) **On receipt of final call money:**

Bank Account Dr. (with the amount actually received on final call)
To Share Final Call Account
(Being the amount received in respect of final call @ Rs ___ per share on ___ shares)

B. Issue of Shares at Premium:

Accounting treatment of the issue of Shares at Premium:

When allotment money becomes due:

Share Allotment A/c Dr. (with the money due on allotment including premium)
To Securities Premium A/c (with the premium amount)
To Share Capital A/c (with the share allotment amount)
(Being allotment money due on shares issued at premium)

SUBSCRIPTION

Under Subscription	Over Subscription
The issue is said to have been under subscribed when the company receives applications for a less number of shares than offered to the public for subscription. In this case company does not face any problem regarding allotment since every applicant will be allotted the shares applied for, and the company can proceed with allotment provided the minimum subscription for shares is met.	In case a company receives applications for more number of shares than the number of shares offered to the public for subscription, it is a case of over subscription. A company cannot allot more shares than what it has offered.

In case of over subscription company has the following options:

Option I

(*i*) **Rejection of Excess Applications and Money Returned:**

Share Application A/c Dr. (with Excess application money)
To Bank A/c
(Application money on __ shares refunded to the applicants)

(*ii*) **Excess application money adjusted towards sums due on allotment:**

Share Application A/c Dr. (with Excess application money)
To Share Allotment A/c
(Excess application money adjusted towards sums due on allotment)

The company can retain the calls in advance at maximum to the amount as is sufficient to make the allotted shares fully paid up ultimately. The following entry is made:

Share Application A/c Dr. (with Excess application money)
To Call-in-advance A/c
(The adjustment of excess share application money retained as call-in advance in respect of __ shares)

Option II

Partial acceptance of Applications (Pro-rata acceptance):

Share Application A/c Dr.
To Share Capital Account
To Share Allotment Account (with partially Excess application money)
To Bank A/c (with partially Excess application money)
(Share Application money transferred to share Capital A/c on their allotment and partially amount adjusted towards shares allotment and partially return)

CALLS-IN-ADVANCE

Table F of the Companies Act provides for the payment of interest on calls in advance at a rate not exceeding 12% per annum.

(*i*) **On receipt of call money in advance:**

Bank A/c Dr. (with the amount of call money received in advance)
To Call-in-Advance A/c
(Being the calls received in advance)

(*ii*) **As and when calls are made:**

Calls-in-Advance A/c Dr. (with the amount adjusted on relevant call becoming due)
To Relevant Call A/c

(*iii*) **If Interest on Calls-in-Advance is paid in cash:**

Interest on Calls-in-Advance A/c Dr. (with the amount of interest paid)
To Bank A/c
(Interest on Calls-in-Advance paid @ % p.a. on Rs __ for__)

(*iv*) **If interest on Calls-in-Advance is not paid in cash:**

Interest on Calls-in-Advance A/c Dr. (with the amount of interest payable)
To Sundry Shareholders A/c

(*v*) **At the end of the year, when interest on Calls-in-Advance is transferred to Profit and Loss A/c:**

Profit and Loss A/c Dr. (with the amount of interest)
To Interest on Calls-in-Advance A/c

Disclosure Treatment:

The money received on calls-in-advance does not become part of the share capital. It is shown under a separate heading, namely 'calls-in-advance' on the liabilities side of the Balance Sheet.

CALLS-IN-ARREAR

(*i*) **When call money is in arrear:**

Calls-in-Arrear A/c Dr. (with the amount failed by the shareholders)
To Relevant Call A/c

(*ii*) **On receipt of amount of Calls-in-Arrear with interest, on a subsequent date:**

Bank A/c Dr. (with the amount received)
To Calls-in-Arrears A/c
(Being Amount due on allotment/call remaining unpaid now received on__)

ISSUE OF SHARES FOR CONSIDERATION OTHER THAN CASH

Case 1:

(*i*) **During incorporation of Company**

Goodwill A/c Dr. (with the fair value of services, as agreed)
To Share Capital A/c

Case 2:

(*i*) **When assets are acquired from the vendors**

Sundry Assets A/c (individually) Dr. (with the purchase price payable for the assets acquired)
To Vendors A/c

(*ii*) **When fully paid shares are issued to vendors at par**

Vendors A/c Dr. (with the nominal value of the shares allotted)
To Share Capital A/c

(*iii*) **When fully paid shares are issued to vendors at a premium**

Vendors Dr. (with the purchase price)
To Share Capital A/c (with the nominal value of the shares allotted)
To Securities Premium A/c (with the amount of premium)

Case 3:

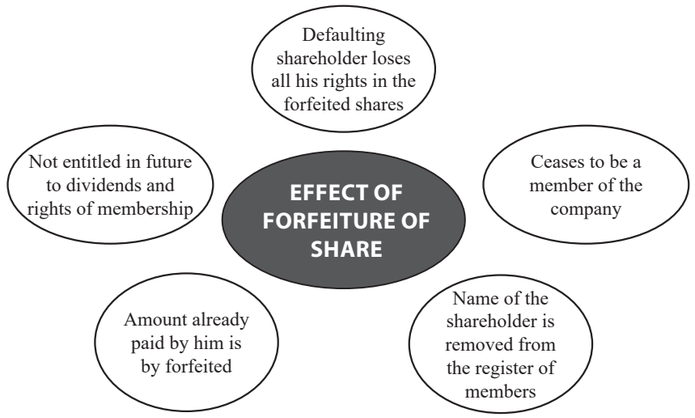
(*i*) **When purchase consideration is more than net assets acquired**

Sundry Assets A/c (individually) Dr. (at agreed purchase price)
Goodwill A/c (B/F) Dr. (at purchase priceless, net assets acquired)
To Sundry Liabilities A/c
To Vendor A/c

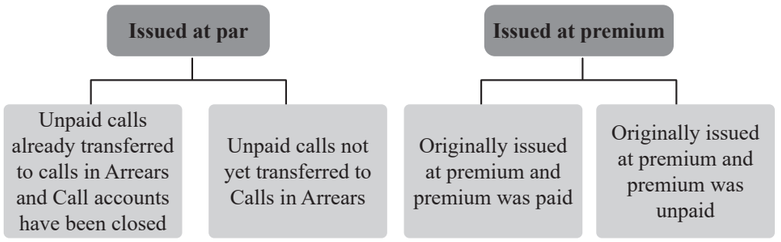
(*ii*) **When purchase consideration is less than net assets acquired**

Sundry Assets A/c (individually) Dr. (at agreed price)
To Sundry Liabilities A/c
To Vendor (at agreed price)
To Capital Reserve (B/F) (at difference of Purchase price & net assets acquired)

FORFEITURE OF SHARES



Accounting Treatment for Forfeiture of Share



A. Forfeiture of Shares issued at par:

1. **Where the unpaid calls have already been transferred to Calls-in Arrear A/c and the respective call accounts have been closed:**

Share Capital A/c	Dr.
To Shares Forfeited A/c	
To Calls-in-Arrear A/c	

2. **Where the unpaid calls have not been transferred to Calls-in-Arrear A/c and the respective call accounts are showing balances representing unpaid amounts:**

Share Capital A/c	Dr.
To Shares Forfeited A/c	
To Share Allotment A/c	
To Share First Call A/c	
To Share Final Call A/c	

B. Forfeiture of Shares Issued at Premium:

Case 1:

Where shares to be forfeited were issued at a premium and the premium money remained unpaid:

Share Capital A/c	Dr.
Securities Premium A/c	Dr.
To Shares Forfeited A/c	
To Calls-in-Arrear A/c	

OR

Share Capital A/c	Dr.
Securities Premium A/c	Dr.
To Shares Forfeited A/c	
To Share Allotment A/c	
To Share First Call A/c	
To Share Final Call A/c	

Case 2:

Where shares to be forfeited were issued at a premium and the premium money was duly received for the shares to be forfeited:

Share Capital A/c	Dr.
To Shares Forfeited A/c	
To Calls-in-Arrear A/c	

REISSUE OF FORFEITED SHARES

Re-Issue of forfeited shares – At par:

1. **On re-issue of shares:**

Bank A/c	Dr.	(with the amount received on reissue)
To Share Capital A/c		

2. **On transfer of Shares Forfeited Account to Capital Reserve Account:**

Shares Forfeited A/c	Dr.	(With the forfeited amount on shares re-issued)
To Capital Reserve A/c		

Re-Issue of forfeited shares – At a premium:

1. **On Re-issue of shares:**

Bank A/c	Dr.	(with the total amount received on re-issue.)
To Share Capital A/c		(with nominal value or paid-up value of shares)
To Securities Premium A/c		(with the premium amount received)

2. **On transfer of Shares Forfeited A/c to Capital Reserve A/c:**

Shares Forfeited A/c	Dr.	(with the forfeited amount on shares re-issued)
To Capital Reserve A/c		

BUY-BACK OF SHARES

Conditions of Buyback of shares:

1. Special Resolution in the General Meeting.
2. Company can buy back fully paid shares only.
3. Company cannot cancel the offer of buy back once its declared.
4. A Company can buy back maximum 25% of its shares.
5. The maximum amount paid on buyback should be 25% of paid up capital + Free Reserve + Securities Premium.
6. Post buy back, Debt-Equity Ratio should not be more than 2 : 1.

Journal Entries for Buyback of Shares

1. **In case investments are sold for buying back own shares**

Bank A/c	Dr.
To Investment A/c	

2. **In case the proceeds of fresh issues are used for buy-back purpose**

Bank A/c	Dr.
To debentures/other Investment A/c	
To Securities Premium A/c (if any)	

3. **For Buying back of shares:**

Equity Shareholders A/c	Dr.
To Bank A/c (With the amount paid)	

4. **For cancellation of shares bought back:**

Equity Share Capital A/c	Dr.	(with the nominal value of shares bought back)
Free reserves/Securities Premium A/c	Dr.	(with the excess amount/premium paid over nominal value)
To Equity Shareholders A/c		(with the amount payable)

5. **In case the shares are bought back at discount:**

Equity Share Capital A/c	Dr.	(with the nominal value) (with the amount paid)
To Equity shareholders A/c		(with the amount of discount on buy-back)
To Capital Reserves A/c		

6. **For transfer of nominal value of shares purchased out of free reserves/securities premium to Capital Redemption Reserves Account:**

Free Reserves A/c	Dr.	(with the amount transferred)
Securities Premium A/c	Dr.	(with the amount transferred) (with the nominal value of shares bought back)
To Capital Redemption Reserves A/c		

7. **For expenses incurred in buy-back of shares:**

Buy-back Expenses A/c	Dr.	(with the amount)
To Bank A/c		

8. **For transfer of buy-back expenses:**

Profit and Loss A/c	Dr.
To buy-back Expenses A/c	

ISSUE OF BONUS SHARES [SECTION 63]

Journal Entries for Issue of Bonus Shares

(A) On capitalization of reserve for the issue of shares

Profit & Loss A/c	Dr.
General Reserve A/c	Dr.
Capital Reserve A/c (realised in cash only)	Dr.
Securities Premium A/c	Dr.
Capital Redemption Reserve A/c	Dr.
To Bonus Shareholders A/c	

(B) On issue of Bonus share

Bonus to Shareholders A/c	Dr.
To Share Capital A/c.	

Note: If some shares are party paid up, first the shares are to be made fully paid up. Journal entries are as follows:

(C) Capitalization of Reserve for Issue of Shares

Profit & Loss A/c	Dr.	
General Reserve A/c	Dr.	
Capital Reserve Account (realized in cash only)	Dr.	
To Bonus Shareholders A/c		

(D) On making the final call due

Share Final Call Account	Dr.	
To Share Capital Account		

(E) On adjustment of final call

Bonus Shareholders A/c	Dr.	
To Share Final Call A/c		

Redemption Of Preference Shares

A company which is limited by shares, if the articles so authorize, can issue preference shares liable to be redeemed with in a period not exceeding twenty years from the date of their issue under section 55 of the Companies Act, 2013. No company limited by shares shall issue any irredeemable preference shares.

CAPITAL REDEMPTION RESERVE ACCOUNT

If preference shares are to be redeemed out of the profits of a company, a sum equal to nominal amount of shares that are to be redeemed, shall be transferred to are serve called Capital Redemption Reserve. Account out of profits of the company and provisions of this Act relating to reduction of share capital of a company shall apply as if the Capital Redemption Reserve Account were paid up share capital of the company.

Journal Entries

1. Transfer profits available for dividend to Capital Redemption Reserve Account:

General Reserve Account	Dr.	as the case may be
Profit and Loss Appropriation A/c	Dr.	
Dividend Equalization Account	Dr.	
To Capital Redemption Reserve A/c		with the nominal value of the shares to be redeemed

2. If current assets are realized to provide cash for redemption of preference shares:

Bank A/c	Dr.	
To Respective Assets Account		with the realized value of assets

3. On transfer of redeemable preference share-capital to be redeemed to Preference Shareholders Account:

Redeemable Preference Share-Capital A/c	Dr.	with the nominal value of the shares to be redeemed
To Preference Shareholders A/c		

4. If preference shares are redeemed at a premium:

Redeemable Preference Share-Capital A/c	Dr.	
Premium on Redemption of Preference Shares	Dr.	with the amount of premium payable
To Preference Shareholders A/c		

5. For providing premium on redemption of preference shares:

Securities Premium Account	Dr.	with amount of premium paid on redemption
or Profit and Loss Appropriation A/c	Dr.	
To Premium on Redemption of Preference Shares Account		

6. On redemption of preference shares:

Preference Shareholders Account	Dr.	with the amount paid
To Bank A/c		

UNDERWRITING OF SHARES

Accounting Treatment relating to Underwriting of Shares or Debentures

(*a*) **When the shares or debentures are allotted to the underwriters in respect of their liability:**

Underwriters A/c	Dr.	with the value of the shares or debentures taken up by the underwriters
To Share Capital A/c		
To Debentures A/c		

(*b*) **When commission becomes payable to the underwriters:**

Underwriters Commission A/c	Dr.	with the amount of commission due on the total issue price of the shares underwritten
To Underwriters A/c		

(*c*) When the net amount due from the underwriters on the shares or debentures taken up by them is received:

Bank	Dr.	with the net amount due
To Underwriters A/c		

5 ACCOUNTING FOR DEBENTURES

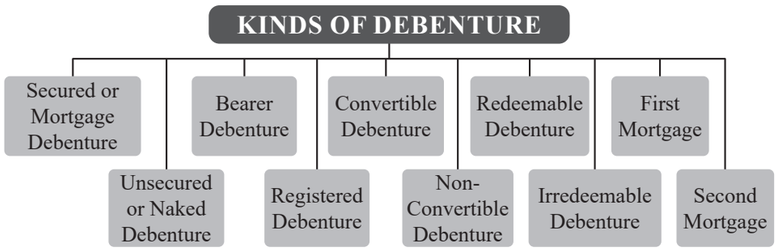
TOPICS TO BE COVERED

- Debentures
- Kinds of Debentures
- Difference Between Shares and Debentures
- Issue of Debentures
- Conditions for Issue of Debentures as per Companies Act, 2013
- Debenture Interest
- Terms of Issue of Debentures
- Redemption of Debentures
- Creation of Debenture Redemption Reserve
- Adequacy of Debenture Redemption Reserve (DRR)
- Journal Entries
- Methods of Redemption of Debentures

DEBENTURES

A debenture is a written document from a company acknowledging a debt, outlining repayment terms for the principal amount and fixed interest payments. It's part of the company's loan capital, requiring interest payments regardless of profitability.

KINDS OF DEBENTURES



Secured or Mortgage: When debentures are secured by a mortgage or charge on the property of the company, they are called secured or mortgage debentures.

Unsecured or Naked: When debentures are issued without any security, they are termed as unsecured or naked debentures.

Bearer: These debentures are payable to bearer and are transferable by mere delivery. Interest coupons are attached to each individual debenture. The interest and principal amount on such debentures is payable upon presentation and delivery of coupons and debentures.

Registered Debenture: Interest and principal amount is paid only to the person whose name is registered in the debenture ledger, such debenture are transferable through a transfer deed.

Convertible: Debentures may be convertible into preference or equity shares of the company on certain specified dates on the basis of an agreement between the company and the debenture holders.

Non-Convertible: Such debentures are paid into cash.

Redeemable Debenture: Such debentures are paid either at par or at a premium after the expiry of a particular period or under a system of periodical drawings.

Irredeemable or Perpetual Debenture: Such debentures are payable either on a happening of the contingency, or when the company winds its business up, or when the company decides to redeem, itself.

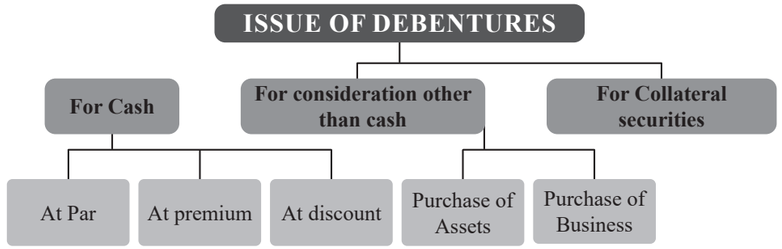
First Mortgage Debentures: Such debentures are paid on the basis of priority as compared to other debentures.

Second Mortgage Debentures: Such debentures are paid after the redemption of first mortgage debentures.

DIFFERENCE BETWEEN SHARES AND DEBENTURES

Points	Shares	Debentures
Ownership	A 'share' represents ownership of the company. A share is a part of the owned capital	A 'debenture' is only acknowledgment of Debt. A debenture is a part of borrowed capital.
Return	The return on shares is known as dividend. The rate of return on shares may vary from year to year depending upon the profits of the company.	The return on debentures is called interest. The rate of interest on debentures is prefixed.
Repayment	Normally, the amount of shares is not returned during the life of the company.	Generally, the debentures are issued for a specified period and repayable on the expiry of that period.
Voting Rights	Shareholders enjoy voting rights.	Debenture holders do not normally enjoy any voting right.
Security	Shares are not secured by any charge.	Debentures are generally secured and carry a fixed or floating charge over the assets of the company.
Convertibility	Shares cannot be converted into debentures.	Debentures can be converted into shares if the terms of issue so provide, and in that case these are known as convertible debentures.

ISSUE OF DEBENTURES



CONDITIONS FOR ISSUE OF DEBENTURES AS PER COMPANIES ACT, 2013

- Issue of Debentures by Special Resolution
- No voting rights
- Terms for the issue of secured Debentures
- Creation and Utilization of Debenture Redemption Reserve
- Debenture Trustee(s) to protect the interest of debenture holder

ISSUE OF DEBENTURES AT PAR

Accounting treatment

(a) When the full issue price is payable in lumpsum along with application

(1) **On receipt of application money:**

Bank A/c Dr. (with the money received on application)

To Debentures Application and Allotment A/c

(2) **On allotment:**

Debentures Application and Allotment A/c	Dr.	(with the money received on debentures allotment)
To Debentures A/c		

(b) When the amount is payable in installments

(1) **On receipt of application money:**

Bank A/c	Dr.	(with the money received on application)
To Debenture Application A/c		

(2) **On Allotment of debentures:**

Debenture Application A/c	Dr.	(with the application money on debentures allotted)
To Debentures A/c		

(3) **On allotment money due:**

Debenture allotment A/c	Dr.	(with the allotment money due)
To Debenture A/c		

(4) **On receipt of allotment money:**

Bank A/c	Dr.	(with the money received on allotment)
To Debenture Allotment A/c		

Over subscription

Excess application money can be used for allotment and calls, like share application money. If no debentures are allotted to applicants, their money will be refunded. The following journal entry is made in this regard:

Debenture Application A/c	Dr.	
To Bank A/c		

ISSUE OF DEBENTURES AT PREMIUM

Accounting Treatment

(*i*) **When allotment money becomes due**

Debenture Allotment A/c	Dr
To Debenture A/c	
To Securities Premium A/c	

(*ii*) **When allotment money is received**

Bank A/c	Dr
To Debenture Allotment A/c	

And for calls the entries are same as for issue at par.

ISSUE OF DEBENTURES AT DISCOUNT

Accounting Treatment

Debentures Allotment A/c	Dr.	(with the amount due on allotment)
Discount on issue of Debentures A/c	Dr.	(with the amount of discount)
To Debentures A/c (with the total)		

Over Subscription

When debenture requests exceed the available debentures, it's oversubscribed. But a company can't issue more than it offered. Extra money can be kept for future allotment, but unallotted applicants get refunds.

ISSUE OF DEBENTURES FOR CONSIDERATION OTHER THAN CASH

Accounting Treatment

(1) For acquisition of assets:

Sundry Assets (Individually) A/c	Dr.	(with the value of assets)
To Vendors A/c (with the purchase price)		

Notes:

(*i*) If the value of debentures allotted is more than the agreed purchase price, the difference is debited to Goodwill Account.

(*ii*) Similarly, if the value of debentures allotted is less than the agreed purchase price, it is credited to Capital Reserve Account.

2.

(*a*) **On allotment of debentures (at par)**

Vendors A/c	Dr.	(with the value of debentures)
To Debentures A/c		

(*b*) **On allotment of debentures (at premium)**

Vendors A/c	Dr.	(with the purchase price)
To Debentures A/c (with the nominal value)		
To Securities Premium A/c (with the amount of premium)		

(*c*) **On allotment of debentures (at a discount)**

Vendors A/c	Dr.	(with the amount of purchase)
Discount on Issue of Debentures A/c	Dr.	(with the amount of discount)
To Debentures A/c (with the nominal value)		

DEBENTURES ISSUED AS A COLLATERAL SECURITY

Accounting Treatment

Debentures issued as collateral security can be dealt with in two ways in the books of the company:

FIRST METHOD

No accounting entry is required to be shown in the books of account at the time of issue of such debentures because there is no immediate liability created by the company. But the existence of such debentures issued as collateral security has to be mentioned by way of a note on the Balance Sheet under the specific loan account.

Balance Sheet of XYZ Ltd. as at....

Particulars	Note	Amount (Rs.)
EQUITY AND LIABILITIES		
Current liability		
Short-term borrowings	1	XXX

Notes to Account

	Particulars	Amount (Rs.)
1	Short-term borrowings Bank Overdraft (Secured by the issue of 900, 12% Debentures of Rs.100 each as collateral security)	XXX

SECOND METHOD

(*i*) **On issue of debentures as collateral security**

Debentures Suspense A/c	Dr.	(with the nominal value of the debentures issued)
To Debentures A/c		

In this case, Debentures Suspense Account will appear on the asset side of the balance sheet under the heading Miscellaneous Expenditure. Debentures Account will appear as a liability on the liabilities side of the Balance Sheet.

(*ii*) **On repayment of the loan and release of debentures**

Debentures A/c	Dr.	(with the nominal value of the debentures released)
To Debentures Suspense A/c		

Note: The net effect of the above two entries is nil. Both the Debentures Suspense Account and the Debentures Account are cancelled on repayment of the loan. As such, this method is rarely followed in practice.

DEBENTURE INTEREST

Accounting Treatment

(*i*) **On interest becoming due**

Debenture Interest A/c	Dr.	(with the gross interest due)
Tax Deducted at Source		(with the amount of Income-tax to be deducted at source)
To Debenture holders' A/c		(with the net amount payable after deduction of income-tax)

(*ii*) **On payment of interest to the debenture holders**

Debenture holders' A/c	Dr.	(with the net amount of paid interest)
To Bank A/c		

(*iii*) **On payment of income-tax to the Government**

Income-tax Payable A/c	Dr.	(with the amount of income-tax deducted at source and
To Bank A/c		deposited with the Government)

(*iv*) **On transfer of Debenture Interest to Profit and Loss Account at the end of the year**

Profit and Loss A/c	Dr.	(with the gross amount of interest on debentures)
To Debenture Interest A/c		

TERMS OF ISSUE OF DEBENTURES

- Issued at par and redeemable at par
- Issued at discount and redeemable at par
- Issued at a premium and redeemable at par

Issued at par and redeemable at a premium

Issued at a discount and redeemable at a premium

Issued at a premium and redeemable at a premium

In all the above six cases, the following journal entries will be passed:

(*i*) **Issued at par and redeemable at par:**

Bank Account	Dr.	(with the nominal value of debentures)
To Debentures Account		

(*ii*) **Issued at discount and redeemable at par:**

Bank Account	Dr.	(with the amount received)
Discount on Issue of Debentures Account	Dr.	(with the amount of discount)
To Debentures Account		(with the nominal value)

(*iii*) **Issued at premium and redeemable at par:**

Bank Account	Dr.	(with the amount received)
To Debentures Account		(with the nominal value)
To Securities Premium Account		(with the amount of premium)

(*iv*) **Issued at par and redeemable at premium:**

Bank Account	Dr.	(with the amount received)
Loss on issue of Debentures Account	Dr.	(with the amount of premium on redemption)
To Debentures Account		(with the nominal value)
To Premium on Redemption of Debentures Account		(with the premium on redemption)

(*v*) **Issued at discount, and redeemable at premium**

Bank Account	Dr.	(with the amount received)
Discount on Issue of Debentures Account	Dr.	(with the discount allowed on issue)
Loss on Issue of Debentures Account	Dr.	(with the premium payable on redemption)
To Debentures Account		(with the nominal value)
To Premium on Redemption of Debentures Account		(with the premium on redemption)

(*vi*) **Issued at a premium and redeemable at premium**

Bank Account	Dr.	(with the amount received)
Loss on issue of Debentures Account	Dr.	(with the amount of premium on redemption)
To Debentures Account		(with the nominal value)
To Premium on Redemption of Debentures Account		(with the premium on redemption)
To Securities Premium Reserve A/c		(with the premium on issue)

REDEMPTION OF DEBENTURES

Section 71 (1) of the Companies Act, 2013	Section 71 (2) of the Companies Act, 2013	Section 71 (4) of the Companies Act, 2013
The company can offer debentures that can be turned into shares when they are redeemed. But this can only happen if a special resolution is passed at a general meeting approving it.	No company can issue any debentures which carry any voting rights.	When a company issues debentures, it must set up a reserve account called the "debenture redemption reserve" from its profits that can be used for paying dividends. This reserve can only be used for redeeming debentures and nothing else.

Accounting Treatment

For appropriation of surplus or withholding of profits in the form of DRR

Surplus A/c	Dr.	(with the amount appropriated)
To DRR A/c		

DRR would be shown or disclosed as Shareholder's Funds on the Balance Sheet under the heading: Reserves and Surplus.

On transferring the balance of DRR when the debentures are redeemed

DRR A/c	Dr.
To General Reserve A/c	

CREATION OF DEBENTURE REDEMPTION RESERVE

Companies issuing redeemable non-convertible debentures must create a Debenture Redemption Reserve (DRR) account, as per Section 71(4) of the Companies Act, 2013, and Rule 18(7) of the Companies (Share Capital and Debentures) Rules, 2014. This reserve, funded from the company's profits, ensures there are ample funds set aside solely for debenture redemption, protecting debenture holders from repayment defaults.

ADEQUACY OF DEBENTURE REDEMPTION RESERVE (DRR)

The Debenture Redemption Reserve shall be created out of the profits of the company available for payment of dividend; the limits with respect to adequacy of DRR and investment or deposits, as the case may be, shall be as under:

Sr. No.	Debentures issued by	Adequacy of Debenture Redemption Reserve (DRR)
1.	All India Financial Institutions (AIFIs) regulated by Reserve Bank of India and Banking Companies for both public as well as privately placed debentures.	No DRR is required
2.	Other Financial Institutions (FIs) within the meaning of clause (72) of section 2 of the Companies Act, 2013	DRR will be as applicable to NBFCs registered with RBI (as per (3) below)
3.	For listed companies (other than AlFIs and Banking Companies as specified in Sr. No. 1 above):	
a.	All listed NBFCs (registered with RBI under section 45-IA of the RBI Act,) and listed HFCs (Housing Finance Companies registered with National Housing Bank) for both public as well as privately placed debentures	No DRR is required
b.	Other listed companies for both public as well as privately placed debentures	No DRR is required
4.	For unlisted companies (other than AlFIs and Banking Companies as specified in Sr. No. 1 above	
a.	All unlisted NBFCs (registered with RBI under section 45 IA of the RBI (Amendment) Act, 1997) and unlisted HFCs (Housing Finance Companies registered with National Housing Bank) for privately placed debentures	No DRR is required
b.	Other unlisted companies	DRR shall be 10% of the value of the outstanding debentures issued

INVESTMENT OF DEBENTURE REDEMPTION RESERVE (DRR) AMOUNT

As per Rule 18 (7) of the Companies (Share Capital and Debentures) Amendment Rules, 2019, following companies:

(*a*) All listed NBFCs
(*b*) All listed HFCs
(*c*) All other listed companies (other than AlFIs, Banking Companies and Other FIs); and
(*d*) All unlisted companies which are not NBFCs and HFCs

shall on or before the 30th day of April in each year, in respect of debentures issued, deposit or invest, as the case may be, a sum which should not be less than 15% of the amount of its debentures maturing during the year ending on the 31st day of March of next year, in any one or more of the following methods, namely:

(*a*) in deposits with any scheduled bank, free from charge or lien;
(*b*) in unencumbered securities of the Central Government or of any State Government;
(*c*) in unencumbered securities mentioned in clauses (a) to (d) and (ee) of Section 20 of the Indian Trusts Act, 1882;
(*d*) in unencumbered bonds issued by any other company which is notified under clause (f) of Section 20 of the Indian Trusts Act, 1882.

Journal Entries				
Date	Particular	L.F.	Amount (Dr.)	Amount (Cr.)
	(*a*) **For setting aside the fixed amount of profit for redemption**			
	Profit and Loss A/c Dr.			
	To Debenture Redemption Reserve A/c			
	(*b*) **For investing the amount set aside for redemption**			
	Debenture Redemption Reserve Investment A/c Dr.			
	To Bank A/c			
	(*c*) **For receipt of interest on Debenture Redemption Reserve Investments**			
	Bank A/c Dr.			
	To Interest on Debenture Redemption Reserve Investment A/c			
	(*d*) **For transfer of interest on Debenture Redemption Reserve Investments (DRRI)**			
	Interest on Debenture Redemption Reserve Investment A/c Dr.			
	To Profit and loss A/c*			

	At the time of redemption of debentures			
	(*a*) **For encashment of Debenture Redemption Reserve Investments**			
	Bank A/c Dr.			
	To Debenture Redemption Reserve Investment A/c			
	(*b*) **For amount due to debenture holders on redemption**			
	Debentures A/c Dr.			
	To Debenture holders A/c			
	(*c*) **For payment to debenture holders**			
	Debenture holders A/c Dr.			
	To Bank A/c			
	After redemption of debentures, DRR should be transferred to general reserve			
	DRR A/c Dr.			
	To General Reserve			

METHODS OF REDEMPTION OF DEBENTURES

- By payment in Lumpsum
- By payment in installments
- By purchase in open market
- By conversion into shares

BY PAYMENT IN LUMP SUM

Accounting Treatment

(a) When debentures are redeemed at par

(*i*) **On debentures becoming due for payment**

Debentures A/c Dr. (with the nominal value of debentures)

To Debenture holders A/c

(*ii*) **On redemption**

Debenture holders A/c Dr.

To Bank A/c

(b) When debentures are redeemed at premium

(*i*) **On debentures becoming due for payment**

Debentures A/c Dr. (with the nominal value of debentures)

Premium on redemption of Debentures A/c Dr. (with the amount of premium)

To Debenture holders A/c

(*ii*) **On redemption**

Debenture holders A/c Dr.

To Bank A/c

(*iii*) **On writing off premium on redemption since it was not recorded at the time of issue of debentures**

Securities Premium A/c Dr.

Free reserves A/c Dr.

To Premium on redemption of debentures A/c

(c) When debentures are redeemed at discount

Although it's a very rare possibility, the accounting treatment would be

(*i*) **On debentures becoming due for payment**

Debentures A/c Dr. (with the nominal value of debentures)

To Debenture holders A/c (with the mount payable)

To Capital Reserve A/c (with the amount of discount)

On redemption

(*ii*) **On redemption**

Debenture holders A/c Dr.

To Bank A/c

BY PAYMENT IN INSTALMENTS

Accounting Treatment

(*a*) Debentures A/c Dr.

To Debenture holder's A/c

(*b*) Debenture holder's A/c Dr.

To Bank A/c

PURCHASE OF DEBENTURES IN OPEN MARKET

Accounting Treatment

Accounting treatment for immediate cancellation of debentures

(*a*) **Where no Sinking Fund exists**

On purchase and cancellation of debentures -

Debentures A/c Dr. (with the amount paid)

To Bank A/c

Notes: 1. If there is any difference between the nominal value of the debentures cancelled and the price paid for them, the same has to be treated as profit or loss on cancellation, and should be credited or debited to Profit on Redemption of Debentures Account or Loss on Redemption of Debentures Account.

Thus, the entry for this will be as follows:

In case of profit:

Debentures A/c Dr. (with the nominal value of debentures cancelled)

To Bank A/c (with the price paid for them)

To Profit on Redemption of Debentures A/c (with the profit, if any).

In case of loss:

Debentures A/c Dr. (with the nominal value of debentures cancelled)

Loss on Redemption of Debentures A/c Dr. (with the loss, if any)

To Bank A/c (with the total)

Such profit or loss, being of capital nature, should be transferred to Capital Reserve Account (if profit) or written off against the Profit and Loss Account or Capital Profit including Securities Premium Account (if loss). The entry for this will be as follows:

In case of profit:

Profit on Redemption of Debentures A/c Dr.

To Capital Reserve A/c

In case of loss:

Profit and Loss A/c Dr.

Or, Capital Reserve A/c (if any) Dr.

Or, Securities Premium A/c (if any) Dr.

To Loss on Redemption of Debenture A/c

On transfer of profits which would otherwise be available for dividend to Debenture Redemption Reserve

Profit and Loss Appropriation A/c Dr. (with the nominal value of debentures cancelled)

To Debenture Redemption Reserve A/c

(*b*) **Where Sinking Fund Exists**

1. **On Sale of Sinking Fund Investments**

   Bank A/c Dr. (with the realisation value)

   To Debenture Redemption Fund Investment A/c

   Note: If there is any profit or loss on sale of investments, the same has to be transferred to Debenture Redemption Fund Account.

2. **On purchase and cancellation of debentures**

   Debentures A/c Dr. (with the amount paid)

   To Bank A/c

3. **Profit or loss on cancellation or redemption of debentures shall be transferred to Sinking Fund or Debenture Redemption Fund Account. The accounting entries:**

   In case of profit:

   Debentures A/c Dr. (with the nominal value)

   To Bank A/c (with the price paid)

   To Profit on Redemption Debentures A/c (with the amount of profit)

   Profit on Redemption of Debentures A/c Dr.

   To Sinking Fund A/c

   In case of loss:

   Debentures A/c Dr. (with the nominal value)

   Loss on Cancellation or Redemption of Debentures A/c Dr. (with the loss on cancellation)

   To Bank A/c (with the amount paid)

   Sinking Fund A/c Dr.

   To Loss on Cancellation or Redemption of Debentures A/c

4. **On transfer of the nominal value of the debentures cancelled to General Reserve Account from the Debenture Redemption Fund Account**

   Debenture Redemption Fund A/c Dr. (with the nominal value of the debentures cancelled)

   To General Reserve A/c

PURCHASE OF DEBENTURES AS INVESTMENT (OWN DEBENTURES)

The accounting entries in such a case will be as follows:

(*a*) **Where no Sinking Fund Exists:**

On purchase of debentures as investment:

Own Debentures A/c	Dr.	
Or Investment in Own Debentures A/c	Dr.	(with the amount paid for the debentures)
To Bank A/c		

(*b*) **Where Sinking Fund Exists:**

On sale of investments:

Bank A/c	Dr.	(with the realised amount)
To Debenture Redemption Fund Investment A/c		

Note: If there is any profit or loss on sale of investments the same has to be transferred to Debenture Redemption Fund Account.

On purchase of debentures as investment:

Bank A/c	Dr.	(with the amount received)
Own Debentures A/c	Dr.	
Or Investment in Own Debentures A/c	Dr.	(with the amount paid for the debentures)
To Bank A/c		

Cancellation of Own Debentures

When own debentures are subsequently cancelled:

Bank A/c	Dr.	(With the amount received)
Debentures A/c	Dr.	(with the nominal value of the debentures cancelled)
To Own Debentures A/c		
Or		
To Investment in Own Debentures A/c		

In case of profit:

Debentures A/c	Dr.	(nominal value of the debentures cancelled)
To Own Debentures A/c		(book value of the Own Debentures cancelled)
To Profit on Redemption of Debentures A/c		

In case of loss:

Debentures A/c	Dr.	(nominal value of the debentures cancelled)
Loss on Redemption of Debentures A/c	Dr.	
To Own Debenture A/c		(book value of the Own Debentures cancelled)

BY CONVERSION INTO SHARES

Accounting Treatment

(*a*) **When shares are issued at par**

Debentures A/c	Dr.	
To Share capital A/c		

(*b*) **When shares are issued at a premium**

Debentures A/c	Dr.	
To Share Capital A/c		(with the nominal value of shares issued)
To Securities Premium A/c		(with the amount of premium)

6 RELATED ASPECTS OF COMPANY ACCOUNTS

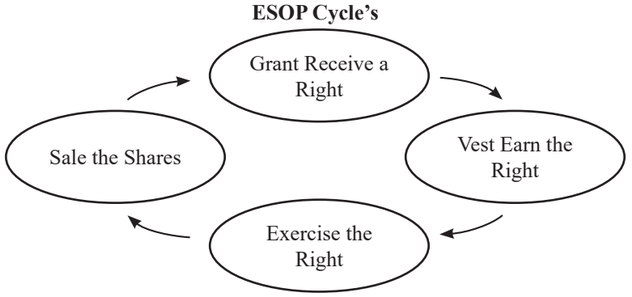
TOPICS TO BE COVERED

- Employee Stock Option Plan (ESOP)
- Accounting for ESOP
- Equity-settled Employee Share-based Payment Plans
- Cash-settled Employee Share-based Payment Plans
- Employee Share-based Payment Plans with Cash Alternatives
- Accounting Entries
- Buy-Back of Shares
- Modes of buy-back
- Disclosures, filing requirements and timelines for public announcement and draft letter of offer
- Escrow account
- Accounting for buy-back
- Equity Shares with Differential Rights
- Underwriting of Shares/Debentures
- Determination of Liability in respect of Underwriting Contract
- Firm Underwriting

EMPLOYEE STOCK OPTION PLAN (ESOP)

ESOP stands for Employee Stock Option Plan. It's a scheme where employees can buy company shares at a set price in the future. SEBI guidelines apply to ESOPs of listed companies, including Employee Stock Purchase Schemes (ESPS), where employees are offered shares as part of a public issue.

ESOP Cycle's



Important Terms of ESOP

Grant: Grant means giving an option to the Employees to subscribe to the shares of the company at the pre-determined price.

Grant Date: It is the date of agreement between the enterprise and its employees to the terms of Employees Stock Option Plan (ESOP).

Vesting Period: The period between the grant date and the date on which all the specified vesting conditions of an Employees Stock Option Plan (ESOP) need to be satisfied.

Exercise: It means applying by the employee for issue of shares against the option vested in him.

Exercise Period: Period after vesting within which the employee must exercise the right to apply for shares against the option vested in him in pursuance of the Employees Stock Option Plan.

Exercise Price: The price payable by the employee for exercising the option granted in pursuance of the Employees Stock Option Plan.

Value of Option: Difference between the market price and the issue price of the security.

ACCOUNTING FOR ESOP

For accounting purposes, employee share-based payment plans are classified into the following categories:

Equity-Settled: Under these plans, the employees receive shares.

Cash-settled: Under these plans, the employees receive cash based on the price (or value) of the enterprise's shares.

Employee share-based payment plans with cash alternatives: Under these plans, either the enterprise or the employee has a choice of whether the enterprise settles the payment in cash or by issue of shares.

EQUITY-SETTLED EMPLOYEE SHARE-BASED PAYMENT PLANS

When an enterprise receives services in an equity-settled employee share-based payment plan, it should recognize them as an expense, except if the service qualifies to be included in the cost of an asset. The corresponding credit should be made to an equity account like 'Stock Options Outstanding Account'. This account is temporary and will eventually be transferred to another equity account such as share capital, securities premium account, or general reserve as recommended in the Guidance Note.

CASH-SETTLED EMPLOYEE SHARE-BASED PAYMENT PLANS

For cash-settled employee share-based payment plans, the enterprise should measure the services received and the liability incurred at the fair value of the liability. The fair value of the liability should be reassessed at each reporting date and at the settlement date, with any changes recognized in profit or loss for the period until the liability is settled.

EMPLOYEE SHARE-BASED PAYMENT PLANS WITH CASH ALTERNATIVES

For employee share-based payment plans where the enterprise or the employee can choose to settle in cash or shares, the enterprise should account for the transaction as cash-settled if it has a liability to settle in cash, or as equity-settled if no such liability exists.

Accounting Entries

Bank A/c	Dr.
Employee compensation expense A/c	Dr.
To Equity share capital A/c	
To Securities premium A/c	
Profit and Loss A/c	Dr.
To Employee compensation expense A/c	
Employees compensation expense A/c	Dr.
To Employee stock option outstanding A/c	
Profit and loss account	Dr.
To Employees compensation expenses A/c	

BUY-BACK OF SHARES

When a company has substantial cash resources, it may want to buy its own shares from the market, especially when the share price is lower than the book value or what the company thinks is its true value. Buying back shares allows the company to offer its shareholders to sell their shares back to the company. Share buybacks are a significant tool for companies looking to reduce their share capital.

Conditions for Buy-back of Shares

Must be authorized by its articles.

A special resolution has been passed at a general meeting of the company authorizing the buy-back, but the same is not required when the buy-back is 10% or less of the total paid up equity capital and free reserves of the company; and such buy-back has been authorized by the Board by means of a resolution passed at its meeting

The buy-back is 25% or less of the aggregate of paid up capital and free reserves of the company. But in case of Equity Shares, the same shall be taken as 25% of paid up equity capital only

Debt Equity ratio should be 2:1, where: Debt is aggregate of secured and unsecured debts owed by the company after buy-back, and Equity: is the aggregate of the paid up capital and its free reserves

All the shares or other specified securities for buy-back are fully paid up

If shares or securities are listed, buy-back will be in accordance with the regulations made by the Securities and Exchange Board in this behalf

The buy-back in respect of unlisted shares or other specified securities will be in accordance with Share Capital and Debentures Rules, 2014

No offer of buy-back shall be made within a period of one year from the date of the closure of the preceding offer of buy-back, if any.

MODES OF BUY-BACK

A company may buy-back its shares or other specified securities by any one of the following methods:

(*a*) from the existing shareholders or other specified securities holders on a proportionate basis through the tender offer;

(*b*) from the open market through—

(*i*) book-building process,

(*ii*) stock exchange;

(*c*) from odd-lot holders, provided that no offer of buy-back for fifteen per cent or more of the paid up capital and free reserves of the company shall be made from the open market.

Disclosures, filing requirements and timelines for public announcement and draft letter of offer

When a company decides to buy back its shares, it must announce it within two days of the special or board resolution. This announcement should be made in major newspapers in English, Hindi, and a regional language near the company's Registered Office. The announcement must include all required information and a copy must be submitted to SEBI through a merchant banker.

The company shall within five working days of the public announcement file the following:

(*a*) A draft letter of offer, along with a soft copy, containing disclosures as specified in these regulations through a merchant banker who is not associated with the company.

(*b*) A declaration of solvency in specified form and in a manner provided in Section 68(8) of the Companies Act, 2013.

(*c*) Prescribed fees as specified in these regulations.

ESCROW ACCOUNT

Regulation 9(xi) of SEBI (Buy back of Securities) Regulations, 2018 provides that a company shall, as and by way of security for performance of its obligations under the regulations, on or before the opening of the offer, deposit in an escrow account such sum as specified below:

The escrow amount shall be payable in the following manner:

(*a*) if the consideration payable does not exceed Rupees 100 crores; 25 per cent of the consideration payable;

(*b*) if the consideration payable exceeds Rupees 100 crores; 25 per cent upto Rupees 100 crores and 10 per cent thereafter.

Accounting for buy-back

Buy-back of shares is the reverse of issuing shares. Like shares can be issued at par, at a premium, or at a discount, buy-backs can also occur at these prices. The accounting basis for buy-backs is Section 68 of the Companies Act, 2013, which permits a company to repurchase its equity shares and specifies the funding sources for the repurchase.

According to Section 68(1), a company may buy-back its shares or other specified securities from out of:

1. Its free reserves, or
2. The securities premium account, or
3. The proceeds of any shares or other specified securities.

EQUITY SHARES WITH DIFFERENTIAL RIGHTS

Section 43 of the Companies Act, 2013, allows equity share capital with either normal voting rights or different rights regarding dividend, voting, or other matters. Rule 4 of the Companies (Share Capital and Debentures) Rules 2014 deals with equity shares having differential rights.

Which Company may issue:

A company limited by shares shall issue equity shares with differential rights as to dividend, voting or otherwise, when it complies with the following conditions:

(*a*) The articles of association of the company authorize the issue of shares with differential rights.

(*b*) The issue of shares is authorized by an ordinary resolution passed at a general meeting of the shareholders. Where the equity shares of a company are listed on a recognized stock exchange, the issue of such shares shall be approved by the shareholders through postal ballot.

(*c*) The voting power in respect of shares with differential rights of the company shall not exceed seventy-four per.

(*d*) cent of total voting power including voting power in respect of equity shares with differential rights issued at any point of time.

UNDERWRITING OF SHARES/DEBENTURES

Accounting Entries

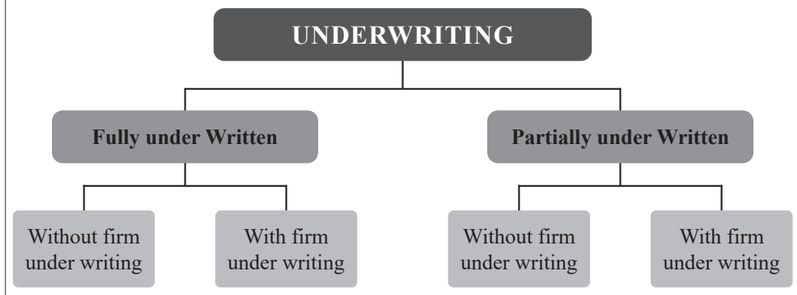
1. For Commission / brokerage due:

Commission / Brokerage A/c		Dr.
	To Underwriter Account	
	To Broker Account	

2. For payment of Commission / brokerage:

Underwriter Account	Dr.
Broker Account	Dr.
To Bank Account [Cheque]	
To Share Capital Account [Shares]	
To Debentures Account [Debentures]	

DETERMINATION OF LIABILITY IN RESPECT OF UNDERWRITING CONTRACT



FIRM UNDERWRITING

(*a*) The 'firm underwriting' may be adjusted against the individual liability of each underwriter separately or may be treated at par with marked applications.

When firm underwriting is treated at par with marked applications. In such a case, the statement of liability of underwriters will be as under:

Gross Liability (agreed ratio-total shares underwritten) .....
Less: Marked applications including firm underwriting .....
Balance left
Less: Unmarked application (ratio of Gross liability) .....
Net liability Add: Firm underwriting .....
Total Liability.....

(*b*) The benefit of 'firm underwriting' can be shared by all underwriters, or firm underwriting can be treated equally with unmarked applications. In this case, the shares/debentures underwritten firm by each underwriter won't be adjusted individually against their liability. Instead, they will be included in the total unmarked forms to be distributed among all underwriters based on their gross liability ratio.

7 CONSOLIDATION OF ACCOUNTS

TOPICS TO BE COVERED

- Introduction
- Holding Company
- Subsidiary Company
- Associate company
- Wholly Owned Subsidiary Company
- Partly Owned Subsidiary Company
- Minority Shareholder
- Legal Requirements for a Holding Company
- Exclusion from Preparation of Consolidated Financial Statements
- Advantages of Consolidation of Financial Statements
- Contents and Format of Consolidated Balance Sheet
- Calculation of goodwill/Capital Reserve (Cost of Control)
- Calculation of Minority Interest
- Contents and Format of Consolidated Profit and Loss Account
- Pre-acquisition and post-acquisition Profits/Reserves
- Treatment of goodwill appearing in the balance Sheet of Subsidiary Company
- Summarized Steps for preparation of Consolidated Financial Statement

INTRODUCTION

Organizations are growing through acquisitions and mergers, forming large corporations. The main goal is often cost reduction or market control, leading to the formation of holding companies. Holding companies gain control over subsidiaries by acquiring shares or influencing their boards. Together, these form a group of companies as per the Companies Act, 2013.

HOLDING COMPANY

As per Section 2(46) of the Companies Act, 2013 "holding company", in relation to one or more other companies, means a company of which such companies are subsidiary companies.

SUBSIDIARY COMPANY

As per Section 2(87) of the Companies Act, 2013, a subsidiary company is one in which the holding company:

1. Controls the composition of the Board of Directors; or
2. Holds more than one-half of the total share capital, either on its own or with its subsidiary companies.

Even indirect control through subsidiary companies constitutes subsidiary status. Control over the Board of Directors means the power to appoint or remove a majority of directors.

ASSOCIATE COMPANY

An associate company, in relation to another, is influenced significantly but isn't a subsidiary. This includes joint ventures. "Significant influence" means control of at least twenty percent of total share capital or business decisions under an agreement. In joint ventures, influence is through agreements, not necessarily share capital, as per AS18.

WHOLLY OWNED SUBSIDIARY COMPANY

A company in which all the shares with voting rights (i.e. 100%) are owned by the holding company, it is said to be a wholly owned subsidiary company.

PARTLY OWNED SUBSIDIARY COMPANY

A company in which only the majority of shares (more than 50%) are owned by the holding company, it is said to be a party owned subsidiary.

MINORITY SHAREHOLDER

Small Shareholder: A shareholder who is holding shares of nominal value of INR 20,000 or such other sum as may be prescribed.

Minority Shareholder: Equity holder of a firm who does not have the voting control of the firm, by virtue of his or her below fifty percent ownership of the firm's equity capital.

LEGAL REQUIREMENTS FOR A HOLDING COMPANY

Section 129 of the Companies Act, 2013 stipulates that the balance sheet of a holding company has to be accompanied by the below-mentioned documents of relating to each of its subsidiaries:

1. A copy of the Balance Sheet of the subsidiary
2. A copy of the P&LA/c of the subsidiary company
3. A copy of the report of its Board of Directors
4. A copy of the report of its auditors
5. A statement containing the following particulars:
   (*i*) The nature and extent of holding companies' interest in the subsidiary at the end of the last financial year;
   (*ii*) The net aggregate number of profits or losses in the subsidiary so far as it concerns the members of the holding company and is not dealt within the holding company's accounts.
6. If the holding company and its subsidiary have the same financial year, the subsidiary's balance sheet and related documents for that year must be attached to the holding company's balance sheet.
7. If the financial year of the subsidiary company does not coincide with the financial year of the holding company, a statement showing the following should be attached:
   (*i*) Whether, and to what extent, there has been a change in the holding company's interest in the subsidiary company since the close of the financial year of the subsidiary company;
   (*ii*) Details of any materials changes which have occurred between the end of the financial year of the subsidiary company and the end of the financial year of the holding company in respect of:
      (*a*) The subsidiary's fixed assets
      (*b*) Its investments
      (*c*) The moneys lent by it
      (*d*) The moneys borrowed by it for any purpose other than that of meeting its current liabilities
      (*e*) If for any reason, the board of directors of the holding company is unable to obtain information on profits (capital or revenue) a report in writing to the effect.

In a nutshell, If the financial years of the subsidiary and holding companies don't match, the subsidiary's previous year's balance sheet and statements should be attached. The attached information for subsidiaries in the holding company's balance sheet must not be more than 6 months old.

Exclusion from Preparation of Consolidated Financial Statements

As per AS 21, a subsidiary should be excluded from consolidation when:

(*a*) control is intended to be temporary because the subsidiary is acquired and held exclusively with a view to its subsequent disposal in the near future; or

(*b*) it operates under severe long-term restrictions which significantly impair its ability to transfer funds to the parent.

ADVANTAGES OF CONSOLIDATION OF FINANCIAL STATEMENTS

1. **Facilitates easy comprehension:** Shareholders are in a position to get a clear insight about the financial position of the group (parent and all its subsidiaries).
2. **Proper assessment of return on investment:** Only consolidated financial statements can provide proper information on the total share of holding company in the revenue profit of its subsidiaries.

The following are its limitations:

1. **Varied information:** Subsidiary companies may have diverse businesses, which can lead to varied information. Consolidating this into a single format can be confusing, requiring alternatives.
2. **Irrelevant concealment of facts:** Data from subsidiaries may not be relevant when combined. Suppression of facts to derive common figures can lead to a consolidated financial statement that doesn't reflect a true view of the companies' positions.

CONTENTS AND FORMAT OF CONSOLIDATED BALANCE SHEET

Consolidated Balance Sheet of Holding Company and its Subsidiaries as on...

Format of Consolidated Balance Sheet		
1. EQUITY AND LIABILITIES	**Amount**	**Amount**
SHAREHOLDER'S FUND		XX
(*a*) Share Capital (Holding Company)	XX	

(*b*) Reserves & Surplus			
(*i*) General Reserve (Holding Co.)		XX	
(*ii*) Capital Reserve (Holding Co.)	XX		
Add: Capital Reserve from Acquisition	XX	XX	
(*iii*) Surplus			
Surplus of Holding Co.	XX		
Add: Share in revenue profits of Subsidiary Co.	XX	XX	XX
Less: Unrealized Profits	(XX)		
2. Non-current liabilities			
(*a*) Minority Interest		XX	
(*b*) Holding Co.	XX		
Subsidiary Co.	XX	XX	XX
3. Current liabilities			
Holding Co.	XX		
Subsidiary Co.	XX		
Less: Inter Co. or mutual Owings	XX		XX
Total			**XX**
ASSETS			
1. Non-current assets			
(*a*) Property, Plant and Equipment:			
(*i*) Tangible assets			
Holding Co.	XX		
Subsidiary Co.	XX		XX
(*ii*) Intangible assets:			
Goodwill or Cost of Control:			
Holding Co.	XX		
Subsidiary Co.	XX		
Goodwill resulting from acquisition		XXXX	XX
(*b*) Non-Current Investment			
Holding Co. (except investment in shares of subsidiary Co.)			XX
2. Current assets			
Holding Co.	XX		
Subsidiary Co.	XX		
Less: Inter Company or Mutual Owings	XX		XX
Total			**XX**

CALCULATION OF GOODWILL/CAPITAL RESERVE (COST OF CONTROL)

Goodwill = Cost of Investment – Parent's share in the equity of the subsidiary on date of investment

Capital Reserve = Parent's share in the equity of the subsidiary on date of investment – Cost of investment

Calculation	Particulars	(Rs.)
	A. Net cost of investment	
	(i) Amount actually paid for equity shares and preference shares of subsidiary	.....
	(ii) **Less:** dividend received out of pre-acquisition profit of the subsidiary (whether equity or preference dividend)	(.....)
	(iii) **Less:** Share of holding company in preference dividend on cumulative pref. shares whether declared or not and on non- cumulative pref. shares when declared out of pre-acquisition profit of the subsidiary	(.....)
	(iv) **Less:** Share of holding company in declared equity dividend of the subsidiary out of pre-acquisition profit of the subsidiary	(.....) .....
	Total net cost of investment (i + ii + iii + iv)	.....
	B. Share of holding company in the net assets of the subsidiary company	....
	(i) Paid up value of equity shares (including bonus shares) presently held by the holding company	....
	(ii) Paid up value of preference shares presently held by the holding company	
	(iii) Share of holding company in the capital profit of the subsidiary company	
	Total share of holding company in the net assets of the subsidiary company (i + ii + iii)	
	C. Goodwill on consolidation (if A exceeds B) or Capital reserve on consolidation (if B exceeds A)	

CALCULATION OF MINORITY INTEREST

Calculation	Minority interest will be calculated as under:	
	Particulars	**(Rs.)**
	A. Paid up value of the equity shares (including bonus shares) held by the minority	.....
	B. Paid up value of preference shares presently held by the minority	.....
	C. Share of minority in the capital profits/(loss) of the subsidiary	.....
	D. Share of minority in the revenue profits/(loss) of the subsidiary	.....
	E. Share of minority in the revenue reserve of the subsidiary	.....
	F. Share of minority in the preference dividend of the subsidiary (on cumulative preference shares whether declared or not and on non-cumulative preference shares when declared)	.....
	G. Share of minority in the equity dividend declared by the subsidiary	.....
	Minority Interest (A + B + C + D + E + F + G)	
Presentation of minority interest in the consolidated Balance sheet	'Minority Interest' should be presented as a separate item after the head 'Shareholders' fund' but before the head 'Share application money pending allotment' on the 'Equity and Liabilities' side of the Balance sheet.	

CONTENTS AND FORMAT OF CONSOLIDATED PROFIT AND LOSS ACCOUNT

PROFIT AND LOSS ACCOUNT

Particulars	Note No.	Figures for the Current Reporting period	Figures for the Previous Reporting period
I Revenue from operations			
II Other Income			
III Total Revenue (I + II)			
IV Expenses:			
Cost of materials consumed			
Purchases of Stock-in-Trade			
Changes in inventories of finished goods			
Employee benefits expense			
Finance costs			
Depreciation and amortization expense			
Other expenses			
Total expense			
V Profit before exceptional and extraordinary items and tax (III-IV)			
VI Exceptional items			
VII Profit before extraordinary items and tax (V-VI)			
VIII Extraordinary items			
IX Profit before tax (VII-VIII)			
X Tax expense: Current tax Deferred tax			
XI Profit (Loss) for the period from continuing operations			
XII Profit/ (Loss) from discontinuing operations (before tax)			
XIII Tax expense of discontinuing operations			
XIV Profit/(Loss) from discontinuing operations (after tax) (XII-XIII)			
XV Earning per equity share:			
Basic			
Diluted			

PRE-ACQUISITION AND POST-ACQUISITION PROFITS/RESERVES

Item	Holding company's share	Minority
Pre-acquisition profits (or losses) and Reserves (capital profits)	Holding company's share will be added to (or in the case of losses deducted from) the paid-up value of shares presently held by the holding company in the subsidiary company so as to calculate the holding company's share in the net assets of the subsidiary company.	The Share of minority will be added to (or in the cases of losses deducted from) the paid-up value of shares presently held by the minority in the subsidiary company so as to calculate the Minority Interest.

Post-acquisition profits (or losses) and reserves (Revenue profits)	Holding company's share in the profit of the subsidiary will be added to (or in the case of losses deducted from) the profit and Loss A/c of the holding company. Holding company's share in the reserves shall be added to the reserves of the holding company.	The Minority share in the post-acquisition profits and reserves shall be added to (or in the case of losses deducted from) the paid-up value of shares held by the minority in the subsidiary company so as to calculate the Minority Interest.

Note: Whether subsidiary profits and losses are pre- or post-acquisition only affects the holding company's treatment, not the minority interest. All profits and reserves, regardless of timing, are included in the minority interest.

TREATMENT OF GOODWILL APPEARING IN THE BALANCE SHEET OF SUBSIDIARY COMPANY

Accounting Treatment:

Approach I: Add: Goodwill already appearing in the balance sheet of subsidiary company to the goodwill and/ or cost of control in the consolidated balance sheet.

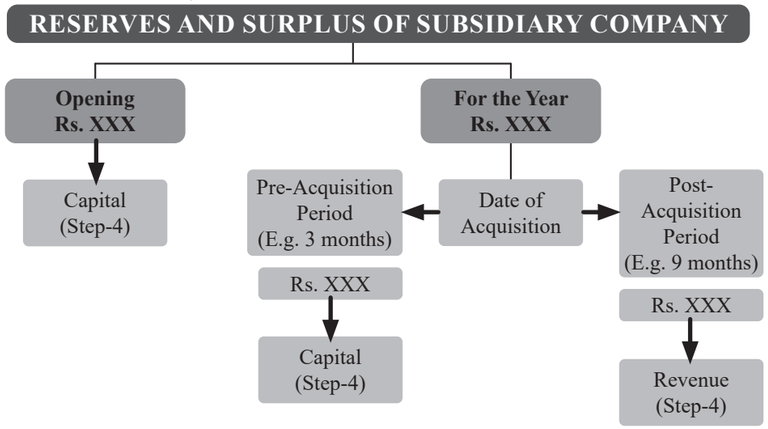
Approach II: Add: Only holding company's share to the cost of control/goodwill, from the goodwill of the subsidiary company.

SUMMARIZED STEPS FOR PREPARATION OF CONSOLIDATED FINANCIAL STATEMENT

Step: 1 Identify Date of Acquisition (DOA)

Step: 2 Compute the Shareholding Ratio

Step: 3 Distributions of Reserves and Surplus of Subsidiary Company subject to certain adjustments".



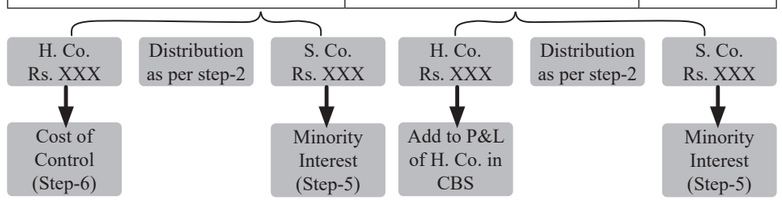
Certain adjustments*

It is important to note that before giving the treatment under step-3 it is required to confirm about following adjustments like:

- Preliminary expense written off
- Revaluation of assets
- Dividend treatment
- Bonus share etc.

Step: 4 Analysis of Profit and Loss of Subsidiary Company

Particulars	Capital	Revenue
Reserves and Surplus (Step-3)		
❖ Opening	.....	–
❖ For the Year	.....	.....
Other Adjustments (If any)	.....	.....
Total	.....	.....



Step: 5 Computation of Minority Interest

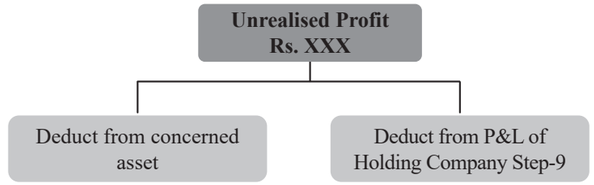
❖ Proportion of Subsidiary Company in share capital (Eq./Pref.) of Subsidiary Company (Including Bonus) [Share Capital of Subsidiary Company × Proportion of Subsidiary Company (As per step-2)]	.....
❖ Capital Profit/Reserve Portion (Step-4)	
❖ Revenue Profit/Reserve (Step-4)	.....
❖ Dividend adjustment (Eq/Pref.)	.....
Minority Interest (Non-Controlling Interest) [Show Equity & Liability side of Consolidated Balance Sheet 'CBS']	.....

Step: 6 Computation of Cost of Control

Investment of Holding Company in the shares of Subsidiary Company	.....
Less:	
❖ Proportion of Holding Company in share capital (Eq./Pref.) of Subsidiary Company (Including Bonus) [Share Capital of Subsidiary Company × Proportion of Holding Company (As per step-2)]	.....
❖ Capital Portion (Step-4)	.....
❖ Dividend received out of pre-acquisition profit of the subsidiary (whether equity or preference dividend)	.....
Goodwill (Positive) [Show Assets Side of CBS]	.....
Capital Reserve (Negative) [Show Step-9 Reserves & Surplus of CBS]	(.....)

Step: 7 Treatment of Inter Company Transactions and other Adjustments

Step: 8 Treatment of Unrealized Profit



Step: 9 Prepare Reserves and Surplus of Holding Company for Consolidated Balance Sheet

Particulars	Capital	P&L	Revenue
Capital Reserve	.....		
General Reserve			.....
Security Premium	.....		
P&L Account		.....	
Revenue Portion (Step-4)		.....	
Capital Reserve (Step-5)	.....		
Unrealized Profit (Step-8)		(.....)	
Any other adjustments	...../(.....)	...../(.....)	...../(.....)
Total [A+B+C] (Show under head Reserve and Surplus at CBS)	.....(A)	.....(B)	.....(C)

Step:10 Prepare Consolidated Balance Sheet (CBS)

8 FINANCIAL STATEMENT ANALYSIS

TOPICS TO BE COVERED

- **Financial Ratios**
  - **Liquidity Ratios**
  - **Leverage / Solvency Ratios**
  - **Turnover Ratios**
  - **Profitability Ratios**
- **Du Pont Analysis**
- **Reading and Interpretation of Financial Statement**
- **Problems in Financial Statement Analysis**
- **Guidelines for Financial Statement Analysis**

FINANCIAL RATIOS

A ratio is an arithmetical relationship between two figures. Financial ratio analysis is a study of ratios between various items or groups of items in financial statements. Financial ratios have been classified in several ways.

For our purposes, we divide them into four broad categories as follows:

- Liquidity Ratios
- Leverage / Solvency Ratios
- Turnover Ratios
- Profitability Ratios

A. Liquidity Ratios

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

   Current assets include cash, current investments, debtors, inventories (stocks), loans and advances, and pre-paid expenses.

   Current liabilities represent liabilities that are expected to mature in the next twelve months. These comprise (i) loans, secured or unsecured, that are due in the next twelve months and (ii) current liabilities and provisions.

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

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

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

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

B. Leverage / Solvency Ratios

1. **Debt-equity Ratio:** $\frac{\text{Long Term Debts}}{\text{Shareholder's funds}}$

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

   Share Capital = Equity share capital + Preference share capital

   OR

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

   Working Capital = Current Assets – Current Liabilities

2. **Debt to Capital Employed Ratio:** $\frac{\text{Long Term Debts}}{\text{Capital Employed (or Net Assets)}}$

   Capital employed = long-term debt + shareholders' funds.

   Alternatively, it may be taken as net assets = total assets – current liabilities

3. **Interest Coverage Ratio:**

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

   Profit before interest and tax = Profit before tax + Interest

   Profit before tax = Profit after tax $\times \frac{100}{100 - \text{Tax rate}}$

4. **Fixed Charges Coverage Ratio:**

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

5. **Debt Service Coverage Ratio:**

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

   $\text{Interest on term loan + Lease rentals} + \text{Repayment of term loan}$

C. Turnover Ratios

1. **Inventory Turnover:** $\frac{\text{Cost of goods sold}}{\text{Average inventory}}$

   Cost of Goods Sold = Inventory in the beginning + Net Purchases + Wages + Carriage inwards – Inventory at the end

   Cost of Goods Sold = $\frac{\text{(Inventory in the beginning + Inventory at the end)}}{2}$

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

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

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

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

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

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

   Net credit sales = Total sales – Cash sales

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

3. **Fixed Assets Turnover:** $\frac{\text{Net sales}}{\text{Average net fixed assets}}$

4. **Total Assets Turnover:** $\frac{\text{Net sales}}{\text{Average total assets}}$

D. Profitability Ratios

1. **Gross Profit Margin:**

   Gross Profit = Revenue from Operations – Cost of Revenue from Operation

   Revenue from Operations = Cash Revenue from Operations + Credit Revenue from Operation

   Cost of Revenue from operation = Purchases + (Opening Inventory – Closing Inventory) + Direct Expenses

2. **EBITDA Margin:**

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

3. **Net Profit Margin:** $\frac{\text{Net profit}}{\text{Net sales}} \times 100$

   Net profit = Gross profit - Indirect expenses

4. **Return on Assets:** $\frac{\text{Profit after tax}}{\text{Average total assets}}$

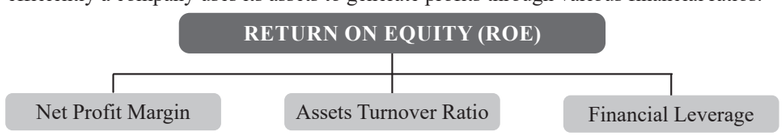
5. **Earning Power:** $\frac{\text{Profit before interest and tax}}{\text{Average total assets}}$

6. **Return on Capital Employed:** $\frac{\text{Profit before interest and tax}(1 - \text{tax rate})}{\text{Average total assets}}$

7. **Return on Equity:** $\frac{\text{Equity earnings}}{\text{Average equity}}$

DU PONT ANALYSIS

The DuPont analysis digs into a company's financial performance by examining key ratios like net profit margin, total asset turnover, and equity multiplier to gauge return on equity. It reveals what factors influence financial ups and downs, helping improve future financial planning by pinpointing areas for enhancement. This analysis essentially measures how efficiently a company uses its assets to generate profits through various financial ratios.



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

(*i*) **Net Profit Margin** = $\left(\frac{\text{Net Profit}}{\text{Sales}}\right)$ – The Net Profit Margin signifies the Profit that is extracted per rupee of Sales. Everything else remaining same, a company which has a higher Net Profit Margin has a higher ROE.

(*ii*) **Asset Turnover Ratio** = $\left(\frac{\text{Sales}}{\text{Total Assets}}\right)$ – This ratio is an efficiency measurement used to determine how effectively a company uses its assets to generate revenue. Higher the Asset Turnover Ratio, higher the ROE, everything else remaining the same.

(*iii*) **Financial Leverage** = $\left(\frac{\text{Total Assets}}{\text{Total Equity}}\right)$ – Financial Leverage measure whether a company finances the purchase of assets primarily through debt or equity. The higher the Financial Leverage the higher the ROE. Financial Leverage when it becomes excessive can increase the risk of bankruptcy.

READING AND INTERPRETATION OF FINANCIAL STATEMENT

1. Balance sheet
2. Profit and loss Statement
3. Cash-flow statement
4. Analysis of Auditors Report and Opinion
5. Auditor's Opinion
6. Analysis of Management Judgement

Problems in Financial Statement Analysis

1. Lack of an Underlying Theory
2. Conglomerate Firms
3. Window Dressing
4. Price Level Changes
5. Variations in Accounting Policies
6. Interpretation of Results
7. Correlation among Ratios

Guidelines for Financial Statement Analysis

1. Use ratios to get clues to ask the right questions
2. Be selective in the choice of ratios
3. Employ proper benchmarks
4. Know the tricks used by accountants
5. Read the footnotes: Footnotes sometimes contain valuable information
6. Remember that financial statement analysis is an odd mixture of art and science

9 CASH FLOWS

TOPICS TO BE COVERED

- Introduction
- Utility of Cash Flow Analysis
- Meaning of Certain Terms used in the Context of Cash Flow Statement
- Classification of Cash Flow Statement
- Treatment of Interest and Dividend
- Preparation of a Cash Flow Statement
  - A. Cash Flows from Operating Activities
  - B & C - Cash Flows from Investing and Financing Activities
- Format of Cash Flow Statement

INTRODUCTION

The cash flow statement tracks how money moves in and out of a company. It shows where cash comes from, how it's spent, and why the cash balance changes. It's a vital tool for understanding a company's financial health over time.

UTILITY OF CASH FLOW ANALYSIS

1. Helps in efficient cash management:
2. Helps in internal financial management:
3. Discloses the movements of cash:
4. Discloses success or failure of cash planning:
5. Evaluate management decisions:
6. Show the relationship of net income to changes in the business cash:
7. Efficiency in cash management:

MEANING OF CERTAIN TERMS USED IN THE CONTEXT OF CASH FLOW STATEMENT

Cash: Cash comprises cash in hand and demand deposits with banks. Demand deposits mean those deposits which are repayable by bank on demand by the depositor.

Cash equivalents: Cash equivalents are short term, highly liquid investments that are readily convertible into known amounts of cash and which are subject to an insignificant risk of changes in value. Cash equivalents are held for the purpose of meeting short term cash commitments rather than for investments or other purposes. Examples of cash equivalents are treasury bills, commercial paper etc. Investments in shares are excluded from cash equivalents unless they are in substance cash equivalents, for example preference shares of a company acquired shortly before their specified redemption date (provided there is only an insignificant risk of failure of the company to repay the amount at maturity).

Cash flows: Cash flows are inflows and outflows of cash and cash equivalents. It means the movement of cash into the organisation and movement of cash out of the organisation. The difference between the cash inflows and outflows is known as net cash flow which can be either net cash inflow or net cash outflow. Cash flows exclude movements between items that constitute cash or cash equivalents because these components are part of the cash management of an enterprise rather than part of its operating, investing and financing activities. Cash management includes the investment of excess cash in cash equivalents.

CLASSIFICATION OF CASH FLOW STATEMENT

- Operating Activities
- Investing Activities
- Financing Activities

Cash Flows from Operating Activities	Examples of Cash Flows from Operating Activities
Operating activities are the principal revenue- producing activities of the enterprise and other activities that are not investing and financing activities. Operating activities include cash effects of those transactions and events that enter into the determination of net profit or loss.	(*a*) cash receipts from the sale of goods and the rendering of services; (*b*) cash receipts from royalties, fees, commissions, and other revenues; (*c*) cash payments to suppliers for goods and services; (*d*) cash payments to and on behalf of employees;

Cash Flows from Investing Activities	Examples of Cash Flows from Investing Activities
Investing activities are the acquisition and disposal of long term assets and other investments not included in cash equivalents. In other words, activities transactions investing include and events that involve the purchase and sale of long-term productive assets (e.g. land, building, plant and machinery etc.) not held for resale and other investments.	(*a*) cash payments to acquire fixed assets (including intangibles). These payments include those relating to capitalised research and development costs and self- constructed fixed assets; (*b*) cash receipts from disposal of fixed assets (including intangibles); (*c*) cash payments to acquire shares, warrants, or debt instruments of other enterprises and interests in joint ventures (other than payments for those instruments considered to be cash equivalents and those held for dealing or trading purposes);
	(*d*) cash receipts from disposal of shares, warrants, or debt instruments of other enterprises and interests in joint ventures (other than receipts from those instruments considered to be cash equivalents and those held for dealing or trading purposes); (*e*) cash advances and loans made to third parties (other than advances and loans made by a financial enterprise); (*f*) cash receipts from the repayment of advances and loans made to third parties (other than advances and loans of a financial enterprise); (*g*) cash receipts and payments relating to future contracts, forward contracts, option contracts, and swap contracts except when the contracts are held for dealing or trading purposes, or the transactions are classified as financing activities.

Cash Flows from Financing Activities	Examples of Cash Flows from Financing Activities
Financing activities are activities that result in changes in the size and composition of the owners' capital (including preference share capital in the case of a company) and borrowings of the enterprise	(*a*) cash proceeds from issuing shares or other similar instruments; (*b*) cash proceeds from issuing debentures, loans notes, bonds and other short term borrowing; (*c*) cash repayments of amounts borrowed i.e. redemption of debentures, bonds etc.; (*d*) cash payments to redeem preference shares; (*e*) payment of dividend.

Treatment of Interest and Dividend

Non-Financial Enterprises			
Interest paid	Interest received	Dividend Paid	Dividend received
Financing Activities	Investing Activities	Financing Activities	Investing Activities
Financial Enterprises			
Interest paid	Interest received	Dividend Paid	Dividend received
Operating Activities	Operating Activities	Financing Activities	Operating Activities

PREPARATION OF A CASH FLOW STATEMENT

Cash Flow Statement	
A. Cash flows from operating activities	XXX
B. Cash flows from investing activities	XXX
C. Cash flows from financing activities	XXX
Net increase (decrease) in cash and cash equivalents (A+B+C)	XXX
+ Cash and cash equivalents at the beginning	XXX
= Cash and cash equivalents at the end	XXX

A. Cash Flows from Operating Activities

(i) Direct Method

The following are some examples of usual cash receipts and cash payments resulting from operating activities:

- Cash sales of goods and services;
- Cash collected from debtors (customers);
- Cash receipts of interest or dividends;
- Cash receipts of royalties, fees, commission and other revenues;
- Cash payments to suppliers (creditors);
- Cash payments for various operating expenses i.e. rent, rates, power etc.;
- Cash payments for wages and salaries to employees;
- Cash payments for income tax etc.

Some of the items to be shown in the cash flow statement are illustrated below:

1. **Collections from Customers:**

   Cash Collected from Debtors = Credit Sales + Decrease in Accounts Receivable or – Increase in Accounts Receivables

2. **Payment to Suppliers:**

   Purchases = Cost of Goods Sold + Closing stock – Opening stock
   OR
   Purchases = Cost of Goods Sold + Increase in Stock or – Decrease in Stock

   Cash paid to Suppliers = Purchases + Opening Balance of Creditors (Bills Payable) – Closing Balance of Creditors (Bills Payable)
   OR
   Cash Paid to Suppliers = Purchases + Decrease in Accounts Payable or – Increase in Accounts Payable

3. **Payment to Employees:**

   Cash paid for Wages and Salaries = Wages and Salaries Expenses + Opening Balance of Outstanding Wages and Salaries – Closing Balance of Outstanding Wages and Salaries.
   OR
   Cash Paid for Wages and Salaries = Wages and Salaries Expenses + Decrease in Wages and Salaries Payable or – Increase in Wages and Salaries Payable.

4. **Rent Received:**

   Rent Received = Rent Revenue + Opening Balance of Rent Receivable – Closing Balance of Rent Receivable.
   OR
   Rent Received = Rent Revenue + Decrease in Rent Receivable or – Increase in Rent Receivable.

5. **Interest Paid:**

   Interest Paid = Interest Expenses + Opening Balance of Outstanding Interest – Closing Balance of Outstanding Interest.
   COR
   Interest Paid = Interest Expenses + Decrease in Interest Payable, or – Increase in Interest Payable.

6. **Insurance:**

   Cash paid for Insurance = Insurance Expenses + Closing Balance of Unexpired Insurance – Opening Balance of Unexpired Insurance.
   OR
   Cash Paid for Insurance = Insurance Expenses + Increase in Unexpired Insurance or – Decrease in Unexpired Insurance.

(ii) Indirect Method

A summary of adjustments required to convert the net profit to net cash flow from operating activities through indirect method is as follows:

Particulars	Amount (Rs.)
A. Net profit before tax and extraordinary item	
B. Adjustments for non-cash and non-operating items:	
Add: Amount written off in respect of depreciation, goodwill, preliminary expenses, underwriting commission etc.	
Add/Less: Other non-operating items	
C. Adjustment for gains and losses on sale of fixed assets and investments:	
Add: Loss on sale of fixed assets/investments	
Less: Profit on sale of fixed assets/ investments	
D. Adjustments for changes in current assets (except cash and cash equivalents) and current liabilities (except bank overdraft)	
Add: Decrease in accounts of current assets e.g. debtors, bill receivable, stock, prepaid expenses etc. Less: Increase in accounts of current assets.	
Add: Increase in accounts of current liabilities; e.g., creditors, bills payable, outstanding expenses, etc.	
Less: Decrease in accounts of current liabilities.	
E. Cash generated from operations	
Less: Income tax paid.	
F. Adjustments for extra-ordinary items if any	
G. Net cash from (used in) operating activities	

The logic behind the treatment of various items are explained as follows:

1. Adjustment for Depreciation and other non-cash and non-operating items.	Expenses like depreciation and amortization don't use cash, so we add them back to the net profit in the cash flow statement. They're deducted from revenue to calculate income but don't actually involve cash. Similarly, expenses without cash effects are also added back. Conversely, revenues without cash inflow are subtracted from net profit.
2. Adjustment for Gains and Losses on Sale of Fixed Assets/Investments	When fixed assets or investments are sold, they can result in either profit or loss, which affects the net profit. For example, if a fixed asset is sold for more than its book value, it adds to the net profit. To avoid double-counting, we deduct this profit from the net profit and adjust it in the cash flow from operations. Similarly, if there's a loss, it's added back to the net profit to calculate cash flow from operations.
3. Changes in Current Assets and Liabilities	Changes in current assets and liabilities reflect business activity. For instance, when assets like accounts receivable increase, it means sales were made on credit, so that increase is subtracted from net profit to calculate cash flow from operations. Conversely, if current liabilities increase, they're added to net profit because it indicates expenses incurred but not yet paid for. However, decreases in these assets or liabilities are added back to net profit since they reflect cash received or paid out.

B & C - CASH FLOWS FROM INVESTING AND FINANCING ACTIVITIES

When making the cash flow statement, make sure to list all major cash receipts, payments, and net flows from investing and financing activities separately under "Cash Flow from Investing Activities" and "Cash Flow from Financing Activities" headings.

FORMAT OF CASH FLOW STATEMENT

Cash Flow Statement (Direct Method)	
A. Cash flows from operating activities	
Cash receipts from customers	
Cash paid to suppliers and employees	
Cash generated from operations	
Income taxes paid	
Cash flow before extraordinary item	
Proceeds from earthquake disaster settlement	
Net Cash from Operating Activities	
B. Cash flows from investing activities	
Purchase of fixed assets	
Proceeds from sale of equipment	
Interest received	
Dividend received	
Net Cash from Investing Activities	
C. Cash flows from financing activities	
Proceeds from issuance of share capital	
Proceeds from long-term borrowings	
Repayments of long-term borrowings	
Interest paid	
Dividend paid	
Net Cash from Financing Activities	
Net Increase (Decrease) in Cash and Cash Equivalents (A + B + C)	
Cash and Cash Equivalents at Beginning of Period	
Cash and Cash Equivalents at End of Period	

Cash Flow Statement (Indirect Method)	
A. Cash flows from operating activities	
Net profit before tax and extraordinary items Adjustments for:	
Depreciation Foreign exchange Investments	
Gain or loss on sale of fixed assets	
Interest/dividend	
Operating profit before working capital changes.	
Adjustments for:	
Trade & other receivables	
Inventories	
Trade payables	
Cash generation from operations	
Interest paid	
Direct taxes	
Cash before extraordinary items	
Deferred revenue	
Net Cash from Operating Activities.	
B. Cash flows from investing activities	
Purchase of fixed assets	
Sale of fixed assets	
Sale of investments	
Purchase of investments	
Interest received	
Dividend received	
Loans to subsidiaries	
Net Cash from Investing Activities	
C. Cash flows from financing activities	
Proceeds from issue of share capital	
Proceeds from long term borrowings	
Repayment to finance/lease liabilities	
Dividend paid	
Net Cash from Financing Activities	
Net Increase (Decrease) in Cash and Cash Equivalents (A + B + C)	
Cash and Cash Equivalents at the Beginning of the Period	
Cash and Cash Equivalents at the End of the Period	

10 FORECASTING FINANCIAL STATEMENTS

TOPICS TO BE COVERED

- Financial Statements
- Financial Forecasting: Meaning and Introduction
- Importance of Financial Forecasting
- Financial Forecasting vs. budgeting
- Financial Forecasting vs Financial Projection
- Financial Forecasting Components and Factors
- Financial Statement Forecasting
- Forecasting of Profit & Loss (Profitability Projections)
- Forecasting of Cash Flow Statement
- Forecasting of Balance Sheet

FINANCIAL STATEMENTS

According to section 2(40) of Companies Act, 2013 defines "financial statement" in relation to a company, includes

(i) a Balance Sheet as at the end of the financial year,

(ii) a Profit and Loss account, or (In the case of a company carrying on any activity not for profit, an income and expenditure account for the financial year),

(iii) Cash Flow Statement for the financial year,

(iv) a Statement of Changes in Equity, if applicable, and

(v) any explanatory note annexed to, or forming part of, any document

Forecast	A probable event where in the business is likely headed (Estimate of what is likely to happen.)
Budget	Future financial target or goals, which may or may not be equal to the forecast.
Projection	A blueprint of forward-looking business options in answer to "What would happen if". (Scenario: What-if)
Pro Form	The effects of a future transaction on past financial statements.

FINANCIAL FORECASTING: MEANING AND INTRODUCTION

Financial forecasting predicts a company's future finances by analyzing past data like revenue and expenses. It's crucial for business performance and stakeholder confidence. By estimating future performance, it guides decision-making. It considers past performance, current trends, and other factors. Adopting best practices helps businesses grow and handle challenges. A solid forecast includes projected income, expenses, and factors specific to the organization, covering short and long-term outlooks and contingencies for unforeseen expenses.

IMPORTANCE OF FINANCIAL FORECASTING

(i) It serves as the basis for budgeting decisions.

(ii) It gives businesses access to cohesive reports, allowing finance departments to establish business goals that are both realistic and feasible.

(iii) It provides management valuable insights into the way the business performed in the past and the way it will compare in the future.

(iv) It provides a barometer for those making material financial decisions

(v) It provides customizable approach based on the core set of foundational components.

FINANCIAL FORECASTING VS. BUDGETING

Basis	Forecast	Budget
Meaning	Mere estimate of what is likely to happen.	Shows that policy and program to be followed in future period under planned conditions
Nature of Event	Probable	Proposed
Tool of control	No	Yes
Base	It's a preliminary step or base for budgeting	Forecasts are converted into budget
Hierarchy	It ends with forecast of likely events	It begins when forecasting ends.
Scope	Wider	Limited

FINANCIAL FORECASTING VS FINANCIAL PROJECTION

Aspect	Financial Forecasting	Financial Projection
Meaning	Statement of management's expectations based on what top management reasonably expects will happen to and in the company and the expected financial impacts.	Projects likely outcomes of hypothetical scenarios or assumptions.
Nature of Event	Based on expected events and business conditions.	Based on hypothetical scenarios.
Tool of Control	Tool for guiding business decisions and setting targets.	Tool for exploring scenarios and predicting outcomes before adjusting plans.
Base	Expected events and business conditions.	Hypothetical scenarios or assumptions.
Hierarchy	Higher level of certainty and reliance.	Lower level of certainty and reliance.
Scope	Focuses on likely future outcomes.	Considers various hypothetical scenarios and their outcomes.

FINANCIAL FORECASTING COMPONENTS AND FACTORS

- Define the purpose of financial forecasting.
- Collection of historical data and accuracy of data sources.
- A forward-looking time horizon (12-18-24 month span)
- Formulas to determine how much weight to give any piece of data.
- Consideration of an Internal and Macro-economic risk.
- Best/Worst case (Revenue and Expenses) scenarious.
- Selection of financial forecast method.
- Documentation/ Monitoring/ Analysis of data.

FINANCIAL STATEMENT FORECASTING

(1) Based on Revenue (% of Turnover): In this method, key items like costs of goods sold (COGS), stock, and cash are estimated as a percentage of sales. These percentages are then used to predict future values for each item. For instance, if COGS usually increases in line with turnover, the same percentage can be applied. To forecast the percentage of sales, analyze historical profits relative to sales for each account. Divide each account by its sales to calculate this, assuming consistency over time. For example, if COGS has historically been 30% of sales, expect this trend to continue.

(2) Moving Average Method: Moving Average forecasting uses past data to predict the future in two ways: by averaging previous periods. It's best for short-term forecasts as it closely tracks changes in demand. For example, you can forecast next month's sales by averaging data from the previous quarter. Incorporating weighted averages for current periods can improve the accuracy of these forecasts.

For Moving Average: P1 + P2 + P3 …/N

P = Average for a period N = Total number of periods

(3) Constant growth Rate: This method assumes a company's growth rate remains constant. To forecast future revenue, multiply last year's revenue by the growth rate. For instance, if the growth rate was 12% in 2021-22, it's assumed to be constant for 2022-23. This approach ignores market fluctuations and supply chain issues.

(4) Regression Method: This method links two variables: the forecasted amount (dependent variable) and the influencing factor (independent variable). For instance, advertisement expense (independent) and sales (dependent). It suggests that changes in advertisement expense impact sales.

It is based on equation: Y = BX + A

Y= Dependent variable (Forecasted number)

B = Slope line

X = Independent variable

A = Y-intercept

(5) Delphi Method: The Delphi method, or ETE, is a qualitative forecasting approach. It gathers opinions from financial experts through multiple rounds of questions. Experts predict future outcomes and reach consensus on topics. They provide updated opinions based on summary reports. This method is crucial for qualitative forecasting.

FORECASTING OF PROFIT & LOSS (PROFITABILITY PROJECTIONS)

(*i*) It is advisable not to assume full Capacity utilization in the beginning year of operation. It means capacity utilization should be low in beginning years and rise gradually to reach the maximum level.

(*ii*) It may be assumed that sales and production would be equal. Hence, adjustments towards finish goods stock is not required.

(*iii*) Revenue shall be considered net of excise duty

Following statement may be used for Profitability Projections:

Particulars	Amount Rs
Revenue (Sales)	.....
Less: Variable Cost	.....
Contribution	.....
Less: Fixed Cost ❖ Depreciation ❖ Other	.....
EBIT	.....
Less: Interest	.....
EBT	.....
Less: Tax	.....
EAT (PAT) [Profit for the Year]	.....

FORECASTING OF CASH FLOW STATEMENT

(1) Operating Activities:

Points	Net Profit	Cash from Operating Activities
Meaning	It indicates net result of operating and non-operating activities carried out during accounting year.	It indicates cash flow as result of operating activities.
Non-Cash Items	It is computed after taking into consideration the effect of Non-cash items.	It is computed excluding the effect of Non-cash items as it is merely book entries.

Note:

- ❖ It's not profit that repays loan; it is the cash that repays loan.
- ❖ Non-cash items (shown as foot note) include
- ❖ Depreciation
  - i. Issue of shares/dentures for consideration other than cash
  - ii. Conversion of debentures into equity shares
  - iii. Purchase of business by issue of shares

(2) Investing Activities:

It basically deals with Proceeds from sale/disposal of Non-Current Assets (whether Tangible/Intangible/ Depreciable/Non-Depreciable) and Non-Operating incomes from investments shall be added such as:

i. Dividend received on shares held as investment
ii. Interest received on debentures held as investment
iii. Rent received from property held as investment

(3) Financing Activities:

It demonstrates the nature of capital structure of entity and reflects the picture of borrowers financing policy. As a lender, it is inevitable to match dividend pay-out with operating cash flow. Amount of dividend should not exceed the operating cash flow.

Following statement may be used for Cash Flow Forecasting:

Particulars	Amount Rs
Net Cash From Operating Activities [A]	.....
Net Cash From Investing Activities [B]	.....
Net Cash From Financing Activities [C]	.....
Total A + B + C	.....
Add: Opening balance of Cash and Cash Equivalents	.....
Closing balance of Cash and Cash Equivalents	.....

Following Points to be considered while preparing cash flow projections

(i) It's not profit that repays loan; it is the cash that repays loan.
(ii) It is important to disassociate the cash position from the profit of business entity.
(iii) Timing of revenue recognition and expenses don't match with timing of cash inflow and outflow.

FORECASTING OF BALANCE SHEET

The forecasted balance sheet may be prepared based on following format.

Particulars	Note No.	Figures for Historical data	Figures for forecasted data
I. EQUITY AND LIABILITIES			
1. Shareholders Fund			
(*a*) Share capital			
(*b*) Reserves and Surplus (e.g., Debit balance of P&L as negative figure)			
(*c*) Money received against share warrants			
2. Share application Money Pending Allotment			
3. Non-Current Liabilities			
(*a*) Long term borrowings			
(*b*) Deferred Tax Liabilities			
(*c*) Other Long-term liabilities			
(*d*) Long term Provisions			
4. Current Liabilities			
(*a*) Short term Borrowings			
(*b*) Trade payables			
(*c*) Other Current Liabilities			
(*d*) Short term Provisions			
Total			
II. ASSETS			
(1) Non-Current Assets			
(*a*) Fixed Assets			
i. Tangible assets			
ii. Intangible assets			
iii. Capital Work in progress			
iv. Intangible assets under Developments			
(*b*) Non-current Investments			
(*c*) Deferred Tax Assets (Net)			
(*d*) Long term loans and Advances			
(*e*) Other Non-current Assets			
(2) Current Assets			
(*a*) Current Investments			
(*b*) Inventories			
(*c*) Trade Receivables			
(*d*) Cash and Cash Equivalents			
(*e*) Short term loans and advances			
(*f*) Other Current Assets			
Total			

FINANCIAL MANAGEMENT

1 INTRODUCTION (FINANCIAL MANAGEMENT)

TOPICS TO BE COVERED

- Introduction
- Nature, Scope and Objectives of Financial Management
- Types of Financial Decisions
- Value of Firm-risk and return
- Liquidity
- Profitabilty
- Economic value Added
- Profit maximization v/s Shareholder wealth maximization
- Roles of financial Manager

INTRODUCTION

Financial management has undergone three phases of evolution: traditional, transitional, and modern.

In the traditional phase, the focus was on one-time events such as company formation, capital issuance, and mergers. The approach was descriptive and institutional, largely influenced by external perspectives.

The transitional phase, spanning from the 1940s to the early 1950s, witnessed a shift towards addressing day-to-day financial challenges like fund analysis and working capital management.

The modern phase, starting in the mid-1950s, prioritizes the rational allocation of funds to maximize shareholder wealth. It employs a more analytical and quantitative approach, resulting in significant advancements in financial theories and practices, making finance an engaging and dynamic field.

MEANING OF BUSINESS FINANCE

"Business finance is that business activity which concerns with the acquisition & conversion of capital funds in meeting financial needs & overall objectives of a business enterprise".

"Business finance deals primarily with raising, administering and disbursing funds by privately owned business units operating in nonfinancial fields of industry".

DEFINITION OF FINANCIAL MANAGEMENT

Financial management is an integral part of overall management. The term financial management has been defined by different experts as under :

"It is concerned with the efficient use of an important economic resource namely, capital funds". – Solomon

Financial management "as an application of general managerial principles to the area of financial decision making. – Howard and Upton

NATURE, SCOPE AND OBJECTIVES OF FINANCIAL MANAGEMENT

Nature of Financial Management:

Integral Function: Crucial for the procurement, allocation, and utilization of funds, serving as the lifeblood of economic activities.

Organic to Business: Essential for obtaining resources and sustaining business operations.
Strategic Planning: Involves organizing, directing, and controlling financial activities within an organization.
Application of Management Principles: Applies management principles to financial assets, playing a vital role in fiscal management.
Universal Applicability: Relevant to all forms of organizations, wherever finance is involved.

Scope of Financial Management:

Fund Procurement: Involves raising funds to meet organizational objectives.

Financial Resource Allocation: Utilizes funds for productive activities and operations.

Financial Planning: Ensures availability of funds, efficient investment, cost control, and financial forecasting.

Financial Control: Manages funds to maximize returns and ensure effective utilization.

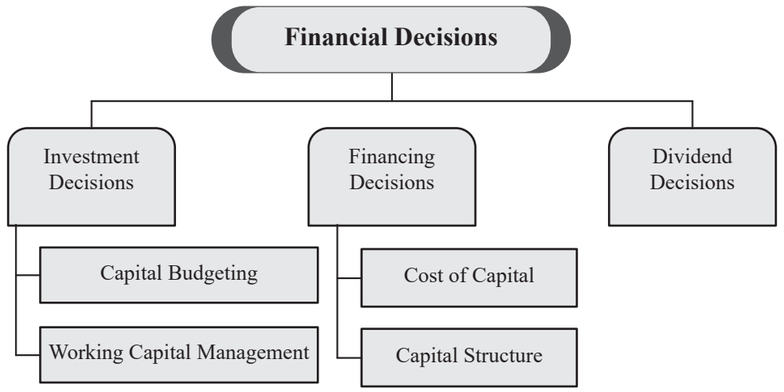
Objectives of Financial Management:

Maximize Shareholder Wealth: Rational allocation and efficient use of funds to enhance shareholder wealth.

Sustainable Operations: Efficient management of financial resources for organizational sustainability.

Optimal Resource Utilization: Effective planning and control to optimize resource use.
Financial Stability: Maintains financial stability and liquidity to meet obligations.
Risk Management: Manages financial risks through prudent planning and control.

TYPES OF FINANCIAL DECISIONS



INVESTMENT DECISIONS

Investment involves utilizing money to generate profits or returns. Investment decisions are multifaceted and involve various areas such as capital budgeting, cost of capital, risk measurement, liquidity management, business expansion or contraction, and asset acquisition methods like buying, hiring, or leasing.

Factors influencing investment decisions include:

1. Estimation of capital outlays and future earnings, emphasizing value engineering and market forecasting.
2. Consideration of capital availability and cost, requiring financial analysis.
3. Establishment of standards for project selection to maximize returns, focusing on logic and arithmetic.

In essence, optimal investment decisions require thorough analysis of capital requirements, future earnings potential, cost of capital, and project selection criteria to ensure profitability and maximize returns.

FINANCING DECISIONS

Financing decisions in financial management involve determining the appropriate mix of funds to procure from available revenues, known as the financing mix or capital structure. Optimal fund utilization has emerged as a key concern in modern financing decisions.

Corporate top management is increasingly focused on planning both the sources and uses of funds, while also measuring performance to ensure efficient allocation and utilization of resources.

DIVIDEND DECISIONS

Theoretically, this decision should depend on whether the company or its shareholders are in the position to better utilize the funds, and to earn a higher rate of return on funds.

However, in practice, a number of other factors like the market price of shares, the trend of earning, the tax position of the shareholders, cash flow position, requirement of funds for future growth, and restrictions under the Companies Act etc. play an important role in the determination of dividend policy of business enterprise.

Dividend Decision Matrix

Factors	FCFE> Dividends	FCFE<Dividends
ROE>Cost of Equity	i) Good Projects ii) Cash Flow Surplus iii) No Change	i) Good Projects Decrease ii) Dividends Invest in Projects
ROE<Cost of Equity	i) Poor Projects ii) Cash Flow Surplus iii) Increase Dividends iv) Reduce Investment	i) Poor Projects ii) Cash Flow Deficit iii) Decrease Dividends iv) Reduce Investment

DECISION CRITERIA

"A Bird in Hand is Better than Two in the Bush" and "Bigger and Better"

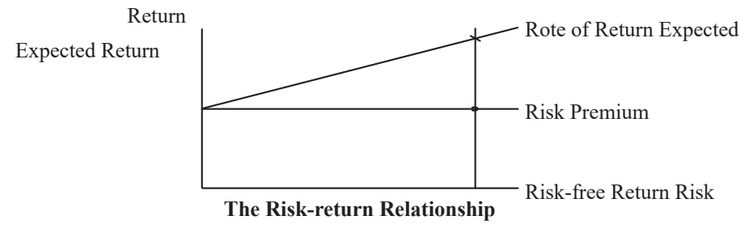
1. Urgency: The use of 'urgency' is treated as criterion for selection of investment projects in many corporate units/business enterprises/government set up. Urgency is assessed on the following basis:
   (a) It provides sufficient justification for undertaking a project;
   (b) It provides immediate contribution for attainment of objectives of the project; and
   (c) It maximizes profits.

2. Pay back: Time is of essence while selecting this criterion for investment decisions. The decision is taken on the basis of quickness in pay off of the investments. Pay back simply measures the time required for cash flows from the project to return the initial investment to the firm's account. Projects, on the basis of this criterion, having quicker pay backs are preferred.
3. Rate of return: It provides another decision criterion based on accounting records or projected statements to measure profitability as annual percentage of capital employed. Rate of return is arrived at following two different methods for treating income in the analysis which give different results. In the first case, average income generated from investment is taken after deduction of depreciation charge. In second case, the original cost is taken as denominator rather than average investment. This gives the simple yearly rate of return. This is based on "bigger and better" principle. This criterion can be applied either against average investment in the year selected for study or simply against initial cost.
4. Undiscounted benefit-cost ratio: It is the ratio between the aggregate benefits and the cost of project. Benefits are taken at face value

   This criterion is compatible with the "bigger and better" principle. But it does not follow the second principle of "bird in hand" as early receipts are given identical weights to later receipts in the project's life.
5. Discounted benefit-cost ratio: This ratio is more reliable as it is based on present value of future benefits and costs.
6. Present value method: This concept is useful as a decision criterion because it reveals the fact that the value of money is constantly declining as a rupee received today is more in value than the rupee at the end of a year.
7. Internal rate of return: It is a widely used criterion for investment decisions. It takes interest factor into account. It is known as marginal efficiency of capital or rate of return over cost. It stipulates rate of discount which will equate the present value of the net benefits with the cost of the project. This method satisfies both these principles.

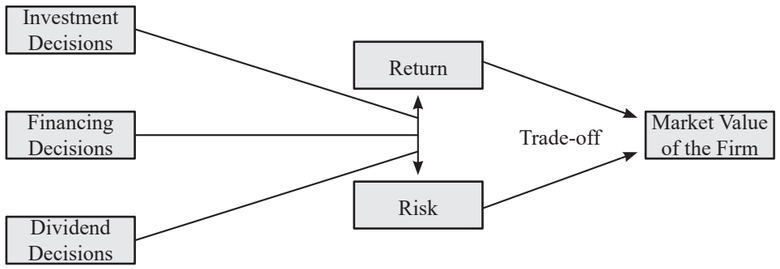
VALUE OF FIRM-RISK AND RETURN

Financial decisions incur different degree of risk. An investor's decision to invest in risk free government bonds has less risk as interest rate is known and the risk of default is very less.



The Risk-return Relationship

The figure below demonstrates the relationship between market value of the firm, return and risk, on the one hand and financial management decision on the other.



LIQUIDITY

Liquidity is an important concept in financial management and is defined as ability of the business to meet its short-term obligations. It shows the quickness with which a business/ company can convert its assets into cash to pay what it owes in the near future.

Liquidity is assessed through the use of ratio analysis. Liquidity ratios provide an insight into the present cash solvency of a firm and its ability to remain solvent in the event of calamities.

Liquidity ratio enables a company to assess its Net Working Capital. Working Capital is denoted by the combination of current assets or current liabilities of a company, and for calculation of net working capital we deduct current liabilities from current assets.

Financial decisions are affected by liquidity analysis of a company in the following areas:

1) Management of cash and marketable securities;
2) Credit policy of a firm and procedures for realisation;
3) Management and control of inventories;
4) Administration of fixed assets;
5) Taking decisions for efficient use of current assets at minimum cost; and
6) Decisions to keep the company's position on sound basis to avoid eventualities.

PROFITABILITY

Profitability as a decision criterion is another important tool in financial management for taking decisions from different angles after evaluating the performance of the company in different spheres.

(1) $\dfrac{\text{Earning available to common shareholder}}{\text{Total Equity}}$

(2) $\dfrac{\text{Net income after tax}}{\text{Total Equity}}$

[The ratio at (2) is used where the company has no preference shareholder].

$$\text{Net Profit Margin (NPM)} = \frac{\text{Net Profit after Tax}}{\text{Sales}}$$

$$\frac{\text{EBIT}}{\text{Sales}} \times \frac{\text{Sales}}{\text{Assets}} = \frac{\text{EBIT}}{\text{Assets}}$$

ECONOMIC VALUE-ADDED (EVA) – MEANS TO MEASURE SHAREHOLDERS VALUE CRITERIA

Economic value added (EVA) is the after tax cash flow generated by a business minus the cost of the capital it has deployed to generate that cash flow. Representing real profit versus paper profit, EVA underlines shareholder value, increasingly the main target of leading

companies strategies. Shareholders are the players who provide the firm with its capital; they invest to gain a return on that capital.

EVA = (Operating Profit) – (A Capital Charge)

EVA = NOPAT – (Cost of Capital x Capital)

Thus, EVA represents the value added to the shareholders by generating operating profits in excess of the cost of capital employed in the business. EVA will increase if:

(i) Operating profits grow without employing additional capital i.e., through greater efficiency.
(ii) Additional capital is invested in the projects that give higher returns than the cost of procuring new capital, and
(iii) Unproductive capital is liquidated i.e., curtailing the unproductive uses of capital.

PROFIT MAXIMISATION VERSUS SHAREHOLDER WEALTH MAXIMISATION

Profit maximisation is basically a single-period or, at the most, a short-term goal. In contrast, shareholder wealth maximisation is a long-term goal and shareholders are interested in future as well as present profits.

Profit Maximisation Vs. Shareholder Wealth Maximisation

Goal	Objective	Advantages	Disadvantages
Profit Maximisation	Large amount of profits	1. Easy to calculate profits 2. Easy to determine the link between financial decisions and profits	1. Emphasizes the short term 2. Ignores risk or uncertainty 3. Ignores the timing of returns 4. Requires immediate resources
Shareholder wealth maximisation	Highest market value of common stock	1. Emphasizes the long term 2. Recognizes risk or uncertainty 3. Recognizes the timing of returns 4. Considers return	1. Offers no clear relationship between financial decisions and stock price 2. Can lead to management anxiety and frustration

ROLES OF FINANCIAL MANAGER

1. **Forecasting of Cash Flow:** This is necessary for the successful day to day operations of the business so that it can discharge its obligations as and when they arise. In fact, it involves matching of cash inflows against outflows and the manager must forecast the sources and timing of inflows from customers and use them to pay the liability.
2. **Raising Funds:** The Financial Manager has to plan for mobilizing funds from different sources so that the requisite amount of funds are made available to the business enterprise to meet its requirements for short term, medium term and long term.
3. **Managing the Flow of Internal Funds:** Here the Manager has to keep a track of the surplus in various bank accounts of the organisation and ensure that they are properly utilised to meet the requirements of the business. This will ensure that liquidity position of the company is maintained intact with the minimum amount of external borrowings.
4. **To Facilitate Cost Control:** The Financial Manager is generally the first person to recognise when the costs for the supplies or production processes are exceeding the standard costs/budgeted figures. Consequently, he can make recommendations to the top management for controlling the costs.
5. **To Facilitate Pricing of Product, Product Lines and Services:** The Financial Manager can supply important information about cost changes and cost at varying levels of production and the profit margins needed to carry on the business successfully. In fact, financial manager provides tools of analysis of information in pricing decisions and contribute to the formulation of pricing policies jointly with the marketing manager.
6. **Forecasting Profits:** The Financial manager is usually responsible for collecting the relevant data to make forecasts of profit levels in future.
7. **Measuring Required Return:** The acceptance or rejection of an investment proposal depends on whether the expected return from the proposed investment is equal to or more than the required rate of return.
8. **Managing Assets:** The function of asset management focuses on the decision-making role of the financial manager. Finance personnel meet with other officers of the firm and participate in making decisions affecting the current and future utilisation of the firm's resources.
9. **Managing Funds:** Funds may be viewed as the liquid assets of the firm. In the management of funds, the financial manager acts as a specialized staff officer to the Chief Executive of the company. The manager is responsible for having sufficient funds for the firm to conduct its business and to pay its bills.

2 TIME VALUE OF MONEY

TOPICS TO BE COVERED

- Introduction
- Concepts of Time Value of Money
  - Compound and Simple Interest
  - Present Value of an Uneven Series
  - Present Value of an Annuity
  - Present Value of Perpetuity
  - Future Value of a Single Amount
  - Future Value of an Annuity
- Annuity Due vs. Ordinary Annuity
- Doubling Period

INTRODUCTION

The time value of money concept asserts that money available today is worth more than the same amount in the future due to several factors:

1. **Preference for Present Consumption:** People generally prefer to use money now rather than later.
2. **Potential for Growth:** Money can be invested to generate returns, making it more valuable in the future.
3. **Inflationary Effects:** Inflation reduces the purchasing power of money overtime, making it more valuable now than in the future.
4. **Financial Decision Making:** Understanding the time value of money is crucial in financial decision-making, including valuing securities, analyzing projects, determining lease rentals, choosing financing instruments, and more.
5. **Opportunity Cost:** Delaying investment means missing out on potential growth, emphasizing the importance of investing early.

The time value of money under scores the importance of considering the timing of cash flows and the potential for growth or loss over time in financial decision-making.

CONCEPTS OF TIME VALUE OF MONEY

Compound and Simple Interest:

Compound interest allows money to grow exponentially overtime as each interest payment is reinvested to earn further interest. In contrast, simple interest does not earn interest on interest, resulting in linear growth.

For example, with an investment of Rs.1,000 at a 12% simple interest rate over 5 years:

Future value = 1,000 [1 + 5 × 0.12] = Rs. 1,600.

Understanding the present value of a single amount is crucial for financial decisions. It involves determining the current value of receiving a specific sum in the future. This value is calculated using the formula:

$PV = FV / (1 + i)^n$, where PV = present value, FV = future value, i = interest rate, and n = number of periods.

The present value will always be less than the future value due to the time value of money. This concept under scores the importance of investing early to take advantage of compound interest and maximize growth potential overtime.

Present Value of an Uneven Series:

The present value (PV) of an uneven cash flow stream, whether it's from a capital investment project or dividends from equity shares, can be calculated using the formula:

$PV = \text{Sum of } CFn / (1 + r)^n$

Where CFn represents each individual cash flow, r is the discount rate or required rate of return, and n is the time period.

This formula allows financial analysts to assess the current worth of future cash flows, accounting for the time value of money. It's a fundamental tool in investment decision-making, helping to evaluate the attractiveness of investment opportunities and compare cash flow streams with different timings and amounts.

Present Value of an Annuity:

The present value of an annuity represents the current worth of future payments from the annuity, factoring in a specified rate of return or discount rate. This calculation is crucial for determining the value of receiving a series of future payments today, considering the time value of money.

Present value assesses how much money would be needed now to fund future annuity payments.

Due to the time value of money, money received today holds more value than the same sum in the future.

Present value calculations aid in deciding between receiving a lump sum now or an annuity spread over several years.

The formula to compute the present value of an annuity is:

$P = PMT \times [1 – (1 / (1 + r)^n)]/r$

Where:

P represents the present value of the annuity stream.

PMT is the monetary value of each annuity payment.

r denotes the interest rate or discount rate.

n signifies the number of periods in which payments will be made.

Present Value of Perpetuity:

Perpetuity represents an infinite income stream with identical cash flows, discounted at a specified rate to determine its present value. This perpetuity is often utilized in preferred stocks and real estate, where fixed dividends or income are expected indefinitely.

The present value of perpetuity is calculated by dividing the constant cash flow by the discount rate. If the perpetuity grows at a constant rate, the formula adjusts by subtracting the growth rate from the discount rate.

Uses of present value of perpetuity include:

1. Valuing preferred stocks, which offer fixed dividends over the company's lifespan.
2. Assessing real estate investments with sustainable income streams.
3. Forming the basis for endowment schemes and retirement planning, ensuring a fixed income stream for an indefinite period.

Overall, perpetuity's present value calculation aids in evaluating investments with continuous cash flows and planning for long-term financial security.

Future Value of a Single Amount:

The value of a current single amount taken to a future date at a specified interest rate is called the future value of a single amount.

In this case, "future value" means the amount to which the investment will grow at a future date if interest is compounded. The single amount refers to a lump sum invested at the beginning of a period (e.g., year 1) and left intact for all periods. Formula and Calculation of Future Value

$FV = I \times (1 + (R \times T))$

where:

I = Investment amount, R = Interest rate and T = Number of years.

Future Value of an Annuity:

The future value of an annuity calculates the worth of a series of recurring payments at a specified future date, based on a given discount rate. Key points include:

1. It measures the accumulated value of a stream of payments over time.
2. Contrary to the present value, which assesses the current cost of producing future payments, the future value focuses on the worth of those payments at a future point.
3. In an ordinary annuity, payments are made at the end of each period, while in an annuity due, payments occur at the beginning of each period.

The formula for the future value of an ordinary annuity is:

$$P = PMT \times (1 + r)n - \frac{1}{r}$$

Where:

P represents the future value of the annuity stream.

PMT denotes the dollar amount of each annuity payment.

r is the interest rate (or discount rate).

n signifies the number of periods in which payments will be made.

ANNUITY DUE VS. ORDINARY ANNUITY

The key distinction lies in when payments are made—annuity due payments occur at the start of each period, while ordinary annuity payments occur at the end. Due to the time value of money, annuity due has a higher present value as payments are received earlier. Opting for an ordinary annuity means holding onto funds longer, while annuity due provides quicker access to value. Each payment in an annuity due is discounted one less period compared to an ordinary annuity.

DOUBLING PERIOD

To estimate how long it takes for an investment to double at a given interest rate, investors commonly use two rules: the Rule of 72 and the Rule of 69.

(*i*) **Rule of 72:** This rule involves dividing 72 by the interest rate to determine the doubling period. For example, if the interest rate is 8%, the doubling period is approximately 9 years (72/8). This rule is simple and useful for estimating doubling time, especially for interest rates between 6% and 10%.

(*ii*) **Rule of 69:** A more accurate but slightly more complex rule, the Rule of 69 calculates the doubling period by dividing 69 by the interest rate plus 0.35. This rule assumes continuous compounding and provides a closer estimate to the actual doubling time. It's suitable for rates above 6%.

(*iii*) **Rule of 70:** Similar to the Rule of 72, the Rule of 70 involves dividing 70 by the growth rate to estimate doubling time. For example, if an investment has a fixed annual interest rate of 10%, it would take approximately 7 years (70/10) for the investment to double to $20,000 from $10,000.

These rules offer quick estimates for investors to gauge how long it would take for their investments to double, aiding in decision-making and long-term planning.

3 CAPITAL BUDGETING

TOPICS TO BE COVERED

- Introduction
- Importance of Capital Budgeting
- Capital Budgeting process
- Scope of Capital Budgeting
- Cost & benefit of project (Capital Budgeting Decision)
- Capital budgeting Techniques
- Capital Rationing
- Consideration other than Profitability in Managerial Decisions
- Risk & Uncertainty in Capital Budgeting

INTRODUCTION

Capital budgeting is a crucial aspect of financial management for businesses, helping them make informed decisions about investments in long-term assets. These assets might include machinery, equipment, buildings, or even entire projects. The goal of capital budgeting is to allocate financial resources wisely to projects that are expected to generate the highest returns and add value to the company.

Meaning of Capital Budgeting:

There are two types of expenditures generally made in a business viz. Capital Expenditure and Revenue expenditure.

Revenue expenditure is required for day to day operating requirements whereas Capital expenditure is incurred in making investment in fixed assets.

1. Capital budgeting involves long-term planning and financing for proposed capital outlays (Horngren).
2. It entails planning expenditures for assets whose returns will be realized in future time periods (Spencer).
3. Its aim is to maximize the long-term profitability of the firm by planning the development of available capital (Lynch).

In short, it's about deciding how to invest funds in fixed assets.

IMPORTANCE OF CAPITAL BUDGETING

Capital budgeting is crucial for several reasons beyond the high investment costs and long-term effects on profitability:

1. **Expansion Planning:** It helps identify opportunities to expand production facilities to meet projected sales demand.
2. **Asset Comparison:** It compares available alternative assets for replacing old or obsolete ones.
3. **Long-term Planning:** Facilitates long-term planning and policy formulation by determining the timing for asset purchases and improvements.
4. **Capital Requirement Estimation:** Estimates total capital needs and helps arrange funds accordingly over time.
5. **Capital Structure Planning:** Assists in planning the firm's capital structure as project profitability is influenced by the cost of capital, which depends on the capital structure.
6. **Cash Forecasting:** Provides essential information for cash forecasts and budgeting.

CAPITAL BUDGETING PROCESS

Project Generation → Project Evaluation → Project Selection → Project Execution → Follow-up

The capital budgeting process involves several key steps:

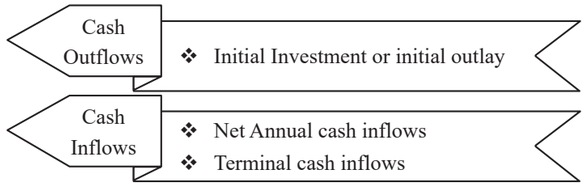
1. **Project Generation:** Forecast capital expenditure requirements and encourage the origination of project ideas through periodic reviews and comparisons by management.
2. **Project Evaluation:** Estimate costs and benefits in terms of cash flows and select appropriate criteria for judging project desirability. Use various evaluation techniques to assess projects.
3. **Project Selection:** Screen and select projects based on the firm's criteria. Establish priorities for accepted projects to facilitate execution, avoid delays, and optimize fund utilization. Submit selected projects to top management for final approval.
4. **Project Execution:** Allocate funds to selected proposals upon obtaining final approval. Ensure that funds are spent according to the capital budgets, with an executive committee overseeing expenditures and submitting periodic reports to maintain control.
5. **Follow-Up:** Evaluate program performance after implementation by comparing actual outcomes with budgeted data. This process improves forecasting for the future, encourages realism and careful execution by department heads, and enhances overall project management effectiveness.

SCOPE OF CAPITAL BUDGETING

Capital budgeting decisions encompass various long-term investment choices, including:

1. **Expansion Decisions:** Determining whether to invest in new machinery, buildings, or other assets to increase production capacity based on the expected returns and investment costs.
2. **Replacement Decisions:** Assessing whether to replace old or obsolete machinery with newer models to reduce operating costs and potentially increase output volume, considering savings from lower costs and increased profits.
3. **Buy or Lease Decisions:** Deciding whether to acquire assets through purchase or lease, comparing the cost of funds required for purchase with the lease payments.
4. **Choice of Equipment:** Selecting the most suitable equipment from available alternatives based on cost and profitability comparisons.
5. **Product or Process Improvement:** Evaluating decisions to reduce costs or enhance product quality through changes in production processes, considering the cost of change against potential additional income or savings.

COST & BENEFIT OF PROJECT (CAPITAL BUDGETING DECISION)



Initial Investment/Outlay:

Salvage Value or any scrap or wastage will be subtracted from the value said above. We can compute the value of initial investment as follows:

Computing Initial outlay (Initial Investment / Cash outflows)	
Cost of Fixed Asset (purchasing Price)	.....
(+) Installation Cost	.....
(+) Insurance, Freight	.....
(+) Increase in Working Capital	.....
(–) Salvage Value of scrap or wastage	.....
(–) Decrease in Working Capital	.....
Initial Investment	.....

Net Annual Cash Inflows:

Net income of the firm before charging depreciation and after tax. This may be computed as follows:

Computing Net Cash Inflows (Operating Cash flows)

Annual Sale Income (revenue)	.....
(–) Operating Expenses (with depreciation)	.....
Income before Tax	.....
(–) Income Tax	.....
Net income after Tax	.....
(+) Depreciation	.....
Net Cash Inflows	.....
The Net cash inflows may also be calculated as:	
Estimated Savings in Direct Wages	.....
(+) Estimated Savings in Direct Wages	.....
(-) Estimated Additional Cost (Operating exp.)	.....
Total Cost	.....

(-) Income Tax	.....
Net income after Tax	.....
(+) Depreciation	.....
Net Cash Inflows	.....

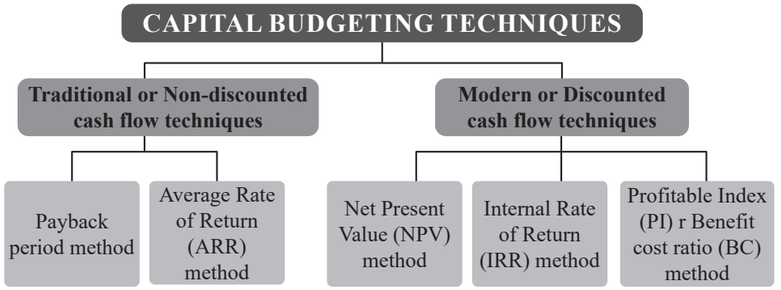
Terminal Cash Inflows:

Terminal cash inflow may be calculated as follows:

Estimated Salvage Value of Scrap	.....
(+) Any Working Capital released	.....
(-) Any Estimated Additional Cost	.....
Net Cash Inflows	.....

CAPITAL BUDGETING TECHNIQUES

The ultimate objective of the capital budgeting process is to achieve maximum benefit from the project. For this purpose, there are various techniques of capital budgeting which are as follows:



PAYBACK PERIOD METHOD

Decision Rule for Payback Method:

Accept the project if the payback period calculated for it is less than the maximum set by the management. Reject the project if it is otherwise. In case of multiple projects, the project with shorter payback period will be selected. In essence, payback period shows break-even point where cash inflows are equal to cash out flows. Any inflows beyond this period are surplus inflows.

Advantages of Payback Period Method:

1. It is easy to understand and calculate, thus, investment proposals can be ranked quickly.
2. For a firm experiencing shortage of cash, the payback technique may be used with advantage to select investments involving minimum time to recapture the original investment.
3. The payback period method permits the firm to determine the length of time required to recapture through cash flows, the capital expenditure incurred on a given project and thus helps it to determine the degree of risk involved in each investment proposal.
4. This is ideal in deciding cash investment in a foreign country with volatile dynamic political position where a long-term projection of political stability is difficult.
5. This is, likewise, more preferred in case of industries where technological obsolescence comes within short period; say electronic industries.

Disadvantages of Payback Method:

1. The payback method ignores the time value of money and treats all cash flows at par.
2. The payback method does not consider cash flows and income that may be earned beyond the payout period so it is not good measure of profitability. It gives misleading results.
3. Moreover, it does not take into account the salvage or residual value, if any, of the long-term asset.
4. The payback technique ignores the cost of capital as the cut-off factor affecting selection of investment proposals.

Suitability of using payback period of method:

Payback period method may be successfully applied in the following circumstances:

1. where the firms suffer from liquidity problem and is interested in quick recovery of fund than profitability;
2. high external financing cost of the project;
3. for projects involving very uncertain return; and
4. political and economic pressures.

It may, therefore, be said that payback period is defined as the measure of project's liquidity and capital recovery rather than its profitability.

(A) In the Case of Even Cash Inflows:

If cash inflows from investment are uniform throughout the life of investment. Payback period is calculated as:

$$\text{PBP} = \frac{\text{Initial Investment}}{\text{New Annual Cash flow}}$$

(B) In the Case of Uneven Cash Inflows:

If cash inflows from investment are not uniform each year, payback period will be calculated by taking cumulative total of each year's cash inflows and the exact payback period will be calculated by interpolation. Pay back period will be calculated as:

$$\text{PBP} = \text{E} + \frac{\text{B}}{\text{C}}$$

POST PAYBACK PROFITABILITY (P.P.B. PROFIT)

The traditional payback period method focuses solely on recovering the initial investment without considering profitability beyond that point, making it a test of liquidity rather than profitability.

It is calculated as follows:

Post Payback Profitability = Annual Cash inflows (Working Life – Payback Period)

Alternatively,

Note: Salvage value of asset will be included in the earnings of last year.

Post Payback Profitability = Total Cash Inflows – Investment Outlay

The project with highest post-payback profitability will be the best. Higher the postpayback profitability, more attractive will be the project. If cost of various projects differs substantially, post payback profitability index may be calculated to assess the relative profitability of the projects.

It is calculated as thus:

$$\text{Post Payback Profitability Index} = \frac{\text{PPB Profits}}{\text{Investments}} \times 100$$

Discounted payback period:

The discounted payback period method addresses the weakness of the traditional payback method by considering the time value of money. It involves discounting annual cash inflows at the required earnings rate and then cumulating these discounted cash flows to calculate the payback period. This approach provides a more accurate assessment of the time

required to recover the initial investment, incorporating the present value of future cash flows.

ACCOUNTING RATE OF RETURN METHOD (ARR METHOD)

The Accounting Rate of Return (ARR) Method, also known as the unadjusted rate of return or Financial Statement Method, derives its figures from accounting statements. It calculates the percentage rate of return on investment based on annual net profit. If calculated on the initial investment, it's termed Return on Investment (ROI), and if on average investment, it's the Average Rate of Return. Typically, it's based on the average investment in the project. If annual net income varies, the average annual net income is used for accuracy.

Thus, the formula for calculating this return is as follows:

$$\text{AAR} = \frac{\text{Average Annual Net Income (Savings)}}{\text{Annual Investment}} \times 100$$

If annual cash inflows are given, then the formula will be adapted as follows:

$$\text{AAR} = \frac{\text{Average Annual Cash Flow} - \text{Annual Depreciation}}{\text{Annual Investment}} \times 100$$

$$\text{When, Average Investment} = \frac{\text{Initial Investment} + \text{Scrap Value}}{2}$$

Evaluation of Project under ARR method:

Evaluating projects using the Accounting Rate of Return (ARR) method, the calculated rate of return is compared to a pre-specified cutoff rate. If the calculated rate exceeds the cutoff rate, the project is accepted; otherwise, it's rejected. In the case of mutually exclusive projects, only those with ARR higher than the cutoff rate are considered, and the project with the highest rate is chosen. The higher the rate, the more favorable the project is considered.

Advantages of Average Rate of Return Method:

1. Earnings over the entire life of the project are considered.
2. This method is easy to understand, simple to follow. Accounting concept of income after taxes is known to every student of accountancy.

Disadvantages of Average Rate of Return Method:

1. Like the payback technique, the average return on investment method also ignore the time value of money. Consideration to distribution of earnings over time is important. It is to be accepted that current income is more valuable than income received at a later date.
2. The method ignores the shrinkage of original investment through the process of charging depreciation allowances against earnings. Even the assumption of regular recovery of capital over time as implied in average investment approach is not well founded.
3. The average rate of return on original investment approach cannot be applied to a situation where part of the investment is to be made after the beginning of the project.

4. Its major limitation is that ARR is based on accounting principle and not on cash flow analysis.

Suitability of using ARR Method:

If the project life is not long, then the method can be used to have a rough assessment of the internal rate of return. The present method is generally used as supplementary tool only.

PRESENT VALUE METHOD

The discounted cash flow method considers the time value of money by discounting all future cash flows of an investment project at a given rate. This technique, also known as the discounted cash flow method, values money received today more than money received in the future, reflecting the concept that a dollar today is worth more than a dollar tomorrow. By discounting future cash flows to their present values using a discount rate, usually the cost of capital or interest rate, this method allows for meaningful comparison and evaluation of investment opportunities.

What you have today is more worthy than what will you have in future

Calculating Present Value:

The present value of future cash flows is found out with the help of the following algebraic formula:

$$\text{Present Value (P)} = \frac{S}{(1+i)^n}$$

Where, P = Value of a future sum of money

S = Future value of a sum of money

i = Rate of interest

n = number of years.

There are three methods of appraising the profitability of capital investment projects by present value technique:

A. Net Present Value Method
B. Present Value Index Method
C. Time Adjusted Rate of Retrun Method

(A) Net Present Value Method (NPV Method):

This is also known as Excess Present Value Method or Net Gain Method. This method is used when the management has prescribed minimum (or target) rate of return or cut-off rate.

The discounted cash flow method involves the following steps:

1. Determine the present value of all cash inflows from investments at different periods using the formula:

   Present Value = Annual Cash Inflow x Present Value Factor.

   This includes considering salvage value and working capital released at the end of the project's life.
2. Determine the present value of all cash outflows at different periods at the same earnings rate. Initial investment outflows are not discounted, while subsequent period outflows are discounted.
3. Find the net present value (NPV) by comparing the total present value of cash inflows with the total present value of cash outflows using the formula:

   NPV = Total Present Value of Cash Inflows - Total Present Value of Cash Outflows.

Advantages of NPV Method:

1. Income over the entire life of the project is considered.
2. The method takes into account time value of money.
3. The method provides clear acceptance so interpretation is easy.
4. When projects involves different amount of investment, the method may not provide satisfactory answers.

Disadvantages of NPV Method:

1. As compared with the first two methods, the present value approach is certainly more difficult to understand and apply. It requires special skill for calculation.
2. An additional difficulty in this approach is encountered when projects with unequal lives are to be evaluated.
3. It is difficult to determine the firm cost of capital or appropriate rate of discount.

Suitability of NPV Method:

Net present value is the most suitable method in those circumstances where availability of resources is not a constraint. The management authority can accept all those projects having Net Present Value either Zero or positive. This method shall maximize shareholders wealth and market value of share which is the sole aim of any business enterprise.

(B) Profitability Index Method or Present Value Index Method:

The Profitability Index method, also known as the benefit-cost ratio, is a variant of the Net Present Value (NPV) method. It compares the present value of cash inflows to the present value of cash outflows (cost of investment). The goal is to determine the relationship between these values, ensuring that the profitability index is greater than or equal to unity for acceptance. A higher index indicates a more desirable investment. If the profitability index is less than one, it suggests that the firm's cost of capital exceeds the rate of return, making it necessary to reject the proposal. However, a profitability index less than one doesn't necessarily mean a loss; it simply signifies that the rate of return falls short of the cost of capital.

The only difference between NPV method and PV index method is that while the former indicated absolute figures, the latter indicates the relative figures.

$$\text{P.V. Index (on Re. 1)} = \frac{\text{Present value of Cash Inflows}}{\text{Present Value of Cash Outflows}}$$

$$\text{P.V. Index (percentage)} = \frac{\text{Present value of Cash Inflows}}{\text{Present Value of Cash Outflows}} \times 100$$

(C) Time Adjusted Rate of Return Method (TAR Method) or Internal Rate of Return Method (IRR Method)

The Internal Rate of Return (IRR) method, also known as the Marginal Efficiency of Investment or Breakeven Rate, considers the time value of money and is used when a desirable rate of return is not specified by management. It calculates the discounting rate at which the present value of all future cash inflows equals the present value of cash outflows (initial investment). A higher IRR indicates a more attractive proposal, and a proposal is accepted if its IRR exceeds the required rate of return. In case of mutually exclusive projects, the one with the highest IRR is chosen.

For even cash inflows, the IRR is found by calculating the Present Value Factor and locating the closest factor in a present value table. For uneven cash inflows, a trial and error approach or interpolation technique is used to find the IRR by comparing the total present value of cash inflows to the cost of investment until NPV is zero.

$$\text{P.V. Factor} = \frac{\text{Investment}}{\text{Annual Cash Inflows}}$$

The formula for interpolation is:

$$r = r_1 + \frac{V_1 - V}{V_1 - V_2}(r_2 - r_1)$$

where,

r = rate of return to be determined, r_1 = lower rate of return, r_2 = higher rate of return, V_1 = the p.v. factor at lower rate of return,V_2 = the p.v. factor at higher rate of return, V = the p.v. factor for which r is to be interpolated.

The internal rate of return refers to the rate which equates the present value of cash inflows and present value of cash outflows. In other words, it is the rate at which net present value of the investment is zero.

Advantages of IRR Method:

1. The discounted cash flow (IRR) takes into account the time value of money.
2. It considers cash benefits, i.e. profitability of the project for the whole of its economic life.
3. The rate of discount at which the present value of cash flows is equated to capital outlay on a project is shown as a percentage figure. Evidently, this method provides for uniform ranking and quick comparison of relative efficiency of different projects.
4. This method is considered to be a sophisticated and more reliable technique of evaluating capital investment proposals.

Disadvantages of IRR Method:

1. The discounted cash flow is the most difficult of all the methods of project evaluation discussed above.
2. An important assumption implied in this method is that incomes are reinvested (compounding) over the project's economic life at the rate earned by the investment. This assumption is correct and justified only when the internal rate of return is very close to the average rate of return earned by the company on its total investments.

   To the extent internal rate of return departs from the typical rate of earnings of the company, results of this method, will be misleading. Thus, when the internal rate of return on a project is computed to be 30% while company's average rate of return is 15%, the assumption of earning income on income at the rate of 30% is highly unrealistic. From this point of view the assumption of the net present value method that incomes are reinvested at the rate of discount (cost of capital) seems to be more reasonable.
3. The rate may be negative or one or may be multiple rate as per calculations. When a project has a sequence of changes in sign of cash flow, there may be more than one internal rate of return.

MODIFIED IRR

The Modified Internal Rate of Return (MIRR) addresses a limitation of the Internal Rate of Return (IRR) method by considering a more realistic reinvestment rate. Unlike IRR, which assumes reinvestment at the IRR itself, MIRR incorporates the expected reinvestment rate for future periods over the project's life. It calculates the discount rate that equates the present value of terminal cash inflows to the present value of cash outflows, providing a more accurate assessment of investment profitability.

The procedure for calculating MIRR is as follows:

Step 1: **Calculated the present value of the costs (PVC) associated with the project, using the cost of capital (r) as the discount rate:**

$$PVC = \sum_{t=0}^{n} \frac{\text{Cash outflow}_t}{(1+r)^t}$$

Step 2: **Calculated the Terminal Value (TV) of the cash inflow expected from the project:**

$$TV = \sum_{t=0}^{n} \text{Cash Inflow}^t (1+r)^{n-t}$$

Step 3: **Obtain MIRR by solving the following equation:**

$$PVC = \sum_{t=0}^{n} \frac{TV}{(1+MIRR)^n}$$

TIME DISPARITY

Main source of conflict is the different re-investment rate assumption. Such conflicts may be resolved using modified version of NPV and IRR using expected / defined reinvestment rate applicable to the firm.

For modified NPV and IRR, at first Terminal Value (TV) is calculated using the specified reinvestment rate.

TV = "CF (1 + r*) n – t MNPV = {TV ÷ (1 + K) n} – IMIRR = (TV ÷ I) 1 / n – 1

Where, r * t = reinvestment rate

SIZE DISPARITY

Conflict may arise due to disparity in the size of initial investment /outlays. Such conflict may be resolved using incremental approach.

Steps:

1. Find out the differential cash flows between the two proposals
2. Calculate the IRR of the incremental cash flows
3. If the IRR of the differential cash flows exceeds the required rate of return (usually cost of capital), the project having greater non-discounted net cash flows should be selected.

Unequal lives of the Projects or Life Disparity:

When faced with projects of unequal durations, conflicts in ranking can arise. One approach to resolve this is using Equivalent Annual Benefit (EAB) or Equivalent Annual Cost (EAC). EAB represents the NPV spread out annually, while EAC represents the annual cost over the project's life. Another method is the LCM method, which extends the evaluation period to the least common multiple of project lives, ensuring fair comparison over equal time frames.

$$EAB = NPV \times \text{Capital Recovery Factor or } NPV \div PVIFAk,n$$

$$\text{Capital Recovery Factor} = \text{the inverse of } PVIFA = k(1+k)^n - 1$$

$$EAC = PV \text{ of Cost} \div PVIFAk,n$$

CAPITAL RATIONING

Capital rationing is a control mechanism used by firms to manage capital expenditure. It involves imposing limits on the amount of capital that can be invested within a given period, often to align with available funds or strategic objectives.

Firms may employ capital rationing through budget ceilings, restricting investments to retained earnings, or through hierarchical approval processes. This approach may lead to prioritizing smaller projects over larger ones to maximize budget utilization, potentially sacrificing optimal profitability. As a result, capital rationing may not always yield the most favorable outcomes for the firm.

Types of capital rationing:

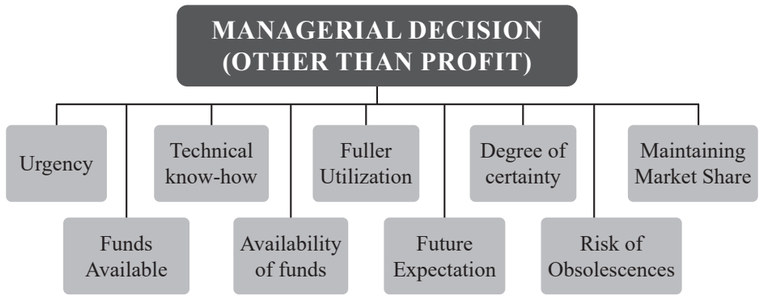
1. "hard" or external
2. "soft" or internal

Hard capital rationing occurs when external factors, such as creditor agreements or the need to raise new capital, force a company to cut expenses, including capital expenditures. This aims to reduce risk and improve attractiveness to investors by increasing free cash flow. On the other hand, soft capital rationing stems from internal factors, like setting minimum internal rates of return for projects or maintaining dividend policies. Projects failing to meet these internal criteria may be rejected, even if they have positive net present value, to manage overall risk or maintain market perception.

Consideration other than profitability in Managerial Decisions:

Managerial decisions regarding capital projects are complex and extend beyond mere profitability considerations. Various factors can influence these decisions:

1. **Urgency of the Project:** Investments may be made urgently to prevent significant losses, such as replacing machinery to avoid production stoppage, even if profitability is not fully evaluated.
2. **Funds Available:** Capital budgeting decisions are influenced by the availability of funds. Sometimes, less profitable projects with shorter payback periods are chosen due to fund constraints.
3. **Technical Know-how and Managerial Capability:** Management assesses whether the firm possesses the necessary expertise to execute a project or if it needs to acquire it.



4. **Availability of Additional Funds:** The firm's ability to secure additional funds in the future affects current investment decisions and working capital management.
5. **Fuller Utilization of Funds:** Management aims to maximize the firm's wealth, considering alternative investment opportunities when ample funds are available.
6. **Future Expectations of Earnings:** Anticipated future earnings influence current investment decisions. Management may prioritize projects with shorter useful lives to reinvest funds in more profitable ventures later.
7. **Degree of Certainty of Net Income:** Certainty of project income impacts decision-making. Management may opt for a lower income project with greater certainty over a higher income, but uncertain, project.
8. **Risk of Obsolescence:** Projects with shorter payback periods may be preferred in rapidly evolving technological environments to mitigate the risk of obsolescence.
9. **Maintaining Market Share:** Management may prioritize projects to sustain market presence and earnings capacity, even if they offer lower returns, to safeguard the firm's market share.

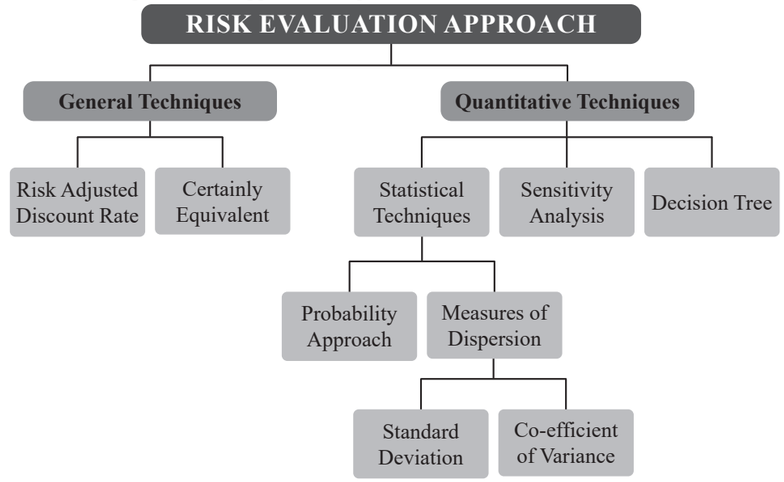
Risk and Uncertainty in Capital Budgeting:

When evaluating investment proposals, uncertainty regarding future cash flows introduces risk, a primary concern for both owners and management. Techniques like NPV and IRR are effective when cash flows are certain. However, in uncertain scenarios, risk must be factored into the evaluation process. Decision criteria that incorporate risk alongside return are then necessary to assess proposals comprehensively. This ensures that investments are evaluated considering both potential returns and associated risks, allowing for more informed capital budgeting decisions.

Measure of Risk / Risk Evaluation:

Measurements cannot be assured of percent accuracy because risk is caused by numerous factors such as social, political, economic and managerial efficiency.

Measurement provides an approximate quantification of risk.



1. Risk Adjusted Discount Rate (RADR):

The Risk Adjusted Discount Rate (RADR), also called the Varying Discount Rate Method, adjusts the discount rate based on the level of risk associated with an investment. It combines a risk-free rate with a risk premium specific to the investment. Riskier projects with higher expected variability in returns are discounted at a higher rate compared to less risky projects. This method accounts for risk by increasing the discount rate, ensuring that the evaluation reflects the project's risk profile accurately.

$$\textit{RADR} = \textit{Risk Free Rate of Return} + \textit{Risk Premium Rate}$$

2. Certainty Equivalent Technique:

The Certainty Equivalent Technique adjusts cash flows in capital budgeting by reducing them to conservative levels using a certainty equivalent coefficient. This method accounts for risk by multiplying expected cash flows by a certainty equivalent coefficient, converting uncertain cash flows into certain ones. Essentially, it quantifies the risk by reducing expected cash flows, providing a more conservative estimate for evaluation purposes.

$$\textit{Certainty Equivalent Co-efficient} = \frac{\text{Riskless Cash Flows}}{\text{Risky Cash Flows}}$$

3. Profitability Technique:

The Probability Technique in capital budgeting involves assigning probabilities to future cash inflow estimates and then multiplying these estimates by their respective probabilities to calculate expected monetary values. These expected monetary values are then discounted at a suitable discount rate to find their present values. The project with the highest net present value, derived from these adjusted cash inflows, is typically accepted. This method helps incorporate uncertainty by weighting cash inflows based on their likelihood of occurrence, providing a more realistic assessment of potential outcomes.

4. Standard Deviation:

The statistical tool often used to measure and used as a proxy for risk is the standard deviation. It is measure of the values of the variables around its mean or it is the square root of the sum of the squared deviations from the mean divided by the number of observances.

The arithmetic mean of the returns may be same for two companies but the returns may vary widely.

Standard Deviation is the measure of variability of cash flow from the expected cash flow.

Standard deviation in the probability distribution is as:

$$\text{Standard Deviation } (\sigma) = \sqrt{\sum \text{Pid}^2}$$

Where,

d = deviation of each of the cash flows

Pi = Associated Probability

5. Co-Efficient of Variation:

The Coefficient of Variation (CV) is a relative measure of dispersion based on standard deviation. It is used to compare the variability of different investment proposals, especially when they involve substantially varied cash outlays. For projects with the same cost but different net present values, the CV helps judge the relative risk involved. Essentially, it standardizes the variability relative to the mean, allowing for a more meaningful comparison of risk across different projects.

$$\text{Certainty Equivalent Co-efficient} = \frac{\text{Standard Deviation } (\sigma)}{\text{Mean of expected Cash flows}} \times 100$$

6. Sensitivity Technique:

The Sensitivity Technique in capital budgeting involves creating multiple forecasts of future cash inflows under different scenarios: Optimistic, Most Likely, and Pessimistic. These cash inflows are then discounted to calculate net present values for each scenario. If the net present values vary significantly among the scenarios, it indicates a high level of risk associated with the project. The

decision to accept or reject the project depends on the investor's risk tolerance and ability to bear risk.

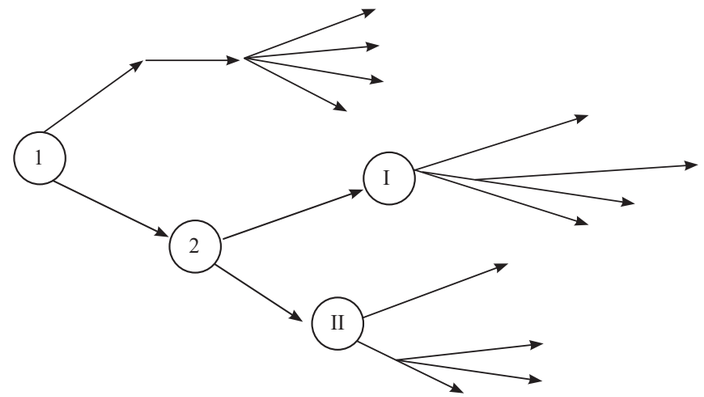
7. Decision Tree Technique:

The Decision Tree Technique is a graphical tool used to represent the relationship between a present decision, future events, subsequent decisions, and their consequences. It's particularly useful for complex investment decisions that involve a sequence of decisions over time. Decision trees visually map out this sequence of events, resembling branches of a tree, hence the name. Each branch represents a possible decision or outcome, allowing decision-makers to analyze various scenarios and their potential

consequences systematically.

The decision tree can be constructed with following five steps:

- **First:** Identification of the problem and defining the Proposal
- **Second:** Identifying maximum alternatives
- **Third:** Graphing the Decision Tree indicating the decision points, chance events, and other relevant data
- **Fourth:** Forecasting Cash Flow and specification of probabilities
- **Fifth:** Result Evaluation (Analysis of the alternatives)



$$\text{NVP} = \sum_{J=0}^{N} (\text{Probj})\ (\text{NPVj})$$

Where NPVj = net present value of the jth path

Probj = the probability of the jth path occurring, N = number of possible paths

The probability of a path occurring is called its joint probability. It is equal to the product of the probabilities along with the path.

4 COST OF CAPITAL

TOPICS TO BE COVERED

- Introduction
- Importance of Cost of Capital
- Factors Determining the Firm's Cost of Capital
- Components of Cost of Capital
- Overall Cost of Capital
- Marginal Cost of Capital (MCC)

INTRODUCTION

The cost of capital is the minimum rate of return that a firm must achieve on its investments to maintain its market value. It serves as a benchmark for evaluating investment opportunities and is influenced by the mix of equity, debt, and retained earnings in the

firm's capital structure. Failing to meet this required rate of return can lead to a decline in the market value of the firm's shares and a reduction in overall shareholder wealth.

Essentially, it represents the hurdle rate or target rate of return that a project or investment must surpass to be deemed worthwhile.

Meaning of Cost of Capital:

The choice of financing makes the cost of capital a crucial variable for every company, as it will determine its capital structure. Companies look for the optimal mix of financing that provides adequate funding and minimizes the cost of capital.

"The cost of capital is the minimum rate of return which a firm requires as a condition for undertaking an investment." - **Milton H. Spencer**

"Cost of capital is the minimum required rate of earnings or the cut off rate for capital expenditures." -**Solomon Ezra**

"Cost of capital is the rate of return the firm required from investment in order to increase the value of the firm in the market place" - **John J. Hampton**

IMPORTANCE OF COST OF CAPITAL

The concept of cost of capital is crucial for modern management in several ways:

1. **Optimal Capital Structure**: It helps in designing the most efficient capital structure by comparing the costs and risks associated with different sources of capital.
2. **Expansion Project Evaluation**: It aids in evaluating the financial viability of expansion projects, ensuring that the returns exceed the financing costs.
3. **Rational Resource Allocation**: It contributes to the efficient allocation of financial resources, benefiting the national economy as a whole.
4. **Performance Evaluation**: It enables the assessment of top management's financial performance by comparing actual project profitability with projected costs of capital.
5. **Financial Decision Making**: It informs various financial decisions, including dividend policies, capitalization of profits, rights issues, working capital management, and capital expenditure control.

FACTORS DETERMINING THE FIRM'S COST OF CAPITAL

The cost of capital is influenced by several factors:

1. **General Economic Conditions**: Changes in economic conditions affect the demand for and supply of capital, reflected in the risk-free rate of return. Factors like inflation and changes in money demand can impact investors' required rate of return.
2. **Market Conditions**: Risk premiums increase with higher risk, influencing investors' required rate of return. Securities with less marketability or price stability require higher returns, impacting the cost of capital.
3. **Operating and Financing Decisions**: Business and financial risks stemming from company decisions affect investors' required rate of return. Increased risk leads to higher cost of capital.
4. **Amount of Financing**: Larger financing needs can increase the weighted cost of capital due to additional flotation costs and investors' reluctance to provide large sums without evidence of management's capability to utilize the capital efficiently. Larger issues also face challenges in market placement, potentially increasing the firm's cost of capital.

COMPONENTS OF COST OF CAPITAL

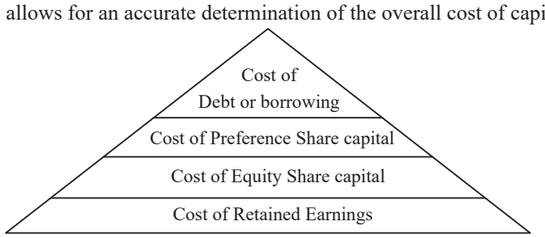
A company receives capital from different sources and cost of each source differs from each other because cost of issue of raising capital from different sources, interest payable (or dividend payable) and degree of corporate tax burden differ. Hence, in order to find out cost of capital of a company, the first step is the calculation of the cost of individual sources of funds (i.e., specific costs) and thereafter weighted average cost of proceeds from different sources of capital is ascertained. This is known as company's cost of capital.

Assumption of Cost of Capital:

When computing the cost of capital, certain assumptions are made:

1. **Risk Consistency**: It's assumed that investing in new projects doesn't alter the overall financial or business risks of the company.
2. **Stable Capital Structure**: The firm's capital structure is assumed to remain unchanged throughout the calculation process.
3. **After-Tax Basis**: Costs of each source of capital are determined after considering applicable taxes.
4. **Cost of Previous Capital**: Previous capital obtained isn't considered when computing the cost of capital for a specific source.

Given these assumptions, it's necessary to calculate the cost of each component of the capital structure individually, as each component carries its own significance and cost to the firm. This allows for an accurate determination of the overall cost of capital.



Owner's Capital:

1. **Equity share capital**: It represents the investment made by the owners of the business. They enjoy the rewards and bear the risks of the ownership. They are paid dividend only after paying dividend to preference shareholders and after meeting the future investment needs of the organisation.
2. **Preference share capital**: It represents the investment made by preference shareholders. Preference share holders as the name suggests enjoy preference over payment of dividend. The dividend paid on these shares is generally at a fixed rate.
3. **Retained earnings**: It represents the earnings not distributed to shareholders. A firm may retain a portion or whole of its profits and utilize it for financing its projects.

Borrowed Capital:

1. **Debentures:** Debenture capital is a financial instrument for raising long term debt capital. A debenture holder is a creditor of the company. A fixed rate of interest is paid on debentures. It may be convertible or Non-convertible.

   Non-convertible debentures - these are straight debt instrument carrying a fixed rate and have a maturity period of 5-9 years. If interest is accumulated it has to be paid by the company by liquidation of its assets. It is an economical method of raising funds. Debenture holders do not have any voting rights and there is no dilution of ownership. They cannot be converted into equity shares.

   Convertible debentures - convertible debentures are debentures which are convertible wholly or partly into equity shares after a fixed period of time.
2. **Term loans from banks**: Many industrial development banks, cooperative banks and commercial banks grant medium term loans for a period of three to five years. Commercial banks usually provide short-term finance to business firms in the form of loans and advances, cash credit, overdraft etc. But now-a- days, most of the commercial banks have also started term lending (long and medium term) and providing need based finance of different time periods to firms of all sizes.
3. **Loan from financial institutions:** There are many specialized financial institutions established by the Central and State governments which give long term loans at reasonable rate of interest. The main functions of these institutions are:
   (*a*) To grant loans for a longer period to industrial establishment;
   (*b*) To help the establishment of business units that require large amount of funds and have long gestation period;
   (*c*) To provide support for the speedy development of the economy in general and backward regions in particular;
   (*d*) To offer specialized services operating in the areas of promotion, project assistance, technical assistance services and training and development of entrepreneurs;
   (*e*) To provide technical and professional management services and help in identification, evaluation and execution of new projects.

   Foreign Sources: Foreign Sources also play an important part in meeting the long-term financial needs of the business in India. These usually take the form of
   (1) external borrowings;
   (2) foreign investments and;
   (3) deposits from NRIs

COST OF DEBT CAPITAL

The cost of Capital is the amount or a rate of interest which is paid to hire a debt.

When determining the actual cost of debt, it's crucial to consider the net proceeds received from the debt issuance after adjusting for discounts, premiums, and flotation costs. Flotation costs encompass various expenses incurred in obtaining the loan or issuing debentures, such as advertisement charges, postage, stationery and printing, stamp duty, brokerage, underwriting commission, and other related expenditures. These costs reduce the actual amount of funds received by the firm, thereby affecting the effective cost of debt. By factoring in these flotation costs, companies can accurately assess the true cost of utilizing debt as a source of capital.

Net proceeds at par = Par value – Flotation cost

Net proceeds at premium = Par value + Premium – Flotation cost

Net proceeds at Discount = Par value – Discount – Flotation cost

Debt-capital is of two types:

1. Perpetual or Irredeemable Debt
2. Redeemable Debt

Perpetual or Irredeemable Debt:

These are the debts which are repayable only on the liquidation of the company. For calculating cost of this type of debt-capital, amount of interest payable on it is divided by the net proceeds from its issue. The formula is:

$$C_d \text{ (or } K_d) = \frac{i}{NP} \times 100$$

Where,

i = Amount of Annual Interest

NP = Net Proceeds

Redeemable Debt:

Mostly debentures are repayable within a stipulated time period. In the calculation of cost of such debts, time period of their redemption is very important.

The formula for calculating the cost of debenture-capital can be adapted as follows:

$$C_d = \frac{i + \frac{MV - NP}{n}}{\frac{MV + NP}{2}} \times 100$$

where, Cd = cost of debt capital

i = annual interest payment

MV = maturity value

NP = net proceeds

n = number of years to maturity

For calculating after tax cost of debt capital, the amount of interest is to be adjusted as follows:

(a) In case of irredeemable debts:

$$C_d \text{ (after tax)} = \frac{i(1-t)}{NP} \times 100$$

or C_d (after tax) = Before tax cost (1 – t)

(b) In case of redeemable debts:

$$C_d \text{ (after tax)} = C_d = \frac{i\,(1-t) + \frac{MV - NP}{n}}{\frac{MV + NP}{2}} \times 100$$

COST OF PREFERENCE SHARE CAPITAL

Preference shares are also fixed cost bearing securities like debentures. The rate of dividend payable on these shares is fixed well in advance at the time of their issue. Since dividend is not an admissible deduction in the computation of taxable income, unlike debentures, cost of preference share capital is 'after tax cost' of capital which may be converted into before tax cost by applying the following formula:

$$C_d \text{ (before tax)} = \frac{\text{After tax cost}}{1 - \text{tax rate}}$$

The preference shares may be

1. Irredeemable or
2. Redeemable.

Cost of Irredeemable Preference Share Capital:

Cost of such preference shares is the ratio of annual dividend burden on each such share to its net proceeds. As per formula:

$$C_P \text{ (or } K_P) = \frac{PD}{NP} \times 100$$

Where, Cp = Cost of preference capital

PD = Preference dividend amount per share

NP = Net Proceeds per share

If dividend tax is paid, the formula will be as follows:

$$C_P = \frac{PD\,(1 + D_1)}{NP} \times 100$$

Where, D_1 = Dividend Tax

Cost of Redeemable Preference Share Capital:

Such shares are redeemed after a specified period. Cost of such shares is calculated in the same way as discussed in the case redeemable debentures. Necessary adjustments will have to be made for terms of issue, terms of redemption and flotation charges. The following formula may be used for this purpose:

$$C_P = \frac{PD + \frac{MV - NP}{n}}{\frac{MV + NP}{2}} \times 100$$

Where, PD = amount of annual preference dividend

MV = amount to be paid on maturity

NP = net proceeds

n = number of years after which the preference shares will be repaid

COST OF EQUITY SHARE CAPITAL

Calculating the cost of equity share capital is challenging because unlike preference shares, equity shares do not have a fixed dividend rate or legal obligation to pay dividends. However, this doesn't mean equity share capital is cost-free. The cost of equity is based on the expectations of equity shareholders, representing what they expect in return for their investment to maintain the value of the company. This expectation reflects the perceived risk and potential return associated with owning equity shares.

Following are the four approaches of estimating the cost equity share capital:

1. **CAPM model:**

   This is a popular approach to estimate the cost of equity. According to the CAPM, the cost of equity capital is:

   $$\mathbf{Ke = Rf + (Rm - Rf)\,\beta}$$

   Where, Ke = Cost of equity

   Rf = Risk-free rate

   Rm = Equity market required return (expected return on the market portfolio)

   β = beta is Systematic Risk Coefficient.

   Beta is the measure of market risk. Market risk is the risk that cannot be diversified away.

2. **Dividend Yield Method:**

   This is also called as Dividend/Price Ratio Method or D/P Ratio Method. This Method is based on the thinking that when an investor invests his savings in a company, he expects dividend at least at current rate of return.

   As such cost of equity capital is calculated on the basis of the future steam of dividends which the shareholders expect to receive from a company. The formula is

   $$C_e \text{ (after tax)} = \frac{DPS}{MP} \times 100$$

   Where, C_e = Cost of Equity Share Capital

   DPS = Current Cash Dividend per Share

   MP = Market Price per Share.

3. **Earnings Yield Method:**

   This is also known as Earnings/Price Ratio Method or E/P Ratio Method. This method is based on the assumption that market price of the shares is based on earning per share and so shareholders capitalize the expected future earnings (as distinguished from dividends) in order to evaluate their shareholders. Hence, cost of equity capital is found by relating earnings per share with its market price. The formula is as follows:

   $$C_e \text{ (after tax)} = \frac{EPS}{MP} \times 100$$

   Where, C_e = Cost of Equity Share Capital

   EPS = Earnings Per Share

   MP = Market Price Per Share.

4. **Dividend Yield + Growth in Dividend Method:**

   The Dividend Yield + Growth in Dividend method, also known as the D/P + G method, calculates the cost of equity share capital by considering both the current dividend yield and the expected growth rate of dividends. Shareholders expect not only the present dividend but also anticipate future increases based on the company's potential for earnings growth. The method adjusts the current dividend rate based on the projected growth rate of the company's earnings to determine the cost of equity share capital.

When dividends are expected to grow at a uniform rate perpetually:

In this case, the yearly growth rate in dividend is added to the cost of equity capital as ascertained in accordance with D/P ratio method. The formula is:

$$C_e \text{ (after tax)} = \left(\frac{DPS}{MP \text{ (or NP)}} \times 100\right) + G$$

Where, C_e = Cost of Equity Share Capital

DPS = Expected Dividend Per Share

MP = Current Market Price Per Share

NP = Net Proceeds per share

G = Growth Rate in expected Dividend (or expected annual percentage rate of increase in future dividends)

When dividends grow at different rates:

In such a case, the constant growth equation mentioned above is to be modified to take into account two or more growth rates. For example: if dividends are expected to grow at a super normal growth rate, for any years and thereafter, at a normal perpetual growth rate, beginning in the year n + 1, then the cost of equity share will be determined by applying the following formula:

$$\left(\frac{DPS}{MP} \times 100\right) + G$$

$$MP = \sum_{t=1}^{n} \frac{D_0(1+g_n)^{t-1}}{(1+K_e)^t} + \sum_{t=n+1}^{\infty} \frac{D_n(1+g_c)^{t-1}}{(1+K_e)^t}$$

Where, g_n = rate of growth in earlier years.

g_c = constant growth in late years

COST OF NEWLY EQUITY SHARES

In the E/P ratio method for estimating the cost of equity capital, the formula typically involves dividing the company's earnings per share (EPS) by the market price per share. However, when calculating the cost of newly issued equity shares, the net proceeds per share are used instead of the market price per share. This adjustment accounts for the flotation charges associated with the issuance of new shares, which reduce the net proceeds received by the company. By using the net proceeds per share in the calculation, the method accurately reflects the true cost of newly issued equity shares, which includes the impact of flotation charges on the company's cost of capital.

The formula will be adjusted as follows:

$$C_e(\text{After tax}) = \frac{EPS}{NP} \times 100 \text{ or} \left(\frac{DPS}{MP} \times 100\right) \text{or} \left(\frac{DPS}{NP} \times 100\right) + G$$

Where, EPS = Earnings per Share;

NP = Net Proceeds

COST OF RETAINED EARNINGS

Retained earnings represent the portion of a company's earnings that is kept within the business rather than distributed to shareholders as dividends. While there is no explicit cost associated with retained earnings, their cost can be considered as the opportunity cost to shareholders. This is because if the earnings were distributed as dividends, shareholders could have invested them elsewhere and earned a return. By retaining earnings, shareholders forego this potential return, and the expected return they would have earned on forgone dividends can be seen as the cost of retained earnings.

The following formula will be applied for calculating cost of retained earnings:

$$C_r \text{ (or } K_r) = \frac{DPS(1-T_i)(1-B)}{MP(1-T_e)} \times 100$$

$$C_r \text{ (or } K_r) = \frac{(DPS+G)(1-T_i)(1-B)}{MP(1-T_e)} \times 100$$

Where, C_r = Cost of Retained Earnings

DPS = Dividend Per Share

T_i = Marginal tax rate applicable to individual shareholder

B = Brokerage Cost

MP = Present Market Price per share

T_e = Capital Gains Tax

G = Growth rate of dividends

Notes: Cost of retained earnings calculated by the above formula is after tax cost. It can, however, be converted into before tax cost by applying the following formula:

$$\text{Before tax cost} = \frac{\text{After tax cost}}{1 - \text{tax rate}}$$

OVERALL COST OF CAPITAL

The weighted average cost of capital (WACC) is a crucial metric for companies aiming to optimize their capital structure and enhance shareholder returns. Here's a concise breakdown of its computation:

1. **Compute Specific Costs**: Identify and calculate the specific costs associated with each source of financing, such as debt, equity, and preferred stock.
2. **Assign Weights**: Determine the proportionate weight of each funding source in the overall capital structure of the company. This weighting reflects the relative importance of each source in funding the company's operations and investments.
3. **Calculate Weighted Costs**: Multiply the specific cost of each funding source by its corresponding weight. This yields the weighted cost of each source, reflecting both the cost and the proportion of each source in the company's capital mix.
4. **Sum Up Weighted Costs**: Add together all the weighted costs of the various funding sources. The result is the overall weighted average cost of capital for the company, representing the blended cost of all financing utilized, adjusted for their respective weights.

By following these steps, companies can arrive at a comprehensive understanding of their cost of capital, aiding in strategic decision-making related to investment opportunities and capital allocation.

Assignment of Weights:

This involves the determination of share of each source of capital in the total capital structure of the company. There are three approaches of assigning weights:

Historical Weights Approach:

The Historical Weights Approach for determining weighted average cost of capital (WACC) uses the current capital structure's relative proportions of various funding sources to assign weights. It assumes the existing structure is optimal and any future financing will maintain the same proportions. These weights can be based on face or book value, or market value of securities.

The weights to be used for calculation of WACC can either be based on the book value or the market value of the funds raised from different sources.

Book value weights: The weights are said to be book value weights if the proportion of different sources are ascertained on the basis of the face values. The book value can be easily calculated by taking the relevant information from the capital structure as given in the balance sheet of the firm.

Market value weights: The weights may also be calculated on the basis of the market value of different sources i.e., the proportion of each source at its market value. In order to calculate the market value weights, the firm has to find out the current market price of the securities in each category.

Target Weights Approach: If a firm has determined the capital structure which it believes most consistent with its goal of owner's wealth maximization and it is directing its financing policies toward achievement of this "optimal" capital structure, then the use of these target capital structure weights may be appropriate.

Marginal Weights Approach: According to this approach, specific costs are assigned weights in proportion of funds to be raised from each source to the total funds to be raised. This approach presumes that new project is to be financed wholly by raising fresh capital.

MARGINAL COST OF CAPITAL (MCC)

The Marginal Cost of Capital (MCC) represents the cost of acquiring additional capital as the company adjusts its capital structure to meet changing needs. It reflects the expense associated with raising funds beyond the current capital structure. As the company seeks new financing, the MCC indicates the cost incurred for each additional unit of capital introduced into the structure, guiding decisions on optimal financing strategies.

5 CAPITAL STRUCTURE

TOPICS TO BE COVERED

- Introduction, Definition and Significance of Capital structure
- Capital Structure v/s Financial Structure
- Planning and Designing of Capital Structure
- Optimal Capital Structure
- Factors Influencing Capital Structure
- Capital Structure and Valuation
- Capital Structure Theories
- Criticism of MM Hypothesis
- EBITDA Analysis (Earnings Before Interest, Tax, Depreciation and Amortization)
- Measures of Operating and Financial Leverage
- Difference Between Operating and Financial Leverage
- Working Capital Leverage
- Effects of Leverage on Shareholder's Returns
- Risk and Leverage
- Hamada Equation

INTRODUCTION, DEFINITION AND SIGNIFICANCE OF CAPITAL STRUCTURE

Introduction:

The financing decision, also known as the capital structure decision, involves determining the mix of equity and debt used to fund a firm's operations and investments. This choice has implications for the firm's risk and return, as well as its market value.

Equity financing involves selling ownership stakes in the company, which can dilute existing shareholders' ownership but doesn't require regular interest payments. Debt financing, on the other hand, involves borrowing money that must be repaid with interest, which can increase financial risk but doesn't dilute ownership.

The optimal capital structure is the mix of debt and equity that maximizes the firm's value while minimizing its cost of capital. Finding this balance involves considering factors such as the firm's risk tolerance, tax implications, cost of debt, and market conditions.

A firm with too much debt may face financial distress if it struggles to meet its debt obligations, while a firm with too much equity may have a higher cost of capital and lower returns on equity. Therefore, managers must carefully evaluate the trade-offs between debt and equity to make informed financing decisions that align with the firm's strategic objectives and financial health.

Definition of Capital Structure:

The following definitions clearly initiate, the meaning and objective of the capital structure. According to the definitions of **Gerstenberg**, "Capital Structure of a company refers to the composition or make up of its capitalization and it includes all long-term capital resources".

According to the definition of James C. Van Horne, Capital Structure is "The mix of a firm's permanent long- term financing represented by debt, preferred stock and common stock equity".

Types of Capital Structure:

These descriptions outline various types of capital structures that reflect different investment and financing strategies of firms:

1. **Horizontal Capital Structure:** This structure relies solely on equity or retained earnings for financing expansion, with no debt components. It offers stability but lacks financial leverage due to the absence of debt.
2. **Vertical Capital Structure:** In this structure, a small equity base supports a larger portion of debt. Incremental financing primarily comes from debt, leading to a high financial risk for the firm. The cost of equity tends to be higher than debt, making the firm susceptible to hostile takeovers.
3. **Pyramid Shaped Capital Structure:** Here, a significant proportion consists of equity capital and retained earnings accumulated over time. This conservative structure reflects risk-averse firms, with the cost of equity and retained earnings typically lower than debt.
4. **Inverted Pyramid Shaped Capital Structure:** This structure features a small equity base, moderate retained earnings, and a growing reliance on debt for financing. It may result from shrinking retained earnings due to accumulating losses. Such a structure is highly vulnerable to collapse due to its heavy debt burden and lack of equity cushion.

Each type of capital structure reflects different risk profiles and financing preferences, impacting the firm's stability, cost of capital, and vulnerability to financial distress or takeovers.

Significance of Capital Structure:

These points highlight the significance of capital structure for a firm:

1. **Reflects Firm Strategy:** Capital structure mirrors the firm's growth strategy. Incorporating debt allows for faster growth, especially for acquisitions. It showcases how the firm plans to finance its expansion.
2. **Indicator of Risk Profile:** The mix of debt and equity indicates the firm's risk profile. A higher debt component increases fixed interest costs, elevating risk. Conversely, no long-term debt may signify risk aversion or lower costs of equity and retained earnings compared to debt.
3. **Tax Management Tool:** Debt in the capital structure provides tax advantages since interest payments are tax-deductible. Firms with healthy operating profits can benefit from incorporating debt to optimize tax liabilities.
4. **Enhances Firm Image:** By issuing equity capital to a diversified investor base at a premium, firms can strengthen their image and reduce the likelihood of hostile takeovers. This strategy improves investor perception and safeguards against external threats.

Overall, an optimal capital structure not only sustains long-term profitability and solvency but also influences the firm's growth trajectory, risk exposure, tax efficiency, and market reputation.

CAPITAL STRUCTURE V/S FINANCIAL STRUCTURE

Financial structure encompasses all assets, liabilities, and capital in an organization, whereas capital structure specifically refers to the long-term sources of capital within the financial structure. On a balance sheet, the left-hand side containing liabilities and equity constitutes the financial structure, while capital structure represents the subset of long-term capital sources within it.

Key differences between financial structure and capital structure include:

1. **Nature of Capital Deployment:** Capital structure pertains to long-term capital allocation for creating long-term assets, while financial structure encompasses both long-term and short-term asset creation.
2. **Core Element:** Capital structure is a fundamental component of financial structure, but financial structure may include both long-term and short-term liabilities and assets.
3. **Asset-Liability Match:** Components of capital structure can be used to fund the acquisition of fixed assets, ensuring an asset-liability match. However, using current liabilities to finance fixed assets creates an asset-liability mismatch, which is not advisable.

In essence, while capital structure focuses on the composition of long-term capital, financial structure encompasses all sources of capital, including both short-term and long-term, along with assets.

PLANNING AND DESIGNING OF CAPITAL STRUCTURE

Planning and designing the capital structure of a firm is crucial for maximizing shareholder wealth. This process typically begins early in the firm's life cycle, often at the time of incorporation, and involves careful consideration and implementation.

Key questions that management should address when deciding on the capital structure include:

1. **How to Finance Investment Projects:** Determining the financing sources for investment projects is essential. Choices between equity, debt, or a combination impact the firm's financial health and risk profile.
2. **Impact of Financing Methods:** Different financing methods can have varying effects on shareholder risk, return, and overall firm value. Understanding these implications is critical for making informed decisions.
3. **Optimal Financing Mix:** Exploring whether an optimal mix of financing exists that maximizes shareholder value is essential. This mix considers factors like cost of capital, risk tolerance, and market conditions.
4. **Determining Optimal Financing in Practice:** While theory provides insights into optimal financing, practical considerations may vary. Companies need to assess their unique circumstances, industry norms, and regulatory requirements when designing their financing policy.

5. **Considerations in Designing Financing Policy:** Various factors influence the design of a firm's financing policy, such as market conditions, capital market imperfections, tax considerations, and risk management strategies. Balancing these factors is critical for achieving the desired capital structure.

Strategic planning and thoughtful design of the capital structure are essential for aligning financing decisions with the firm's goals, optimizing shareholder value, and ensuring financial stability and growth. Planning and designing the capital structure of a firm is crucial for maximizing shareholder wealth. This process typically begins early in the firm's life cycle, often at the time of incorporation, and involves careful consideration and implementation.

Attributes of a Well Planned Capital Structure:

A sound capital structure should:

1. Maximize returns to shareholders while minimizing additional costs.
2. Manage risk by avoiding excessive debt that threatens solvency.
3. Offer flexibility to adapt to changing circumstances with minimal cost and delay.
4. Stay within the company's debt capacity, ensuring it can meet future obligations.
5. Maintain control for owners, particularly in closely-held companies, to minimize the risk of dilution.

Designing a Capital Structure:

When designing a capital structure, it's essential to consider the following points:

1. **Functionality:** The design should align with the firm's long-term strategy and facilitate smooth day-to-day operations. It shouldn't create unnecessary bottlenecks but instead support the firm's overall objectives.
2. **Flexibility:** A well-designed capital structure should allow for reasonable flexibility to accommodate changes in the share of each component over time. This flexibility enables the firm to adapt to varying market conditions and business needs.
3. **Compliance with Statutory Guidelines:** The design must adhere to any statutory guidelines regarding the proportion and amount of each capital component. Additionally, the design should meet any requirements set by lenders, ensuring compliance with minimum levels of owner's equity as stipulated.

OPTIMAL CAPITAL STRUCTURE

An optimal capital structure is the ideal mix of debt and equity that maximizes a firm's value while minimizing its cost of capital. However, designing such a structure requires exact information on capital requirements, component availability, costs, and investment returns, which is often unavailable or static. In reality, the business environment is dynamic, making it challenging to achieve a truly optimal structure. Instead, firms aim to approach this ideal within the constraints of their specific circumstances, understanding that achieving the exact benchmark may not always be possible due to changing market conditions and project dynamics.

FACTORS INFLUENCING CAPITAL STRUCTURE

Several factors influence a company's choice of capital structure:

1. **Cash Flow Position:** Debt should be used when cash flow is strong to ensure interest and principal payments can be met.
2. **Interest Coverage Ratio (ICR):** Indicates the ability to cover interest payments with earnings before interest and taxes (EBIT). Higher ICR allows for more debt capacity.
3. **Debt Service Coverage Ratio (DSCR):** Reflects cash flow available for debt payments. A better ratio means higher debt capacity.
4. **Return on Investment (ROI):** Greater ROI enhances capacity to utilize debt capital.
5. **Cost of Debt:** Lower interest rates increase debt capacity.
6. **Tax Rate:** High tax rates reduce the cost of debt due to interest deductions.
7. **Cost of Equity Capital:** Increased use of debt can raise equity costs due to increased risk perception.
8. **Floatation Costs:** Expenses associated with issuing securities affect capital structure decisions.
9. **Risk Consideration:** Balancing operating risk and financial risk influences debt utilization.
10. **Flexibility:** Debt and preference share capital offer more flexibility than equity capital.
11. **Control:** Issuing equity shares dilutes control, while debt issuance does not affect control.
12. **Regulatory Framework:** Government regulations may dictate capital structure requirements.
13. **Stock Market Conditions:** Market trends affect the attractiveness of different financing sources.
14. **Capital Structure of Other Companies:** Industry norms and practices influence a company's capital structure decisions.

Considering these factors helps companies determine an optimal capital structure that aligns with their financial needs, risk tolerance, and market conditions.

CAPITAL STRUCTURE AND VALUATION

The capital structure should aim to increase the firm's valuation by maximizing both the market value of equity (reflected in share prices) and the inherent value of retained earnings. This is achieved through strategic management of the mix of debt and equity, which can indirectly impact earnings by lowering the cost of capital.

CAPITAL STRUCTURE THEORIES

There are basically four approaches to capital structure decision:

1. Net Income Approach
2. Net Operating Income Approach
3. Traditional Approach
4. Modigliani Miller (MM) Approach

1. Net Income Approach:

The Net Income Approach posits that a firm can influence its value by adjusting its capital structure, assuming three key factors:

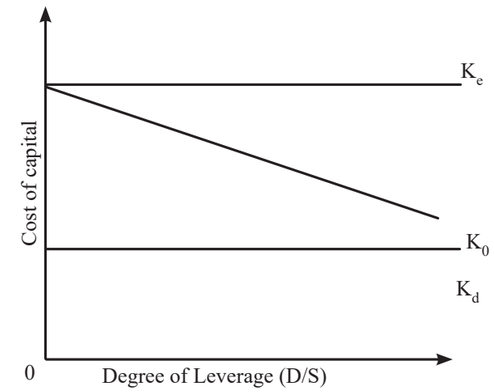
(*a*) the cost of debt is lower than the cost of equity,

(*b*) both costs remain constant regardless of leverage, and

(*c*) there are no taxes. As leverage increases (i.e., more debt financing), the average cost of capital decreases because the lower cost of debt receives a higher weight in the capital structure, leading to a decline in the overall cost of capital.

$$K_0 = K_d \times \frac{D}{(D+E)} + K_e \times \frac{E}{(D+E)}$$

This can also be illustrated by a graph as shown below:



As our assumption is that the cost of debt and equity capital would not change with the change in the level of leverage, K is seen to go down with the increasing proportion of debt in the capital.

2. Net Operating Income Approach:

The Net Operating Income (NOI) Approach suggests that the market value of a firm is determined solely by its net operating profit (EBIT) and the overall cost of capital, regardless of its financing mix. This approach assumes that investors view the firm as a whole, capitalizing total earnings to derive its value. The cost of debt (Kd) and overall cost of capital (KO) are assumed constant, while the use of more debt increases equity risk, leading to an increase in the cost of equity (Ke) that offsets the benefits of cheaper debt. Taxes are not considered in this approach.

There are two points to be noted here:

a. As the cost of total capital and debt is constant, the cost of equity would go up or down with increasing or decreasing leverage, i.e., the amount of debt in the capital structure.

b. This means that as we increase the level of debt in the company, the value of the firm doesn't change and the company does not benefit by taking on debt. This would mean that the companies would like to employ as much equity as possible so as to reduce the risk of the company.

$$\text{value of firm} = \frac{\text{Net Operating Income}}{\text{WACC}}$$

OR

$$\text{Value of Firm} = \frac{\text{EBIT}}{\text{KO}}$$

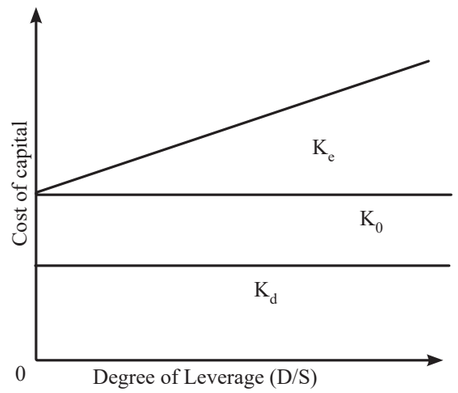
Alternatively, Value of the firm = Value of Equity + Value of Debt

$$\text{Ke} = \frac{\text{Net Income after Interest}}{\text{Value of Equity}}$$

Cost of equity can also be calculated as follows:

$$\text{Ke} = K_0 + (K_0 - K_d)\ D/E$$

Under NOI Approach the relationship between the leverage and cost of capital has been represented in the Figure below:

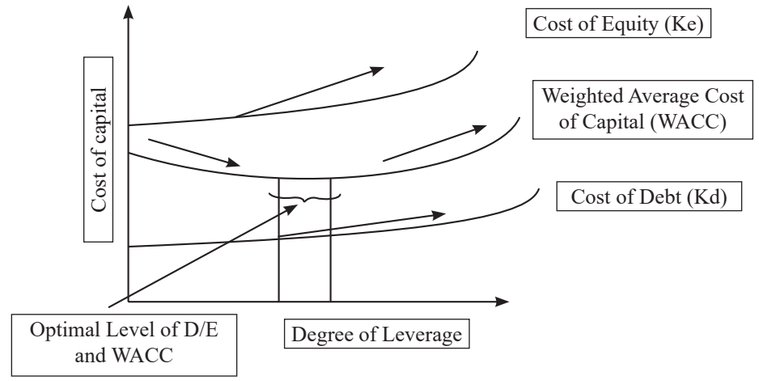


3. Traditional Approach:

The Traditional Approach to capital structure suggests there's an optimal debt-to-equity ratio where the firm's market value is maximized and the weighted average cost of capital (WACC) is minimized. This approach balances the views of the Net Income and Net Operating Income Approaches. It assumes that initially, increasing debt lowers WACC, but beyond a certain point, the cost of equity rises, leading to an increase in WACC and a decrease in firm value. This optimal ratio is where the firm's value is highest.

It assumes that initially, increasing leverage lowers the weighted average cost of capital (WACC) due to the tax benefits of debt. However, beyond a certain point, increasing debt leads to higher interest rates and perceived financial risk by equity shareholders. This causes the cost of equity to rise, eventually increasing the WACC. The optimal capital structure is where WACC is minimized, representing the point where the firm's value is maximized.

Traditional viewpoint on the relationship between leverage, cost of capital and the value of the firm is displayed in the figure below:



4. Modigliani - Miller Theory:

Modigliani and Miller (MM) proposed that a firm's value is determined solely by its future earnings and is unaffected by its debt-to-equity ratio. They argued that under perfect capital markets and without taxes, investors can replicate the benefits of debt financing through arbitrage. If debt financing leads to a higher firm value, investors could adjust their portfolios to create equivalent value without debt, making capital structure irrelevant to the firm's overall value and stock price.

Modigliani and Miller have restated and amplified the net operating income position in terms of three basic propositions. These are as follows:

Proposition – I The total value of a firm is equal to its expected operating income (PBIT when tax = 0) divided by the discount rate appropriate to its risk class. It is independent of the degree of leverage.

$$Vl = Vu = \frac{EBIT}{K_{ol}} = \frac{EBIT}{K_{ou}}$$

Here the subscript l is used to denote leveraged firm and subscript u is used to denote unleveraged firm.

Since the V (Value of the firm) as established by the above equation is a constant, then under the MM model, when there are no taxes, the value of the firm is independent of its leverage. This implies that the weighted average cost of capital to any firm is completely independent of its capital structure and the WACC for any firm, regardless of the amount of debt it uses, is equal to the cost of equity of unleveraged firm employing no debt.

Proposition – II The expected yield on equity, Ke is equal to Ko plus a premium. This premium is equal to the debt – equity ratio times the difference between Ko and the yield on debt, Kd. This means that as the firm's use of debt increases its cost of equity also rises, and in a mathematically precise manner.

Proposition – III The cut-off rate for investment decision making for a firm in a given risk class is not affected by the manner in which the investment is financed. It emphasizes the point that investment and financing decisions are independent because the average cost of capital is not affected by the financing decision.

CRITICISM OF MM HYPOTHESIS

While Modigliani and Miller's (MM) theory suggests that capital structure decisions have no impact on stock prices under certain assumptions, criticism arises from the real-world departure from these assumptions. In practice, factors like taxes, bankruptcy costs, and market imperfections can influence capital structure decisions and their impact on firm value. Despite this, MM's insights remain valuable in understanding the conditions under which debt financing can affect firm value.

MM Hypothesis with Corporate Taxes:

Modigliani and Miller (MM) extended their hypothesis to incorporate corporate taxes in 1963. They showed that under this model, a firm's stock price is directly related to its use of debt financing: the higher the proportion of debt, the higher the stock price. This is because debt interest payments are tax-deductible, leading to more after-tax income available to shareholders. Consequently, MM with tax theory suggests that firms should ideally use a high percentage of debt financing to maximize stock price.

Empirical evidence against MM Hypothesis:

Empirical evidence contradicts Modigliani and Miller's (MM) hypothesis as firms typically don't use close to 100% debt financing. Modifications to MM's model, such as considering financial distress costs, reveal that while debt can increase firm value through tax savings, excessive debt can lead to financial distress and decrease firm value. This modified model, known as the trade-off theory of capital structure, suggests that there's an optimal level of debt for each firm, balancing the benefits of debt financing with the costs of financial distress.

Pecking Order Theory:

The Pecking Order Theory of corporate leverage posits that firms do not have a target capital structure. Instead, they prefer internal financing over external financing due to adverse selection issues. When external funds are required, debt is preferred over equity because issuing debt involves lower information costs and avoids diluting ownership through external equity issuance.

EBIT - EPS Analysis:

EBIT-EPS analysis is a common method used by management to assess the impact of leverage on earnings per share (EPS). It helps in determining the projected EPS for different financial plans, aiming to maximize EPS while also considering the primary goal of maximizing the value of the firm's equity. By comparing alternative financing methods under different assumptions about EBIT, management can identify the optimal financial structure that maximizes the price of the firm's equity.

EBITDA ANALYSIS (EARNINGS BEFORE INTEREST, TAX, DEPRECIATION AND AMORTIZATION)

EBITDA (Earnings Before Interest, Taxes, Depreciation, and Amortization) is a financial metric used to assess a company's operating profitability by excluding non-operating expenses like interest, taxes, and non-cash charges such as depreciation and amortization. It provides a clearer picture of a company's core operating performance by focusing solely on its earnings from operations.

Analysis with EBITDA:

EBITDA analysis allows analysts to isolate the impact of operating decisions by excluding non-operating activities such as interest expenses, taxes, depreciation, and amortization. By focusing solely on operating profitability, investors can compare companies within the same industry more effectively, gaining insight into their core business performance.

Limitations of EBITDA:

EBITDA has several limitations as a measure of financial health. It can mask the true financial condition of a company, as it excludes important expenses like interest, taxes, depreciation, and amortization. This exclusion can make even unprofitable firms appear financially healthy, leading to potential misinterpretation by investors. Moreover, EBITDA figures are susceptible to manipulation, as fraudulent accounting practices can inflate revenues to make the company seem more profitable than it actually is.

In contrast, operating cash flow provides a more accurate measure of a company's cash generation, as it includes changes in working capital and non-cash charges like depreciation and amortization. These factors are essential for determining the actual cash flow of a company. Relying solely on EBITDA without considering changes in working capital can lead investors to overlook important indicators of a company's financial health, such as its ability to generate cash from its operations.

Despite its limitations, there are some valid reasons for using EBITDA. It can be a useful tool for estimating the cash flow available to pay debt on long-term assets and for comparing companies within an industry. Additionally, EBITDA can provide insights into core profit trends by eliminating certain extraneous factors and allowing for more standardized comparisons. However, it should not replace the measure of cash flow, which remains essential for assessing a company's true profitability and operational sustainability.

MEASURES OF OPERATING AND FINANCIAL LEVERAGE

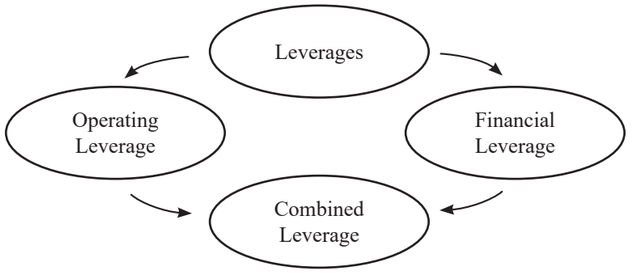
Leverage in finance involves using fixed-cost assets or funds to magnify returns for shareholders. It's akin to using a lever to lift heavy objects, enabling the achievement of objectives that might not be feasible otherwise. By utilizing leverage, businesses can amplify their profitability and efficiency, thereby enhancing the returns for their shareholders. Essentially, leverage empowers companies to optimize their resources and maximize their financial outcomes.

Definition of Leverage:

James Horne has defined leverage as, "the employment of an asset or fund for which the firm pays a fixed cost or fixed return.

Types of Leverage:

Leverage can be classified into three major headings according to the nature of the finance mix of the company.



The company may use financial or leverage or operating leverage, to increase the EBIT and EPS.

1. Operating Leverage:

Operating leverage refers to the magnification of the impact of changes in sales on a company's earnings before interest and taxes (EBIT) due to fixed operating costs. It arises from the presence of fixed operating expenses within a company's cost structure. A company exhibits high operating leverage when it has a significant proportion of fixed costs compared to variable costs. The degree of operating leverage is determined by the composition of the cost structure. Break-even analysis can be employed to assess the level of operating leverage within a company.

Operating leverage can be calculated with the help of the following formula:

$$\text{Operating Leverage} = \frac{\text{Contribution}}{\text{Operating profit (EBIT)}}$$

Degree of Operating Leverage:

The degree of operating leverage may be defined as percentage change in the operating income (EBIT) resulting from a percentage change in the sales. It can be calculated with the help of the following formula:

$$\text{DOL} = \frac{\text{Percentage change in EBIT}}{\text{Percent change in sales}}$$

Uses of Operating Leverage:

Operating leverage is a valuable tool for understanding how changes in sales impact a company's profits. By analyzing the relationship between sales and revenue, operating leverage reveals the level of fixed costs embedded in a company's operating expenses. This insight into fixed costs helps managers assess the company's cost structure and its ability to generate profits as sales fluctuate. Essentially, operating leverage provides a snapshot of how sensitive a company's earnings are to changes in sales volume.

2. Financial Leverage:

Financial leverage involves the use of fixed-cost funds, such as debt and preference share capital, to amplify the effects of changes in earnings before interest and taxes (EBIT) on earnings per share. It represents the company's ability to use these fixed financial charges to enhance returns to equity shareholders.

When the earnings generated from assets purchased with these funds exceed the fixed cost of their use, it's termed as favorable financial leverage, or positive financial leverage. Conversely, if the company fails to earn enough to cover the fixed costs, it's referred to as unfavorable financial leverage, or negative financial leverage. In essence, financial leverage magnifies the impact of changes in EBIT on earnings per share, with the outcome depending on the profitability of the assets acquired with the funds.

Financial leverage can be calculated with the help of the following formula:

$$\text{Financial Leverage} = \frac{\text{Operating profit (EBIT)}}{\text{Profit before Tax}}$$

Degree of Financial Leverage:

Degree of financial leverage may be defined as the percentage change in taxable profit as a result of percentage change in earnings before interest and tax (EBIT). This can be calculated by the following formula:

$$\text{DFL} = \frac{\text{Percentage change in taxable Income}}{\text{Percentage change in operating Income}}$$

Alternative Definition of Financial Leverage:

According to Gitmar, "financial leverage is the ability of a firm to use fixed financial changes to magnify the effects of change in EBIT on its EPS".

$$\text{DFL} = \frac{\text{Percentage change in EPS}}{\text{Percentage change in EBIT}}$$

Uses of Financial Leverage:

Financial leverage is utilized to analyze the impact of changes in earnings before interest and taxes (EBIT) on earnings per share (EPS). It helps in understanding how changes in EBIT affect taxable income and EPS, thereby assisting in making informed decisions regarding the company's capital structure. By measuring the proportion of fixed costs to the total capital of the company, financial leverage aids in assessing the company's risk and profitability.

If a firm acquires fixed-cost funds at a higher cost, it can lead to a decrease in earnings per share and return on equity capital. This exercise helps in comprehending the implications of financial leverage on the company's financial performance and profitability.

3. Combined Leverage:

When the company uses both financial and operating leverage to magnification of any change in sales into a larger relative changes in earning per share. Combined leverage is also called as composite leverage or total leverage

$$\text{DCL} = \text{DOL} \times \text{DFL} = \frac{\text{Contribution}}{\text{EBIT}} \times \frac{\text{EBIT}}{\text{PBT}} = \frac{\text{Contribution}}{\text{PBT}}$$

Combined leverage expresses the relationship between the revenue in the account of sales and the taxable income. Combined leverage can be calculated with the help of the following formulas:

Degree of Combined Leverage:

The percentage change in a firm's earning per share (EPS) results from one percent change in sales. This is also equal to the firm's degree of operating leverage (DOL) times its degree of financial leverage (DFL) at a particular level of sales.

$$\text{Degree of combined Leverage} = \frac{\text{Percentage Change in EPS}}{\text{Percentage change in sales}}$$

DIFFERENCE BETWEEN OPERATING AND FINANCIAL LEVERAGE

S. No	Operating Leverage	Financial Leverage
1.	Operating leverage is associated with investment activities of the company.	Financial leverage is associated with financing activities of the company.
2.	Operating leverage consists of fixed operating expenses of the company.	Financial leverage consists of Fixed Financial Expenses of the company.
3.	It represents the ability to use fixed operating cost.	It represents the ability to use fixed financial cost.
4.	Operating leverage can be calculated by Contribution/EBIT	Financial leverage can be calculated by= EBIT/EBT
5.	A percentage change in the profits resulting from a percentage change in the sales is called as degree of operating leverage.	A percentage change in taxable profit is the result of percentage change in EBIT.
6.	Trading on equity is not possible by using operating leverage	Trading on equity is possible only when the company uses financial leverage.
7.	Operating leverage depends upon fixed cost and variable cost.	Financial leverage depends upon the operating profits & fixed financial costs.
8.	Tax rate and interest rate will not affect the operating leverage.	Financial leverage will change due to tax rate and interest rate.

Financial Break Even Point:

It is the level of EBIT which covers all fixed financing costs of the company. It is the level of EBIT at which EPS is zero.

$$\text{FBP} = \text{Interest} + \frac{\text{Preference Dividend}}{1 - t}$$

Indifference Point:

The indifference point represents the level of earnings before interest and taxes (EBIT) at which different debt ratios result in the same earnings per share (EPS). Beyond this point, the benefits of financial leverage begin to affect EPS positively. If expected EBIT exceeds the indifference level, using debt is advantageous for EPS, leading to favorable financial leverage. Conversely, if expected EBIT is below the indifference point, the advantage for EPS would come from using equity capital. In essence, the indifference point helps determine the optimal mix of debt and equity to maximize EPS.

The indifference point between two financial plans can be calculated by using the following formula:

$$\frac{(\text{EBIT} - \text{Interest})\ (1-t) - \text{PD}(1+t)}{\text{No. of equity shares in Plan A}} = \frac{(\text{EBIT} - \text{Interest})\ (1-t) - \text{PD}(1+t)}{\text{No. of equity shares in Plan B}}$$

WORKING CAPITAL LEVERAGE

One of the new models of leverage is working capital leverage which is used to locate the investment in working capital or current assets in the company.

Working capital leverage measures the sensitivity of return in investment of charges in the level of current assets.

$$\text{Working capital Leverage} = \frac{\text{Percentage change in ROI}}{\text{Percentage change in Working Capital}}$$

If the earnings are not affected by the changes in current assets, the working capital leverage can be calculated with the help of the following formula.

$$\text{Working capital Leverage} = \frac{CA}{(TA + \Delta CA)}$$

where,

CA = Current Assets

TA = Total Assets

ΔCA = Changes in the level of Current Assets

EFFECTS OF LEVERAGE ON SHAREHOLDER'S RETURNS

The financial plan of a firm significantly affects its market value, cost of capital, and shareholders' returns. Leverage, which is the proportion of debt to equity in the financial plan, plays a crucial role in influencing a firm's market value and shareholder returns. Proper management of leverage is essential for maximizing shareholder value.

1. **Operating Leverage Effect:** When the percentage change in earnings before interest and taxes (EBIT) is more than the percentage change in sales, it positively affects return on equity (ROE). This indicates that a small increase in sales leads to a larger increase in EBIT, thereby increasing ROE. High operating leverage can be risky, while low operating leverage may be beneficial during market fluctuations.
2. **Effect of Financial Leverage on ROE:** Financial leverage, which involves using debt to acquire additional assets, can either decrease or increase ROE depending on the situation. High financial leverage, characterized by excessive debt and high-risk investments, may lead to financial over-leveraging. On the other hand, low financial leverage, with minimal debt, can positively impact ROE if the value of assets purchased remains high.
3. **Effect of High Operating Leverage and High Financial Leverage:** This combination can increase ROE but is also associated with high risk.
4. **Effect of Low Operating Leverage and High Financial Leverage:** This combination is considered optimal for achieving optimum return on equity.

RISK AND LEVERAGE

Risk in the context of a firm refers to the likelihood of future revenue streams deviating from expected figures, typically with a negative impact. Positive variations reduce investment risk, which is generally favorable. When considering the relationship with leverage, risk can be categorized into two main types: business risk and financial risk.

1. **Business Risk:** Business risk is linked to the day-to-day operations of the firm. It encompasses factors such as decisions related to purchasing raw materials, manufacturing expenses, administrative costs, etc. These decisions affect the operational profitability of the firm, specifically the profits before interest and taxes (EBIT).
2. **Financial Risk:** Financial risk arises from the introduction of fixed interest-bearing debt obligations in the capital structure of the firm. These debt obligations create a priority claim on EBIT before profits are distributed among the owners after taxes.

Relationship between Financial Risk and Financial Leverage:

As financial leverage increases, the company becomes more reliant on debt financing, which can have several implications:

1. **Higher Break-Even Point:** Increased financial leverage means the company has more debt to service, leading to higher fixed interest payments. Consequently, the break-even point—the level of sales needed to cover all costs—rises. The company must sell more products or services to cover its increased financial obligations.
2. **Risk to Lenders:** Higher financial leverage raises the risk for lenders because the company's ability to repay debt becomes more sensitive to fluctuations in revenue. If the company's sales decline or it faces financial challenges, it may struggle to meet its debt obligations, increasing the risk of default and potential losses for lenders.
3. **Risk to Stockholders:** Stockholders also face increased risk with higher financial leverage. As the company takes on more debt, there's a greater chance of bankruptcy, which could lead to significant losses for equity investors. Additionally, higher leverage can lead to greater earnings volatility, as a larger portion of the company's income goes toward servicing debt. This volatility in earnings can translate into higher volatility in the company's stock price, further increasing risk for stockholders.

HAMADA EQUATION

The Hamada equation is a financial model used to analyze how a firm's cost of capital changes with additional financial leverage. It builds upon the Modigliani-Miller theorem on capital structure, which suggests that in perfect markets, a firm's value is unaffected by its capital structure. However, the Hamada equation focuses on quantifying the effect of financial leverage on a firm's risk, specifically through changes in its beta coefficient.

Beta is a measure of a firm's volatility or systemic risk relative to the overall market. The Hamada equation demonstrates how a firm's beta changes as it employs additional financial leverage. A higher beta coefficient indicates higher risk associated with the firm, as it suggests greater sensitivity to market fluctuations.

Robert Hamada, a former professor at the University of Chicago Booth School of Business, introduced the Hamada equation in his paper published in the Journal of Finance in May 1972. His equation provides valuable insights into understanding the relationship between a firm's capital structure, risk, and cost of capital.

The formula for the Hamada equation is:

$$\beta L = \beta u \left[1 + (1 - T)\left(\frac{D}{E} \right) \right]$$

Where:

βL = Levered beta

βu = Unlevered beta*

T = Tax Rate

D/E = Debt to Equity Ratio

Unlevered beta is the market risk of a company without the impact of debt.

Debt-to-equity ratio is a measure of a company's financial leverage.

6 DIVIDEND DECISIONS

TOPICS TO BE COVERED

- Introduction
- Kinds (Forms) of Dividend
- Stock Splits
- Share Repurchase
- Determinants of Dividends Policy
- Types of Dividend Policy
- Essentials of a Sound Dividend Policy
- Dividend Theories / Dividend Models

INTRODUCTION

The term dividend refers to that part of profits of a company which is distributed by the company among its shareholders. It is the reward of the shareholders for investments made by them in the shares of the company. In other words, it is the return that a shareholder gets from the company out of profit on his shareholding. According to **the Institute of Chartered Accountant of India**, "A dividend is a distribution to shareholders out of profit or reserves available for this purpose."

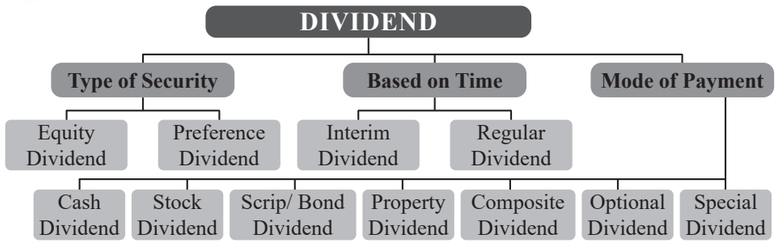
Meaning of Dividend Policy:

Dividend policy determines what portion of earnings will be paid out to stock holders and what portion will be retained in the business to finance long-term growth. Dividend constitutes the cash flow that accrues to equity holders whereas retained earnings are one of the most significant sources of funds for financing the corporate growth. Both dividend and growth are desirable but are conflicting goals to each other. Higher dividend means less retained earnings and vice versa. This position is quite challenging for the finance manager and necessitate the need to establish a dividend policy in the firm which will evolve a pattern of dividend payments having no adverse effects on future actions of the firm.

KINDS (FORMS) OF DIVIDEND

Dividends can be classified as profit dividends (paid from profits during normal operations) and liquidation dividends (paid from capital during dissolution). They can also be categorized by medium: cash dividends (paid in cash), stock dividends (paid in additional shares), and property dividends (paid in assets other than cash or stock).

A company may pay dividend in different forms which are shown in following figures as follows:



1. **Equity Dividend:** Paid on equity shares, set by the board and approved by shareholders.
2. **Preference Dividend:** Paid on preference shares, fixed at issuance, prioritized over equity dividends.
3. **Interim Dividend:** Paid before year-end accounts are closed, based on heavy earnings during the year.
4. **Regular Dividend:** Paid at a usual rate, preferred by investors seeking consistent income.
5. **Cash Dividend:** Paid in cash, resulting in outflow of funds, preferred by ordinary shareholders.
6. **Stock Dividend:** Bonus shares issued to existing shareholders, conserves cash, capitalizes earnings.
7. **Scrip or Bond Dividend:** Promises future payment, issued when cash is insufficient, bears interest.
8. **Property Dividend:** Paid in assets other than cash, rare in India.
9. **Composite Dividend:** Paid partly in cash and partly in property.
10. **Optional Dividend:** Shareholders choose between cash or property dividend.
11. **Extra or Special Dividend:** Abnormal, non-recurring dividend, declared from good profits or reserves without adjusting the regular rate.

STOCK SPLITS

A stock split is when a company increases its number of outstanding shares by issuing more shares to current shareholders. For example, in a 2-for-1 split, each shareholder receives an additional share for each share held. This increases liquidity and makes shares more affordable, often attracting more investors. While a split doesn't increase the investment's value, it can make it more appealing to investors, especially when share prices are high.

Reason Behind Stocks Split:

Stock splits are implemented for several reasons:

1. **Increased Affordability:** High share prices may deter some investors. By splitting the stock, the price per share decreases, making it more accessible to a broader range of investors.
2. **Enhanced Liquidity:** With more shares available for trading, liquidity improves. This benefits both buyers and sellers by facilitating smoother transactions without significantly impacting share prices. Companies can also repurchase shares at lower costs due to increased liquidity.
3. **Increased Ownership:** After a split, investors hold more shares, potentially increasing their profits when share prices rise over time.
4. **Exchange Listing Requirements:** Sometimes, companies execute splits to meet minimum criteria for listing on an exchange, particularly in the case of reverse stock splits, which consolidate shares to maintain compliance with exchange rules.

SHARE REPURCHASE

A stock buyback, or share repurchase, occurs when a company uses its cash to buy back its own shares from the market, reducing the number of outstanding shares.

Reasons for share repurchase include:

1. **Undervaluation:** If the company's stock is deemed undervalued, a buyback can be seen as a good investment by the board.
2. **Confidence Signal:** Investors often interpret a buyback as a sign of confidence by the company's management.
3. **Cash Management:** Instead of committing to ongoing dividends, which can burden the company during lean times or upset investors if reduced, excess cash can be used for buybacks.
4. **Tax Efficiency:** Share repurchases typically don't incur immediate tax implications for shareholders, unlike dividends, which may be taxed immediately upon receipt.
5. **Offset Dilution:** Buybacks can offset the dilution caused by employee stock-option plans, maintaining shareholder value.

Impact of a Share Repurchase:

When a company buys back shares, it reduces the total number of shares outstanding. This can lead to two main phenomena:

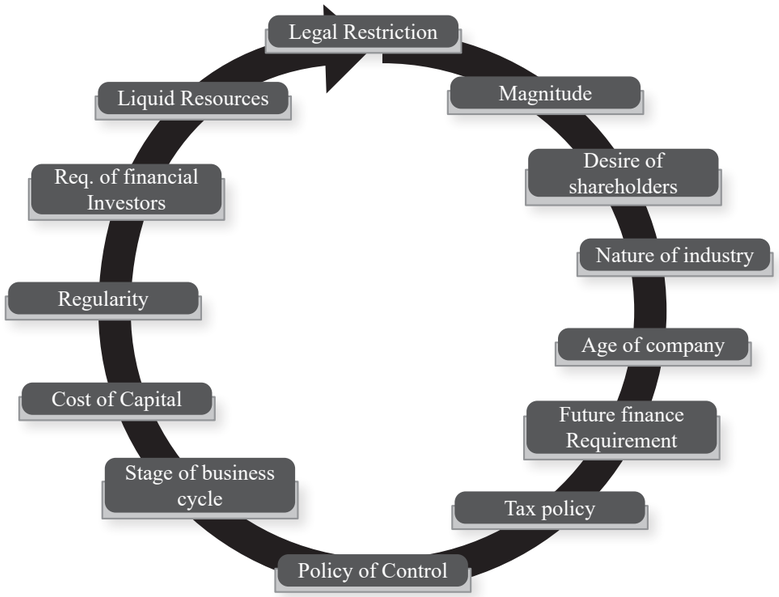
1. **Artificial Increase in EPS and CFPS:** With fewer shares outstanding, metrics like earnings per share (EPS) and cash flow per share (CFPS) can appear artificially inflated. This is because the denominator used to calculate these figures decreases, making them seem higher. However, this increase may not reflect genuine improvements in the company's financial performance.
2. **Potential Increase in Stock Price:** According to the principle of supply and demand, a decrease in the supply of shares can lead to an increase in the stock price, assuming demand remains constant. Investors should be cautious, though, as this price increase may not necessarily indicate actual improvements in the company's financial health.

DETERMINANTS OF DIVIDENDS POLICY

A company's dividend policy is influenced by various factors:

1. **Legal Restrictions:** Companies must comply with legal constraints on dividend payments, ensuring they don't impair capital or violate agreements with bondholders.
2. **Magnitude and Trend of Earnings:** Dividends are typically paid out of current or past earnings. The amount and trend of earnings set limits on dividend payments.
3. **Desires and Types of Shareholders:** Shareholder preferences, such as regular income for retirees versus capital gains for wealthy investors, influence dividend decisions.
4. **Nature of Industry:** Industries with stable demand may support higher dividend payouts.

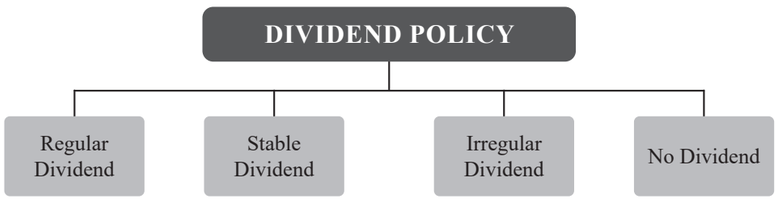
5. **Age of the Company:** Newer companies may retain earnings for growth, while established companies may pay higher dividends.
6. **Future Financial Requirements:** Companies must balance shareholder desires with future financial needs for growth and investment.
7. **Taxation Policy:** Taxation affects earnings and dividend rates, influencing dividend decisions.



8. **Policy of Control:** Directors' desire for control may lead to conservative dividend policies to limit dilution from new shareholders.
9. **Stage of Business Cycle:** Business cycle fluctuations can impact dividend policies.
10. **Cost of Capital:** If external financing costs exceed internally generated funds, a conservative dividend policy may be adopted.
11. **Regularity:** Some companies prioritize regular dividend payments, even if current profits are not sufficient.
12. **Requirements of Institutional Investors:** Institutional investors may influence dividend policies, favoring regular cash dividends.
13. **Liquid Resources:** Availability of liquid assets impacts dividend payments, as companies must ensure they have sufficient resources to support dividends.

These factors shape a company's dividend policy, balancing shareholder expectations, financial requirements, and regulatory obligations.

TYPES OF DIVIDEND POLICY



A. Regular Dividend Policy:

In this type of dividend policy the investors get dividend at usual rate. Here, the investors are usually persons who want to get regularly incomes. This type of dividend payment can be maintained only if the company has regular earning.

Merits of regular dividend policy:

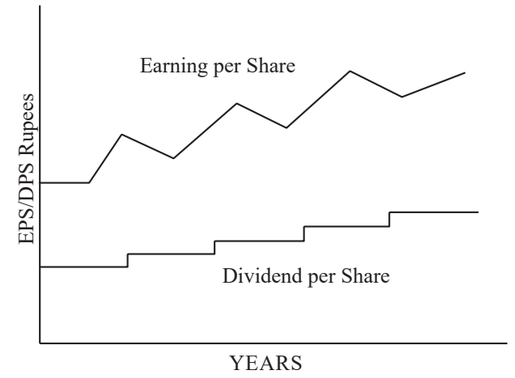
(*a*) It helps in creating confidence among the shareholders.
(*b*) It stabilizes the market value of shares.
(*c*) It helps in marinating the goodwill of the company.
(*d*) It helps in giving regular income to the shareholders.

B. Stable dividend policy:

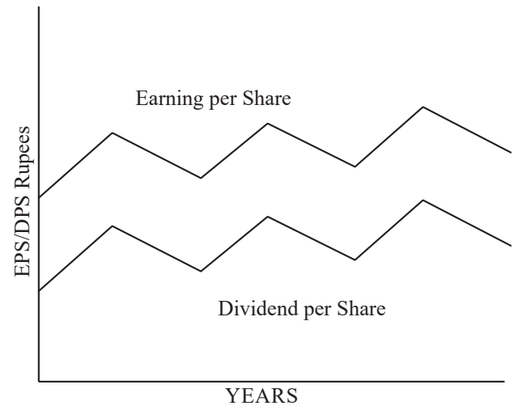
Here the payment of certain sum of money is regularly made to the shareholders.

It is of three types:

1. **Constant dividend per share:**
   In this case, reserve fund is created to pay fixed amount of dividend in the year when the earning of the company is not enough. It is suitable for the firms having stable earning.



2. **Constant payout ratio:**
   Under this type the payment of fixed percentage of earning is paid as dividend every year.



3. **Stable rupee dividend + extra dividend:**
   Under this type, there is payment of low dividend per share constantly + extra dividend in the year when the company earns high profit. The extra dividend may be considered as a "bonus" paid to the shareholders as a result of usually good year for the firm. This additional amount of dividend may be paid in the form of cash or bonus shares, subject to the firm's liquidity position.

Merits of stable dividend policy:

- ❖ It helps in creating confidence among the shareholders.
- ❖ It stabilizes the market value of shares.
- ❖ It helps in marinating the goodwill of the company.
- ❖ It helps in giving regular income to the shareholders.

C. Irregular dividend:

As the name suggests here the company does not pay regular dividend to the shareholders.
The company uses this practice due to following reasons:
(*a*) Due to uncertain earning of the company.
(*b*) Due to lack of liquid resources.
(*c*) The company is sometime afraid of giving regular dividend.
(*d*) Due to uncertainty of business.

D. No dividend:

The company may use this type of dividend policy due to requirement of funds for the growth of the company or for the working capital requirement.

ESSENTIALS OF A SOUND DIVIDEND POLICY

Following are the essentials of a sound dividend policy of a company:

1. **Stability:** Regular and consistent dividend payments in still confidence in shareholders, avoiding speculation and maintaining satisfaction.
2. **Gradual Increase:** Management should aim for incremental increases in dividend rates over time, aligning with the company's income growth. Windfall profits can be distributed as special dividends.
3. **Cash Dividend:** Dividends should primarily be paid in cash to shareholders. If reserves are excessive, stock dividends may be considered, but within reasonable limits to prevent over-capitalization.
4. **Moderate Start:** In the early years, dividends should be conservative to build the company's financial position. As the company grows, dividend rates can be gradually increased.
5. **Other Factors:** Dividends should only be paid from earned profits, with no distribution if there are past losses. While dividends are typically paid annually, interim dividends may be declared to keep shareholders engaged and satisfied.

These essentials help ensure that the dividend policy contributes to shareholder satisfaction, financial stability, and long-term growth of the company.

DIVIDEND THEORIES / DIVIDEND MODELS

Relationship between Dividend Policy and Value of Firm:

Dividend decision is a financial decision. There are conflicting theories regarding impact of dividend decision on the valuation of a firm. For the sake of convenience, these theories can be grouped into the following two categories:

1. Irrelevant concept of Dividend

Modigliani and Miller's Approach (M.M. Approach)

According to Modigliani and Miller (M-M), dividend policy is irrelevant to the valuation of a firm. They argued that a firm's value is determined by its earning potential and investment policy, not by how it distributes its income. In perfect capital markets with rational investors and no tax discrimination between dividends and capital gains, dividend decisions have no impact on the market price of shares. In essence, M-M's theory suggests that in ideal market conditions, investors are indifferent to whether they receive dividends or capital appreciation, as both forms of returns are equivalent. Therefore, dividend policy does not affect shareholder wealth or the overall value of the firm.

Assumptions of M-M Hypothesis:

- **Perfect Capital Markets:** This assumption implies that information is freely available to all investors, transaction and floatation costs do not exist, and no single investor is large enough to influence market prices.
- **Rational Investor Behavior:** It assumes that investors behave rationally, meaning they make decisions based on maximizing their utility or wealth.
- **Tax Neutrality:** The hypothesis assumes either no taxes exist or there are no differences in tax rates between dividends and capital gains. In other words, investors view dividends and capital gains equally in terms of taxation.
- **Fixed Investment Policy:** The firm's investment policy is assumed to be fixed, meaning it does not change over time.
- **Certainty and No Risk:** It assumes that there is no risk or uncertainty in the market. Investors are able to accurately forecast future prices and dividends with certainty. Additionally, it assumes that a single discount rate is appropriate for valuing all securities over time periods.

These assumptions form the basis of the M-M hypothesis, which suggests that, under these conditions, dividend policy does not affect the value of a firm.

Explanation of the Theory:

The Modigliani-Miller (M-M) hypothesis argues that any increase in shareholders' wealth resulting from dividend payments will be exactly offset by a decline in the market price of shares due to external financing. This is because external financing, such as issuing more shares, increases the number of shares outstanding and leads to a decrease in future earnings per share.

According to M-M, the increase in dividends may benefit shareholders initially, but this benefit is neutralized by the decrease in the value of shares caused by the dilution effect of issuing more shares. Essentially, the increase in dividends is offset by the decrease in the value of each share due to the larger number of shares in circulation.

This can be identified in the form of the following formula:

$$P_0 = \frac{D_1 + P_1}{1 + CR} \text{ and}$$

$$P_1 = P_0(1 + CR) - D_1$$

Where, P_0 = Market price at the beginning or at the 0 period.

P_1 = Market price at the end of period 1.

CR (or Ke) = Capitalization rate of the firm or cost of equity capital.

D_1 = Dividend per share at the end of period 1.

Criticism of M-M Hypothesis:

M-M hypothesis of dividend irrelevance is based on unrealistic assumptions, the most critical of which are as follows:

1. **Perfect Capital Market:** In reality, perfect capital markets do not exist. Information about companies is not equally accessible to all investors, leading to information asymmetry and market inefficiencies.
2. **Tax Differential:** Taxes exist, and different tax rates apply to capital gains and dividends. Capital gains are typically taxed at lower rates than dividends, influencing investors' preferences for receiving returns.
3. **Floatation Cost:** External financing involves floatation costs, making it more expensive than internal financing. This cost difference affects the attractiveness of retaining earnings versus distributing dividends.
4. **Transaction Costs:** Shareholders incur transaction costs when selling shares, such as brokerage fees. These costs and inconveniences influence their preferences regarding dividends versus capital gains.
5. **Uncertainty:** The capital market is inherently uncertain, affecting investors' preferences for immediate dividends over future dividends. Shareholders may value present dividends more due to uncertainty about future earnings.
6. **Rigid Investment Policy:** Firms often do not adhere to rigid investment policies. Their investment decisions can vary over time, impacting the relevance of dividend decisions.

2. Relevant concept of Dividend

Walter's Approach

Professor James E. Walter has developed a theoretical model which shows the relationship between dividend policies and common stock prices.

Walter's model is based on the following assumptions:

- The firm finances all investment through retained earnings; that is debt or new equity is not issued;
- The firm's internal rate of return (r), and its cost of capital (k) are constant;
- All earnings are either distributed as dividend or reinvested internally immediately.
- Beginning earnings and dividends never change. The values of the earnings per share (E), and the divided per share (D) may be changed in the model to determine results, but any given values of E and D are assumed to remain constant forever in determining a given value.
- The firm has a very long or infinite life.

$$P = \frac{D + \left(\frac{R}{K_e}\right)(E - D)}{K_e}$$

Where; P : market price per share of common stock

D : dividend per share

E : earnings per share

R : return on investment

k : market capitalization rate.

Walter's view on optimum dividend payout ratio can be summarized as below:

(a) Growth Firms (r > k): The firms having r > k may be referred to as growth firms. The growth firms are assumed to have ample profitable investment opportunities. These firms naturally can earn a return which is more than what shareholders could earn on their own. So optimum payout ratio for growth firm is 0%.

(b) Normal Firms (r = k): If r is equal to k, the firm is known as normal firm. These firms earn a rate of return which is equal to that of shareholders. In this case, dividend policy will not have any influence on the price per share. So there is nothing like optimum payout ratio for a normal firm. All the payout ratios are optimum.

(c) Declining Firm (r < k): If the company earns a return which is less than what shareholders can earn on their investments, it is known as declining firm. Here it will not make any sense to retain the earnings. So entire earnings should be distributed to the shareholders to maximise price per share. Optimum payout ratio for a declining firm is 100%.

The criticisms on the model are as follows:

- Walter's model of share valuation mixes dividend policy with investment policy of the firm. The model assumes that the investment opportunities of the firm are financed by retained earnings only and no external financing debt or equity is used for the purpose when such a situation exists either the firm's investment or its dividend policy or both will be sub-optimum. The wealth of the owners will maximise only when this optimum investment in made.
- Walter's model is based on the unrealistic assumption that r is constant, but it does not hold good. This reflects the assumption that the most profitable investments are made first and then the poorer investments are made. The firm should stop at a point where r = k. This is clearly an erroneous policy and fail to optimise the wealth of the owners.
- A firm's cost of capital or discount rate, k, does not remain constant; it changes directly with the firm's risk. Thus, the present value of the firm's income moves inversely with the cost of capital. By assuming that the discount rate, k is constant, Walter's model abstracts from the effect of risk on the value of the firm.

GORDEN'S APPROACH

Another theory, which contends that dividends are relevant, is the Gorden's model. This model which opines that dividend policy of a firm affects its value of the share and firm is based on the following assumptions:

- The firm is an all equity firm (no debt).
- There is no outside financing and all investments are financed exclusively by retained earnings.
- Internal rate of return (r) of the firm remains constant.
- Cost of capital (ke) of the firm also remains same regardless of the change in the risk complexion of the firm.
- The firm derives its earnings in perpetuity
- The retention ratio (b) once decided upon is constant. Thus the growth rate of firm (g) is also constant (g = br).
- (g) ke > g.
- A corporate tax does not exist.

Gorden used the following formula to find out price per share:

$$V_e \text{ or } P_0 = \frac{E(1-b)}{CR-br} \text{ or } \frac{D}{CR-g}$$

Where, P = Market price of a share

E = Earning per share

b = Retention ratio or percentage of earnings retained or (1 - Payout ratio)

(1 - b) = dividend payout ratio, i.e., percentage of earnings distributed as dividend

ke = Capitalisation rate/cost of capital

br = growth rate in r, i.e., rate of return on investment of an all equity firm.

Thus Gorden's view on the optimum dividend payout ratio can be summarised as below:

1. The optimum payout ratio for a growth firm (r > ke) is zero.
2. There no optimum ratio for a normal firm (r = ke).
3. Optimum payout ratio for a declining firm (r < ke) is 100%.

GORDEN'S REVISED APPROACH

Gorden's revised model considers risk and uncertainty in dividend policy, suggesting that shareholders prefer near dividends due to their risk aversion and preference for certain returns. This preference leads to a higher discount rate for distant dividends compared to near ones, impacting the market price of shares. Consequently, in the context of uncertainty, the cost of capital increases with the retention rate, favoring high dividend payout ratios to minimize the cost of capital. This approach aligns with investors' risk aversion and their valuation of dividend income over capital gains income, emphasizing the impact of dividend policy on share value.

However, all do not agree with his views. For finding dividend rate at future period, the following formula is used:

$$D1 = D0\ (1 + g)\ t$$

where,

D1 = Dividend rate at given future time period

D0 = Dividend at period 0

g = Growth rate t = Time period

For calculating market price of a share at some distant future, the following formula is applied:

$$P_1 = \frac{D_0(1+g)}{CR-g} = \frac{D_1}{CR-g}$$

where, P1 = Market price per share (ex-dividend)

D0 = Current year dividend

g = Constant annual growth rate of dividends

CR (or Ke) = Cost of Equity Capital (or Expected Rate of Return)

D1 = Dividend at the end of year

For finding out cost of equity share, the following formula is applied:

$$K_e \text{ or } CR = \left(\frac{D_0(1+g)}{P_0} + g\right) \times 100 = \left(\frac{D_1}{P_0} + g\right) \times 100$$

7 WORKING CAPITAL MANAGEMENT

TOPICS TO BE COVERED

- Introduction
- Importance or Advantages of Working Capital
- Types of Working Capital
- Factors Determining the Working Capital
- The Concept of Negative Working Capital
- Management of Working Capital
- Estimation of Working Capital Requirement
- Management of Cash
- Factors Determining Level of Cash
- Advantages of Ample Cash
- Cash Management Models
- Management of Inventory
- Tools and Techniques of Inventory Management
- Ordering System of Inventory
- Factors Affecting the Size of Receivables
- Working Capital Financing
- Banking Norms and Macro Aspect

INTRODUCTION

Businesses require capital for two primary purposes: Fixed Capital and Working Capital. Fixed Capital is essential for establishing production facilities, involving long-term investments in assets like machinery, land, and buildings. On the other hand, Working Capital is needed for day-to-day operations, covering expenses such as raw materials, wages, and other overhead costs. In simpler terms, Working Capital finances short-term assets like cash, securities, debtors, and inventory, which are constantly being converted and replenished in the course of business activities. Working Capital is crucial for sustaining operations and meeting various needs, including purchasing raw materials, paying salaries, covering daily expenses, funding selling activities, offering credit facilities to customers, and managing inventories.

IMPORTANCE OR ADVANTAGES OF WORKING CAPITAL

Importance or Advantages of Working Capital are as follows:

(*i*) **Solvency of the Business:** Adequate working capital ensures the smooth flow of production, maintaining the financial stability of the business.

(*ii*) **Goodwill:** Having enough working capital allows businesses to make timely payments, enhancing their reputation and goodwill in the market.

(*iii*) **Easy Loan Access:** Businesses with sufficient working capital and good credit can easily secure loans on favorable terms from banks and other financial institutions.

(*iv*) **Cash Discounts:** Adequate working capital enables businesses to take advantage of cash discounts on purchases, reducing overall costs.

(*v*) **Regular Supply of Raw Materials:** Having enough working capital ensures a continuous supply of raw materials, supporting uninterrupted production.

(*vi*) **Regular Payment Commitments:** Businesses with ample working capital can meet regular payment commitments like salaries and wages, boosting employee morale and productivity.

(*vii*) **Exploiting Market Conditions:** With adequate working capital, businesses can capitalize on favorable market conditions by purchasing in bulk at lower prices and holding inventories for higher prices.

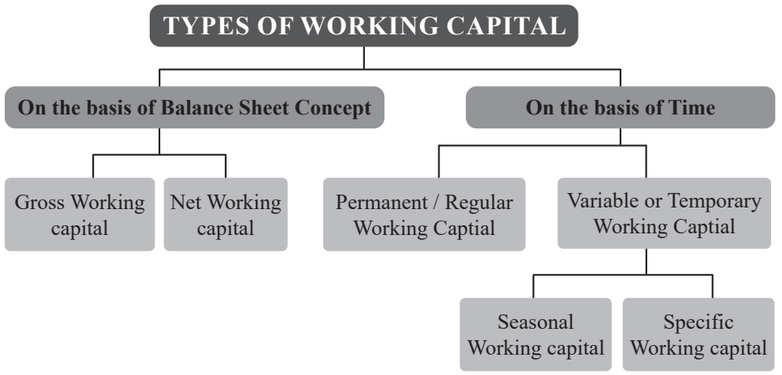
(*viii*) **Crisis Management:** Sufficient working capital helps businesses navigate through crises like economic downturns, providing a cushion to withstand financial pressures.

(*ix*) **Quick Return on Investments:** Adequate working capital enables businesses to pay dividends promptly, attracting investor confidence and facilitating future fund-raising.

(*x*) **High Morale and Efficiency:** Maintaining adequate working capital fosters a sense of security, confidence, and high morale among employees, contributing to overall business efficiency.

TYPES OF WORKING CAPITAL

Working capital can be classified either on the basis of Balance Sheet concept or on the basis of periodicity (Time) of its requirements.



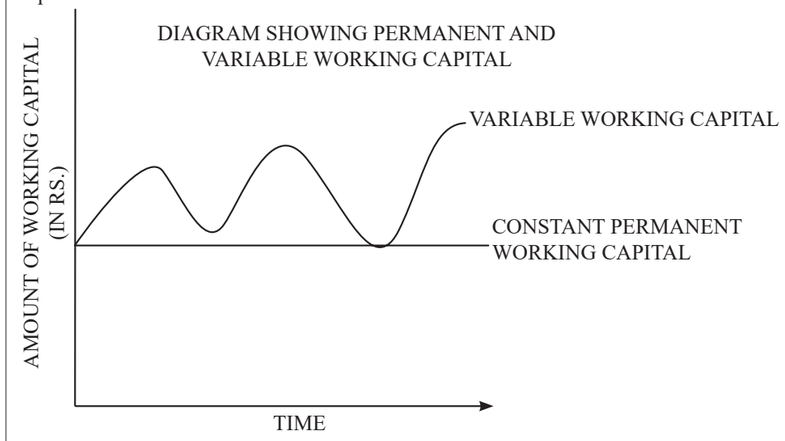
On the Basis of Balance Sheet Concept:

1. **Gross Working Capital:** Represents the total current assets of a company.
2. **Net Working Capital:** Calculated as the difference between current assets and current liabilities.

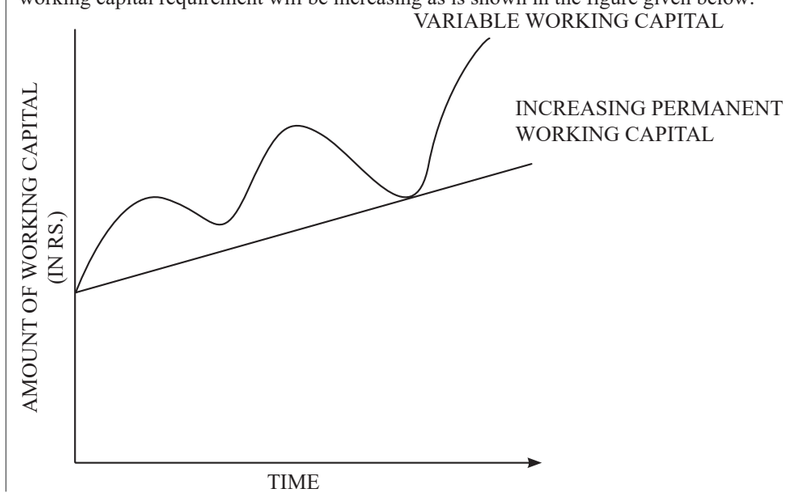
On the Basis of Requirement:

1. **Permanent Working Capital:** This is the minimum level of investment required to sustain basic operations, including fixed or minimum current assets like inventory, accounts receivable, or cash balance. It's essential for smooth business functioning and expands as the business grows.
2. **Variable Working Capital:** The amount of working capital exceeding the permanent working capital. It fluctuates based on business activities. It can further be categorized into:
   (*i*) **Seasonal Working Capital:** Needed to meet seasonal demands during busy periods occurring at regular intervals.
   (*ii*) **Special Working Capital:** Required to address unexpected needs or contingencies like strikes, fires, sudden competition, price fluctuations, or significant advertising campaigns

The following diagram illustrates the difference between permanent and variable working capital:



The above is the case of a static company and in case of growing company permanent working capital requirement will be increasing as is shown in the figure given below:



FACTORS DETERMINING THE WORKING CAPITAL

The working capital requirement may be calculated with following determinants:

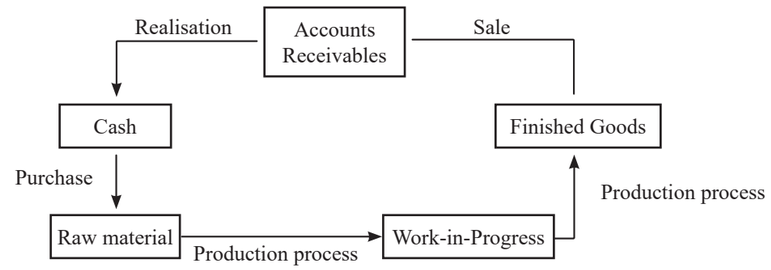
(*i*) **Nature of Business:** The working capital needs vary depending on whether the business is in services, manufacturing, or trading.

(*ii*) **Size of Business/Scale of Operations:** Larger businesses generally require more working capital due to their scale of operations.

(*iii*) **Manufacturing Process/Length of Production Cycle:** Longer production cycles require more working capital.

(*iv*) **Seasonal Variations:** Industries with seasonal demands may need to stockpile raw materials during peak seasons, increasing working capital requirements.

(*v*) **Working Capital Cycle/Operating Cycle:** The speed at which a company completes one cycle of working capital determines its requirements.



(*vi*) **Rate of Stock Turnover:** Companies with high stock turnover rates need less working capital compared to those with slower turnover rates.

(*vii*) **Firm's Credit Policy:** Companies with more liberal credit policies might require higher working capital to cover accounts receivable.

(*viii*) **Business Cycles:** Economic cycles influence working capital needs; during boom periods, more working capital is needed for expansion, while during downturns, working capital may be idle.

(*ix*) **Rate of Growth of Business:** Growing businesses typically require more working capital to support their expansion.

(*x*) **Earning Capacity and Dividend Policy:** Firms with higher earning capacity may generate more cash for working capital. Dividend policies also affect working capital availability.

(*xi*) **Other Factors:** Various banking facilities also impact working capital requirements other factors such as management efficiency, supply irregularities, political stability, and.

THE CONCEPT OF NEGATIVE WORKING CAPITAL

Negative working capital occurs when a company's current liabilities exceed its current assets. Typically, this situation signals financial distress, potential bankruptcy, or serious financial trouble. Poor working capital management can lead to increased borrowing, late payments to creditors, and a lower credit rating, resulting in higher interest rates.

However, some companies can operate with negative working capital due to their efficient cash conversion cycles. For example, companies like McDonald's and Amazon.com have successfully managed negative working capital by quickly converting inventory into cash through upfront customer payments or advances against services.

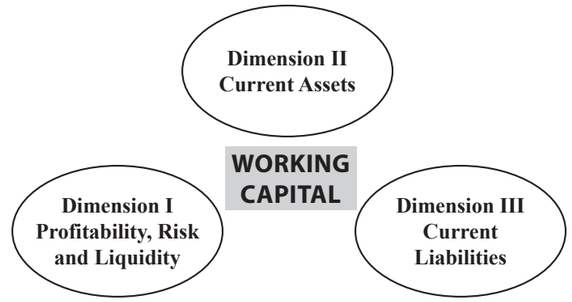
In essence, negative working capital can indicate managerial efficiency, especially in businesses with low inventory and accounts receivable, allowing them to operate on a cash basis and optimize their cash flow.

MANAGEMENT OF WORKING CAPITAL

Working capital management involves overseeing the administration of both current assets and current liabilities to maintain an optimal level of working capital. The goal is to ensure that the company neither has inadequate nor excessive working capital, as both scenarios can be detrimental.

Effective working capital management has a significant impact on a company's profitability, liquidity, and overall financial health. It operates on three dimensions:

1. **Dimension I:** Involves formulating policies regarding profitability, risk, and liquidity. These policies guide decisions that balance the need for profitability with the risks associated with liquidity management.
2. **Dimension II:** Focuses on decisions related to the composition and level of current assets. This includes determining the appropriate mix of cash, inventory, and accounts receivable to optimize operational efficiency and profitability.
3. **Dimension III:** Addresses decisions concerning the composition and level of current liabilities. It involves managing short-term debt, trade payables, and other obligations to ensure they are aligned with the company's overall financial strategy.



ESTIMATION OF WORKING CAPITAL REQUIREMENT

Methods for Estimating Working Capital Requirements:

1. Percentage (%) on Sales Method
2. Regression Analysis Method
3. Forecasting Net Current Assets Method
4. Projected Balance Sheet Method
5. Operating Cycle Method

1. Percentage (%) on Sales Method:

This method establishes a relationship between sales and working capital by setting the sales of the previous year as the base (100%). Current assets and liabilities from the previous year are expressed as a proportion of sales, and based on projected future sales, current assets and liabilities are estimated accordingly.

Advantages:

- Simple and easy to understand.
- Useful for short-term projections of working capital changes.

Limitations:

- Assumes a linear relationship between sales and working capital, which may not always hold true.
- Not universally applicable due to its simplistic assumptions and potential inaccuracies in long-term forecasting.

2. Regression Analysis Method:

Regression analysis is a statistical technique used to forecast working capital requirements. It involves establishing the average relationship between sales and working capital, as well as its various components, based on historical data. The method of least squares is commonly used to determine this relationship. By analyzing past trends, regression analysis helps in making accurate projections of future working capital needs, enabling better financial planning and management.

The relationship between sales and working capital is given by the equation:

$Y = a + bx$

Where, x = Sales (independent variable)

y = Working capital level (dependent variable)

a = Intercept of the least square line with vertical axis

b = Slope of the line

The value of 'a' and 'b' are obtained by the solution of simultaneous linear equations given below:

$\sum y = na + b\sum x$

$\sum xy = a\sum x + b\sum x^2$

3. Forecasting Net Current Asset Method:

The Forecasting Net Current Assets Method calculates working capital by forecasting total current assets and current liabilities, then subtracting liabilities from assets to find net current assets. This approach provides a snapshot of the liquidity position to determine the working capital needed for operations.

4. Projected Balance Sheet Method:

The Projected Balance Sheet Method forecasts future assets and liabilities, excluding cash, to calculate cash and bank overdraft. Cash is derived from the excess of liabilities over assets, while bank overdraft is derived from the excess of assets over liabilities. This method helps determine the expected cash position and potential need for financing through overdrafts.

5. Operational Cycle Method and Application of Quantitative Techniques:

The Operational Cycle Method forecasts working capital based on the concept of the operational cycle, which is the time it takes for a business to convert cash into inventory, then into finished goods, and finally back into cash through sales. For example, a manufacturing firm uses cash to buy materials, converts them into products, sells them, and collects cash from customers, completing one cycle. Each stage of this cycle is expressed in terms of the number of days it takes and requires investment. The total of these investments represents the firm's working capital. This method helps businesses understand their cash flow needs throughout the production and sales process.

The following formula may be used to express the framework of the operating cycle: $t = (r - c) + w + f + b$

where, t = stands for the total period of the operating cycle in number of days;

r stands for the number of days of raw material and stores consumption requirements held in raw materials and stores inventory

c stands for the number of days of purchases in trade creditors;

w stands for the number of days of cost of production held in work-in-progress; f stands for the number of days of cost of sales held in finished goods inventory; b stands for the number of days of sales in book debts.

The computations may be made as under:

$$W = \frac{\text{Average work-in-progress}}{\text{Average cost of production per day}}$$

$$f = \frac{\text{Average inventory of finished goods}}{\text{Average cost of sales per day}}$$

$$b = \frac{\text{Average book debts}}{\text{Average sales per day}}$$

$$r = \frac{\text{Average inventory of raw materials and stores}}{\text{Average per day consumption of raw materials and stores}}$$

$$c = \frac{\text{Average trade creditors}}{\text{Average credit purchases per day}}$$

The Operational Cycle Method provides an average figure for working capital needs based on average balances of various components like inventory and trade creditors. However, it doesn't consider fluctuations caused by seasonal or other factors. To address these fluctuations, continuous short-term forecasting and budgeting exercises are essential. These exercises help identify variations in working capital requirements, ensuring the business can adapt and manage its finances effectively despite changing circumstances.

MANAGEMENT OF CASH

Cash is a crucial current asset for businesses, essential for meeting day-to-day obligations. Shortages can disrupt operations, while excess cash is unproductive. Unlike fixed assets or inventory, which can enhance earnings, cash doesn't contribute directly to income generation. Instead, it serves as a liquidity buffer to handle expenses, payments, and unforeseen circumstances. While necessary for liquidity, excessive cash holdings can limit potential returns if not invested or utilized efficiently. Therefore, maintaining an optimal cash balance is vital for business stability and growth.

Nature of Cash:

Cash encompasses currency (cash in hand), cash at bank, and sometimes near cash assets like marketable securities. It serves as a medium for acquiring other assets but does not directly produce goods or services. Idle cash can be deposited in banks to earn interest, enhancing its utility beyond mere transactional purposes.

Motives for holding Cash:

1. **Transaction Motive:** Cash is necessary for day-to-day operations, such as purchasing inventory, paying expenses, taxes, and dividends. It ensures smooth transactions when cash receipts and payments are not perfectly synchronized.
2. **Precautionary Motive:** Cash is held to address unexpected contingencies, such as delayed payments from debtors or disruptions in supplies from creditors. This cash acts as a buffer against cash flow variations and can be invested in short-term securities for liquidity.
3. **Speculative Motive**: Cash is kept to seize profitable investment opportunities as they arise, such as buying undervalued assets or taking advantage of temporary price fluctuations. While speculative transactions are not the primary focus, cash reserves enable firms to capitalize on potential gains.

Factors Determining Level of Cash

Factors determining the level of cash held by a business include:

1. **Credit Policy:** A liberal credit policy leads to higher cash levels, while a conservative one results in lower cash reserves.
2. **Nature of the Product:** The demand for goods affects cash reserves, with necessity products requiring different levels compared to luxury items.
3. **Size and Area of Operation:** Larger operations may require higher cash balances compared to smaller ones due to scale and geographic scope.
4. **Duration of Production Cycle:** Longer production cycles necessitate higher cash reserves to cover expenses during the process.
5. **Disbursement Policy:** Frequency of salary, bonus, and dividend payments influences cash needs, with more frequent payments requiring higher reserves.
6. **Relations with Banks and Credit Standing:** Strong relationships with banks and high credit standing reduce the need for large cash reserves, as they provide access to additional financing and favorable terms for supplies.

Advantages of Ample Cash

A firm having sufficient cash balance can drive the following advantages from it:

1. **Maintenance of Goodwill:** Adequate cash ensures timely payment of obligations, enhancing the firm's reputation.
2. **Availing Cash Discounts:** Having sufficient cash allows firms to take advantage of supplier discounts, reducing production costs.
3. **Good Bank Relations:** High liquidity improves relationships with banks, enabling access to credit facilities at favorable terms.
4. **Exploitation of Business Opportunities:** Cash-rich firms can seize new business ventures confidently.
5. **Encouragement to New Investments:** Sound cash dividend policies attract investors, facilitating new investments in the firm's shares.
6. **Increase in Efficiency:** Ample cash ensures smooth production processes, leading to enhanced labor efficiency.

CASH MANAGEMENT MODELS

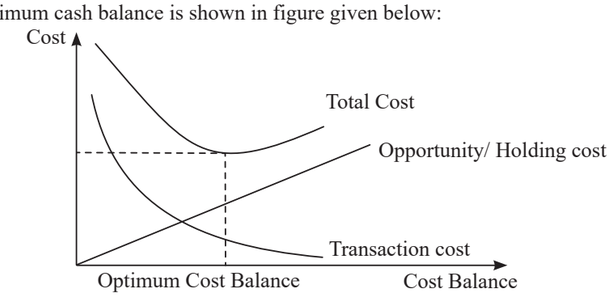
Cash management models aim to determine the optimal cash balance for a firm, ensuring that cash is neither idle nor insufficient. These models consider the trade-off between risk and return. If cash balances are low, liquidity weakens but profitability improves as funds can be invested in marketable securities. Conversely, high cash balances enhance liquidity but may sacrifice potential profits. Financial managers use various models to find the right balance, such as the Baumol Model, Miller-Orr Model, and the Cash Budgeting Model. These models help optimize cash utilization and maintain financial stability.

A brief description of these models is as follows:

1. Optimum Cash Balance Under Certainty - Baumol's Mathematical Model:

Baumol's Mathematical Model aims to find the optimal cash balance for a firm by balancing transaction costs and carrying costs. It treats cash as an inventory item and assumes constant cash outflows replenished by borrowing or selling securities. The model assumes known and constant cash needs, uniform cash disbursements, and fixed opportunity and transaction costs. However, its applicability is limited due to these unrealistic assumptions, making it less useful as a practical tool for cash management.

The optimum cash balance is shown in figure given below:



Baumol's Model (Trade off between Holding Cost and Transaction Cost)

The following formula may be applied for calculating optimum cash balance:

$$C = \sqrt{\frac{2A \times F}{O}}$$

where, C = Optimum cash balance

A = Annual (or monthly) cash disbursements F = Fixed cost per transaction

O = Opportunity cost of holding cash

Assumptions:

Baumol's model is based upon the following assumptions:

Cash needs of the firm are known with certainty.

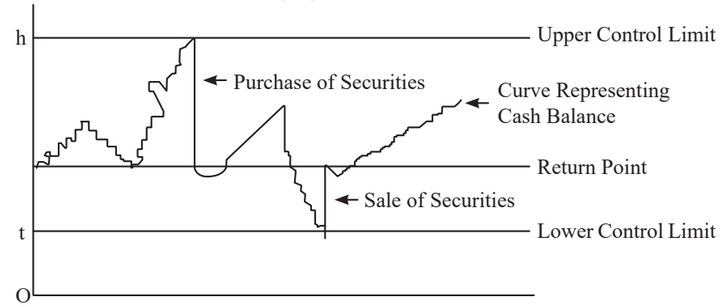
Cash disbursements are uniform over a period of time and it is known with certainty.

The opportunity cost of holding cash and transaction cost of converting securities into cash are known and they remain constant.

However, inside the model is subject to unreal assumptions, it does not provide an applicable tool for cash management.

2. Optimum Cash Balance Under Uncertainty or Stochastic Model – The Miller-Orr Model:

The Miller-Orr Model is used to determine the optimal cash balance when cash demand is uncertain or stochastic. Unlike Baumol's model, which assumes known cash needs, Miller- Orr is applicable in situations with unpredictable cash flows. It sets upper and lower control limits for cash balances, transferring excess cash to marketable securities when it reaches the upper limit and transferring from securities to cash when it hits the lower limit. These limits are based on fixed transaction costs, opportunity costs of holding cash, and the expected fluctuation in cash balances. By maintaining cash within these limits, the model minimizes total costs while ensuring adequate liquidity for the firm. The model is illustrated in the following figure:



Miller-Orr Cash Management Model

We can see in the figure that when the balance reaches the upper limit, h-z amount of cash is invested in the marketable securities and then the new cash balance comes down to z rupees. When the balance touches l, l-z rupees of marketable securities are sold bringing the cash balance to z again. The minimum limit can be set at some amount higher than Zero also, and then h and z would move up in the figure. Setting up the lower limit at some positive amount would take care of delays in transfer from one account to another. The optimal value of z, the return point for security transactions can be determined as follows:

$$z = \sqrt[3]{\frac{2b\ \sigma^2}{4i}}$$

where, b = fixed cost associated with a security transaction

σ^2 = variance of daily net cash flows

i = interest rate per day on marketable securities. The optimal value of h is simply 3z.

Upper Limit = Lower Limit + 3z

Return Point = Lower Limit + z or = Upper Limit – 2z

Average Cash Balance = Lower Limit + z.

MANAGING CASH FLOWS

Managing cash flows involves accelerating cash inflows and slowing cash outflows to optimize the firm's liquidity position.

(A) Methods of Accelerating Cash Inflows:

1. **Prompt Payment by Customers:** Encouraging timely payments from customers through prompt billing and offering cash discounts.
2. **Quick Conversion of Payment into Cash:** Expedite the process of cash collection once payments are received from customers.
3. **Decentralized Collections:** Establishing multiple collection centers across different geographic areas to accelerate cash receipts.
4. **Lock Box System:** Utilizing post office boxes for receiving payments, reducing mailing and processing time.

(B) Methods of Slowing Cash Outflows:

1. **Paying on Last Date:** Delaying payments until the last due date to retain cash for longer periods.
2. **Payments through Drafts:** Issuing drafts instead of checks to delay payment processing time.
3. **Adjusting Payroll Funds:** Managing payroll frequency and timing to optimize cash outflows.
4. **Centralization of Payments:** Centralizing payment processing and utilizing checks to take advantage of clearing times.
5. **Inter-bank Transfer:** Transferring funds between banks to ensure efficient use of cash across multiple accounts.

MANAGEMENT OF INVENTORY

Inventory management involves overseeing the acquisition, storage, and distribution of materials or goods within an organization. It includes various components such as raw materials, work-in-progress, finished goods, consumables, and spares.

The purposes of holding inventories can be categorized into three main motives:

1. **Transaction Motive:** Ensuring continuous production and timely execution of sales orders.
2. **Precautionary Motive:** Holding inventories to meet unpredictable changes in demand and supplies of materials.
3. **Speculative Motive:** Keeping inventories to take advantage of price fluctuations, saving on re-ordering costs, and benefiting from quantity discounts.

Effective inventory management is crucial as it involves substantial investments, often comprising a significant portion of working capital. It is essential for management to plan purchasing, handling, storing, and accounting processes efficiently. A well-designed inventory management system addresses what to purchase, how much to purchase, from where to purchase, and where to store the inventory.

The primary goal of inventory management is to maintain an optimal level of stocks to avoid both over-stocking and under-stocking. Over-stocking can lead to reduced liquidity and hinder other production processes, while under-stocking can result in work stoppages.

Therefore, the investments in inventory should be kept within reasonable limits to ensure operational efficiency and financial stability.

Objectives of inventory management:

The objectives of inventory management encompass both operational and financial aspects, aiming to ensure smooth operations while optimizing financial resources.

1. **Continuous Supply:** Ensure materials, spares, and finished goods are consistently available to maintain uninterrupted production and meet customer demand.
2. **Avoid Over/Understocking:** Strike a balance to prevent excess inventory (which ties up capital and space) and shortages (which disrupt operations and potentially lose sales).
3. **Optimize Investment:** Keep inventory levels at an optimum, ensuring that capital is not unnecessarily tied up in stock, while still meeting operational and sales requirements.
4. **Cost Control:** Manage material costs effectively to contribute to reducing the overall cost of production and operations.
5. **Streamlined Ordering:** Centralize purchasing to eliminate duplication and ensure efficient replenishment of stocks.
6. **Minimize Losses:** Implement measures to reduce losses due to deterioration, pilferage, wastage, and damages, thus protecting the investment in inventory.
7. **Organizational Structure:** Establish clear accountability and organization for inventory management across different levels of the organization.
8. **Inventory Accuracy:** Implement perpetual inventory control to ensure that recorded stock levels match physical inventory in stores, reducing discrepancies and improving efficiency.
9. **Quality and Price Control:** Ensure the right quality goods are purchased at reasonable prices through proper quality standards and analysis of price, cost, and value.
10. **Data for Planning and Control:** Provide accurate and timely data for short-term and long-term planning and control of inventory, supporting informed decision-making and strategic management of resources.

Risk associated with inventory:

Stock-out or shortage costs refer to the costs incurred when a company runs out of inventory and cannot meet customer demand. These costs can include lost sales revenue, damage to customer relationships, rush orders to replenish inventory, expedited shipping fees, and potentially the loss of future business if customers seek alternative suppliers due to unreliable service. In essence, stock-out costs represent the negative impact on profitability and customer satisfaction resulting from inadequate inventory levels. Efficient inventory management aims to balance the costs of carrying inventory against the costs of stock-outs to optimize overall performance.

TOOLS AND TECHNIQUES OF INVENTORY MANAGEMENT

Effective inventory management requires an effective control system for inventories. A proper inventory control not only helps in solving the acute problem of liquidity but also increases profits and causes substantial reduction in the working capital of the concern.

The following are the important tools and techniques of inventory management and control:

1. Determination of Stock Levels
2. Determination of safety stocks
3. Selecting a proper System of Ordering for Inventory
4. Determination of Economic Order Quantity
5. A-B-C Analysis
6. VED Analysis
7. JIT Analysis
8. Inventory Turnover Ratio
9. Ageing Schedule of Inventories
10. Perpetual Inventory System

1. Determination of Stock Levels, Safety Stocks:

A. Determination of Stock Levels:

Carrying of too much and too little of inventories is detrimental to the firm. If the inventory level is too little, the firm will face frequent stock-outs involving heavy ordering cost and if the inventory level is high it will be unnecessary tie-up of capital. Therefore, an efficient inventory management requires that a firm should maintain an optimum level of inventory where inventory costs are the minimum and at the same time there is no stock-out which may result in loss of sale or stoppage of production. Various stock levels are discussed as such.

(a) Minimum Level:

Minimum Stock Level = Re-order Level - (Normal Consumption × Normal Re-order Period)

(b) Re-ordering Level:

Re-ordering Level = Maximum Consumption × Maximum Re-order Period

(c) Maximum Level:

Maximum Stock level = Re-ordering Level + RE-ordering Quantity – (Minimum Consumption × Minimum Re-ordering Period)

(d) Danger Level:

Danger Level = Average Consumption × Maximum re-ordering period for emergency purchases

(e) Average Stock Level:

Average Stock Level = Minimum Stock Level + 1/2 of re-ordering quantity

OR

Average stock level = Minimum Stock Level + Maximum Stock Level

(f) Determination of Safety Stocks:

Safety stock, also known as buffer stock, is an additional quantity of inventory maintained by a company to mitigate the risk of stock-outs caused by unanticipated fluctuations in demand or delays in delivery. It serves as a cushion to ensure that the company can continue operations smoothly even when faced with unexpected spikes in usage or disruptions in the supply chain.

Determining the appropriate level of safety stock involves balancing two key costs:

(i) Opportunity cost of stock-outs: Stock-outs of raw materials can lead to production disruptions, resulting in increased production costs. Similarly, stock-outs of finished goods can harm the company's competitiveness and reputation, leading to lost sales and customer dissatisfaction. Maintaining insufficient safety stock levels can result in frequent stock-outs, leading to higher opportunity costs.

(ii) Carrying costs: Maintaining larger quantities of safety stock incurs carrying costs, including storage expenses, insurance, and the opportunity cost of tying up capital in inventory. These costs increase with higher levels of safety stock.

ORDERING SYSTEM OF INVENTORY

Ordering systems in inventory management are crucial for determining when and how much inventory to reorder to maintain optimal levels. Here's a brief explanation of the three

prevalent systems:

1. Fixed Order Quantity System (EOQ System):
2. Fixed Period Order System (Periodic Review System):
3. Single Order and Scheduled Part Delivery System:

Economic Order Quantity (EOQ):

The Economic Order Quantity (EOQ) is a vital concept in inventory management,

representing the optimal quantity of inventory to be ordered at one time to minimize total inventory costs. EOQ takes into account both ordering costs and carrying costs to find the balance point that maximizes profitability.

The quantity may be calculated with the help of the following formula:

$$EOQ = \sqrt{\frac{2 \times R \times C_P}{C_H}}$$

Where R = Annual quantity used (in units)

CP = Cost of placing an order / ordering cost per order

CH = Cost of holding one unit/Inventory carrying cost of one unit / carrying cost of one unit per year

Here's a brief explanation of the assumptions of EOQ:

1. **Satisfactory Supply:** The assumption that the supply of goods is reliable and available whenever needed ensures that there are no disruptions in production due to inventory shortages.
2. **Certain Quantity:** EOQ assumes that the quantity to be purchased by the company is fixed and known. This helps in calculating precise inventory levels required to meet demand without overstocking or stock-outs.
3. **Stable Prices:** Assuming stable prices helps in estimating carrying costs accurately over the EOQ period. Fluctuating prices can impact the cost of carrying inventory, making it difficult to determine the optimal order quantity.

Just-in-Time (JIT) System:

The Just-in-Time (JIT) system minimizes inventory by receiving materials just before they're needed. It saves costs but requires precise coordination with suppliers. This places significant pressure on suppliers to deliver on time and with high quality.

ABC Inventory Control System:

The ABC Inventory Control System classifies inventory items based on their value and importance to the firm. "A items" are high-value items requiring the highest level of control, while "C items" are low-value items needing less attention. "B items" fall in between. This approach, also known as control by importance and exception or proportionate value analysis, helps prioritize inventory management efforts and resources where they are most needed.

VED Analysis:

VED Analysis categorizes spare parts into three categories: Vital (V), Essential (E), and Desirable (D).

- ❖ Vital (V) spares are crucial for the smooth operation of the business and must be adequately stocked to ensure uninterrupted operations.
- ❖ Essential (E) spares are also necessary but may be stocked at lower levels compared to vital spares.
- ❖ Desirable (D) spares are less critical, and stocking them may be avoided, especially if their lead time for procurement is short.

By categorizing spare parts based on their importance and necessity, VED Analysis helps in prioritizing inventory management efforts and resources. It ensures that the most critical spare parts are given the highest priority for stocking, while less critical ones are managed accordingly, optimizing inventory levels and minimizing costs.

Inventory Turnover Ratio:

It indicates whether inventories have been used efficiently or not. The purpose is to ensure the blocking of only required minimum funds in inventory. Inventory conversion period may also be calculated to find the average time taken for clearing the stocks. Inventory Turnover = Cost of Goods Sold / Average Value of Inventory

Ageing of Inventories:

According to this method, an inventory is to be classified according to the dates of their purchase or manufacture. Thus, schedule of inventories can be prepared on the basis of the age of different items of inventories. Efforts should be made to clear off the old inventories at the earliest.

Perpetual Inventory System:

Perpetual inventory system implies maintenance of up-to-date stock records and. According to Weldon, it may be defined as "a method of recording stores balances after every receipt and issue to facilitate regular checking and to obviate closing down for stock-taking". The basic object of this system is to make available details about the quantity and value of stock of each item at all time.

Management of Receivables:

Receivables management is the process of making decisions relating to investment in trade debtors. Certain investment in receivables is necessary to increase the sales and the profits of a firm. But at the same time investment in this asset involves cost considerations also. Further, there is always a risk of bad debts too. Thus, the objective of receivable management is to take sound decision as

regards investment in debtors. In the words of Bolton, S.E., the objective of receivables management is "to promote sales and profits until that point is reached where the return on investment in further funding of receivables is less than the cost of funds raised to finance that additional credit".

Costs of maintaining receivables:

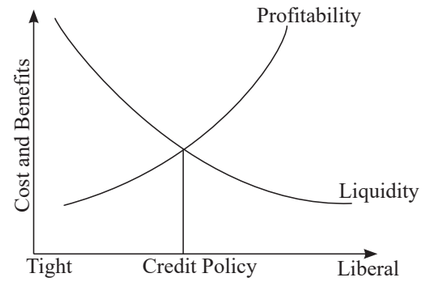
The costs of maintaining receivables include:

1. **Cost of Financing Receivables:** This involves the cost incurred by the firm for providing credit to customers, such as interest expenses on funds tied up in receivables.
2. **Administrative Costs:** These are expenses associated with managing accounts receivable, including maintaining debtor records and conducting credit checks on potential customers to assess their creditworthiness.
3. **Cost of Collection:** This includes expenses related to collecting payments from customers, such as sending reminders, employing staff for collection efforts, and legal fees for pursuing overdue accounts.
4. **Defaulting Costs or Bad Debts:** These are costs incurred when customers fail to pay their debts, resulting in losses for the firm. Bad debts represent the portion of receivables that cannot be recovered and are written off as losses.

Scope of receivables management:

The scope of receivables management encompasses several key aspects:

1. **Determining Credit Policy:** This involves making decisions regarding the extension of credit to customers, balancing the benefits of increased sales against the costs of providing credit, such as liquidity and opportunity costs. The optimal credit policy strikes a balance between profitability and liquidity. The optimum credit policy will be determined by the trade off between liquidity and profitability as shown in the following figure:



2. **Determining Credit Terms:** This aspect focuses on setting credit terms, including the credit period, cash discount, and credit standards. The decision to liberalize credit standards should consider the potential increase in sales revenue versus the costs associated with extending credit.
3. **Evaluating Credit Applicants:** Establishing clear guidelines and procedures for assessing individual customers' creditworthiness is essential. This includes collecting credit information, analyzing credit capacity, setting credit limits, and defining collection procedures based on factors such as character, capacity, capital, collateral, and conditions.
4. **Determining Collection Policies and Methods:** Developing effective collection policies and methods is crucial for managing receivables. This involves strategies to accelerate collections from slow-paying customers and minimize bad debt losses, ensuring timely payment of outstanding invoices.

FACTORS AFFECTING THE SIZE OF RECEIVABLES

The size of receivables is influenced by both general and specific factors:

General Factors:

These factors are external and common to all firms and assets.

Examples include the type of business, anticipated sales volume, price-level variations, availability of funds, interest rates, technological development, and industry norms.

Specific Factors:

- **(a) Volume of Credit Sales:** Higher credit sales lead to larger receivables, while lower sales result in reduced receivables.
- **(b) Terms of Sale:** Longer credit periods increase receivables, while cash-only sales minimize them.
- **(c) Stability of Sales:** Seasonal businesses or installment sales generate larger receivables during peak periods.
- **(d) Credit and Collection Policy:** A lenient credit policy results in higher receivables, whereas a strict policy reduces them.
- **(e) Bills Discounting or Endorsement:** Discounting or endorsing bills decreases receivables.
- **(f) Credit Period Allowed:** Longer credit periods lead to larger receivables.

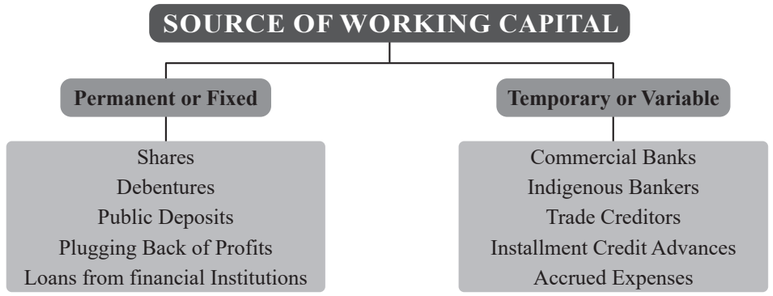
Understanding these factors helps businesses manage their receivables effectively, optimizing their investment in this asset while minimizing risks such as bad debts.

WORKING CAPITAL FINANCING

The working capital requirement of a concern can be classified as—

(a) Permanent or fixed working capital requirement.

(b) Temporary or variable working capital requirement sources of working capital.



Financing of Permanent/Fixed or Long-Term Working Capital:

Financing permanent or long-term working capital can be achieved through various sources:

(a) Shares: Issuing equity shares, preference shares, or deferred shares provides a significant source of permanent capital. Equity shares represent ownership in the company, while preference shares offer preferential rights to dividends and capital repayment.

(b) Debentures: Companies can raise long-term capital by issuing debentures, which acknowledge the company's debt to holders. Debenture holders receive a fixed rate of interest, and debentures are typically secured by a floating charge on company assets.

(c) Public Deposits: Accepting fixed deposits directly from the public is another source of long-term financing. Public deposits were popular in the past, especially in industries like textiles, and can now include long-term deposits of several years.

(d) Plowing Back Profits: Reinvesting surplus earnings back into the business is an internal source of finance for long-term capital needs. It's cost-effective and maintains control, but excessive reliance may lead to issues like over capitalization.

(e) Loans from Financial Institutions: Financial institutions like banks, insurance companies, and development banks offer short-term, medium-term, and long-term loans. These loans are suitable for meeting medium-term working capital requirements, with fixed interest rates and repayment through installments over several years.

Financing of Temporary, Variable or Short-term Working Capital:

Financing temporary or short-term working capital needs can be sourced through various means:

1. **Indigenous Bankers:** Traditional money-lenders and country bankers were once relied upon for short-term finance, though their influence has waned with the rise of commercial banks.
2. **Trade Credit:** Credit extended by suppliers of goods is a common source of short-term finance. It's flexible and easy to obtain, but suppliers may charge higher prices or withhold cash discounts.
3. **Installment Credit:** Businesses can acquire assets immediately and make payments in installments over a predetermined period. Interest may be charged on the unpaid amount.
4. **Advances:** Firms may receive advances from customers or agents against orders, providing short-term finance.
5. **Factoring or Accounts Receivable Credit:** Commercial banks and factors offer finance by discounting bills or invoices, providing immediate payment for credit sales.
6. **Accrued Expenses:** Wages, salaries, interest, and taxes represent expenses incurred but not yet due, serving as a short-term source of finance.
7. **Deferred Incomes:** Funds received in advance for goods or services to be supplied in the future can bolster liquidity and serve as short-term finance.
8. **Commercial Paper:** Unsecured promissory notes issued by firms can raise short-term funds, though typically only large, financially healthy companies can issue commercial paper.
9. **Working Capital Finance by Commercial Banks:** Commercial banks provide various forms of loans tailored to a firm's specific needs, including loans, cash credit, overdrafts, and purchasing or discounting bills.

Policies for Financing Current assets:

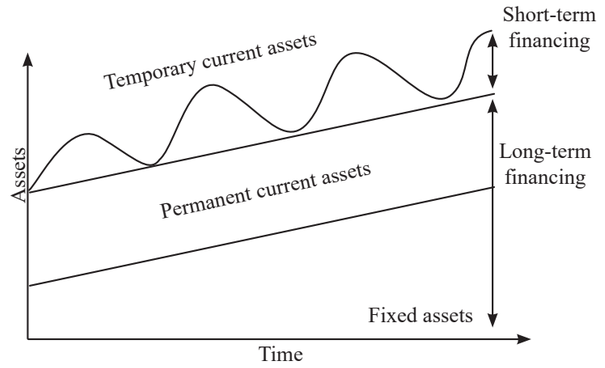
A firm can adopt different financing policies vis-a-vis current assets. A company may be referred to as:

- ❖ Matching Approach
- ❖ Conservative Approach
- ❖ Aggressive Approach

Matching Approach:

The matching approach in financial planning aligns the expected life of assets with the duration of the funds used to finance them. Long-term assets and permanent current assets are financed with long-term funds, while short-term or variable current assets are financed with short-term funds. This approach minimizes costs and ensures efficient utilization of funds.

Using long-term financing for short-term assets or vice versa can be costly and inconvenient, requiring continuous arrangement of financing. While exact matching may not always be possible due to uncertainties about asset lifespans, the matching approach aims to optimize the use of funds over time.

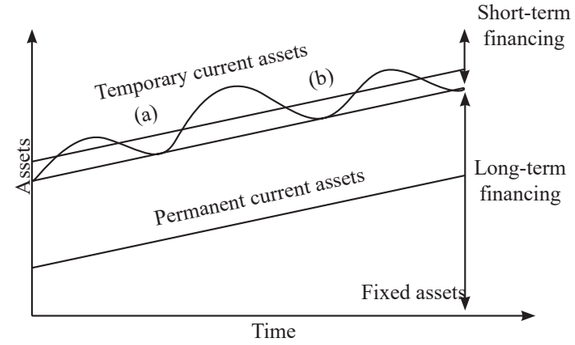


Financing under Matching plan

Conservative Approach:

The conservative approach in financing involves relying more on long-term funds to finance both permanent assets and a portion of temporary current assets. This strategy provides greater stability and reduces the risk of liquidity shortages for the firm. Additionally, during periods when temporary current assets are not needed, the excess long-term funds can be invested in tradable securities to maintain liquidity. Overall, the conservative approach prioritizes financial stability and security by minimizing short-term financing reliance.

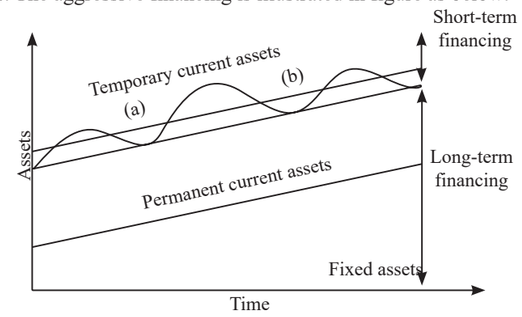
The conservative financing policy is shown in following figure:



Conservative Financing

Aggressive Approach:

An aggressive financing approach involves utilizing more short-term financing than what is recommended by the matching plan. In this strategy, a firm may finance some of its permanent current assets and, in extreme cases, even a portion of its fixed assets with short- term funds. This approach increases the firm's risk profile due to its reliance on potentially volatile short-term sources. Overall, the aggressive approach prioritizes leveraging short-term financing to maximize returns but also exposes the firm to higher financial risks. The aggressive financing is illustrated in figure as below:



Aggressive Financing

BANKING NORMS AND MACRO ASPECT

Banking norms play a crucial role in determining the level of working capital finance provided to industries. Here's a brief explanation of how funds required for various components of working capital are assessed:

1. **Raw Material:** The funds required for raw materials are assessed based on the monthly consumption and procurement time, considering both indigenous and overseas sources. The amount of funds needed is determined by multiplying the monthly consumption figure by the cost of raw materials.
2. **Work in Process:** Funds blocked in work in process are calculated by considering the raw material consumption during processing and the associated production expenses.
3. **Finished Goods:** The funds blocked in finished goods inventories are assessed by estimating the manufacturing cost of the products.
4. **Sundry Debtors:** Funds tied up in sundry debtors arise when goods are sold on credit. The assessment considers the industry's credit practices and the time it takes to realize payments from debtors.
5. **Expenses:** A cushion for expenses, such as rent and salaries, is provided to cover one month's total expenses, depending on the operating cycle length.

6. **Trade Credit:** Any trade credit received on purchases reduces the working capital funds requirement and needs to be accounted for accurately.
7. **Advances:** Advances received along with purchase orders reduce the funds required for working capital and should be factored into the assessment.

Factoring:

Factoring is a financial service where a firm sells its accounts receivable to a specialized institution called a factor. The factor manages the collection of these receivables, pays the firm on due dates regardless of customer payments, and assumes the credit risk associated with collecting the accounts. Factoring allows firms to outsource the management of receivables, freeing them from administrative tasks and credit risks while converting sales into cash more effectively.

Definition and functions:

Factoring involves selling trade receivables to a third party at a discount to raise funds. The third party, known as a factor, may purchase the receivables with or without recourse, meaning they may or may not have the right to claim back from the seller in case of bad debts. Functions of factoring include assuming credit and collection functions, providing credit protection, encashing receivables, and offering collateral functions such as loans on inventory and fixed assets, as well as advisory services to clients.

Factoring vs. Accounts Receivable Loans:

Accounts receivable loan is simply a loan secured by a firm's accounts receivable by way of hypothecation or assignment of such receivables with the power to collect the debts under a power of attorney. In case of factoring however, there is an outright sale of receivables.

Thus, in case of the former, the bank may debit client's account for 'handling charges' if the debt turns out to be bad as against non-recourse factoring.

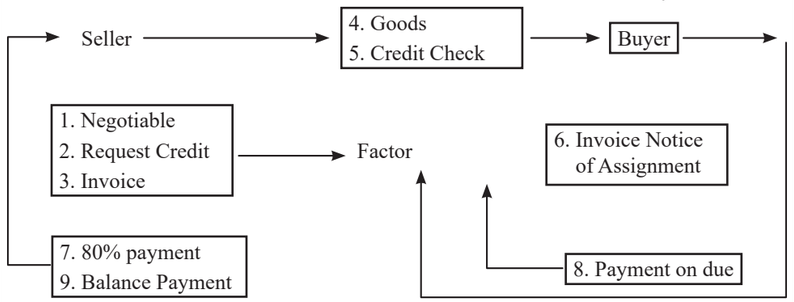
Factoring vs. Bill Discounting:

Under a bill discounting arrangement, the drawer undertakes the responsibility of collecting the bills and remitting the proceeds to the financing agency, whereas under factoring agreement, the factor collects client's bills. Moreover, bill discounting is always with recourse whereas factoring can be either with recourse or without recourse. The finance house discounting bills does not offer any non-financial services unlike a factor which finances and manages the receivables of a client.

Mechanics of Factoring:

In the mechanics of factoring:

1. The seller negotiates with the factor to establish a factoring relationship.
2. The seller requests a credit check on the buyer.
3. The factor checks the buyer's credit credentials and approves them, setting a credit limit and period.
4. The seller sells goods to the buyer.
5. The seller sends the invoice to the factor, who accounts for it in the buyer's account.



Mechanics of Factoring

6. The factor sends a copy of the invoice to the buyer and advises the amount the seller is entitled to, retaining a margin.
7. After the agreed credit period, the buyer makes payment to the factor.
8. The factor pays the residual amount to the seller.

Types of Factoring:

Factoring services may be rendered to cover domestic as well as international sales. The various services offered by factors for domestic sales are of six types whose essential characteristics are outlined in Table.

Table: Types of Factoring Services

Type of Factoring	Type of Functions					
	Availability of Finance bad debts	Protection* against	Credit Advice	Sales Ledger Administration	Collection	Disclosure Customers
Full Source (Non-Recourse)	Yes	Yes	Yes	Yes	Yes	Yes
Recourse Factoring	Yes	3/4	Yes	Yes	Yes	Yes
Agency Factoring	Yes	Possible	3/4	No	No	Yes
Bulk Factoring	Yes	Possible	3/4	No	No	Yes
Invoice Discounting**	Yes	Possible	No	No	No	No
Undisclosed Factoring	Yes	Possible	No	No	No	No

* Any form which includes this element may be referred to as 'non-recourse factoring'

** Also referred to as confidential or non-notification factoring.

FORFAITING

Forfaiting is a method of financing international trade receivables where a bank or financial institution purchases trade bills or promissory notes from an exporter without recourse. The exporter sells goods to the importer on deferred payment terms, and the importer draws promissory notes or bills, guaranteed by a bank. The exporter then enters into a forfaiting

agreement with a forfeiter, selling the guaranteed notes or bills at a discount without recourse. The forfeiter holds these instruments until maturity for payment by the importer's bank.

Forfaiting vs. Export Factoring:

Forfaiting and export factoring are both financing options for international trade receivables, but they have significant differences:

1. **Discount Value:** Forfaiting involves the forfeiter discounting the entire value of the note or bill, whereas export factoring typically finances only a portion (around 75-85%) of the receivables, retaining a reserve to be paid later.
2. **Guarantee Element:** Forfaiting relies on an availing bank to provide an unconditional guarantee, while in export factoring, the credit decision is primarily based on the exporter's creditworthiness.
3. **Scope of Services:** Forfaiting is purely a financing arrangement, whereas export factoring includes additional services such as ledger administration and collection.
4. **Duration:** Factoring is usually short-term financing, while forfaiting deals with notes or bills arising from deferred credit transactions, often spread over three to five years.
5. **Risk Coverage:** Factoring does not typically cover exchange rate fluctuations, while a forfeiter may charge a premium to cover such risks.

8 SECURITY ANALYSIS

TOPICS TO BE COVERED

- Introduction
- What are Securities
- Security Analysis
- Technical Analysis
- Dow Jones Theory
- Tools of Technical Analysis
- Technical Charts
- Technical Indicators
- Risk and its Types
- Return of the Security
- Measuring Return
- Approaches to Valuation of Security
- Fundamental Approach to Valuation
- Alternative Approach to Valuation

INTRODUCTION

This introduction defines investment as the commitment of resources today for future benefits and distinguishes between financial assets (like securities) and real assets (like land and machinery). It highlights the attractiveness of financial assets due to their liquidity and marketability. The introduction also touches upon the decisions investors face, such as asset class selection, time horizon, and risk tolerance. Finally, it sets the stage for discussing securities and their prevalent options in the Indian Securities market.

WHAT ARE SECURITIES

Securities are instruments issued by entities seeking funds from investors. They provide evidence of ownership to the holder and entitle them to benefits and redemption of their investment. There are two main categories: Debt Securities and Equity Securities. The Securities Contract (Regulation) Act, 1956, defines securities to include various instruments such as shares, bonds, debentures, derivatives, units of collective investment schemes, government securities, and others as declared by the Central Government. Additionally, it encompasses rights or interests in securities.

Investment

Investment involves allocating funds to assets with the goal of generating income or capital appreciation, considering both time and risk. Sacrificing present consumption for future returns involves uncertainty, representing the risk factor. Investors assess returns and risks across different investment revenues, aiming for the best compromise between security, liquidity, and yield.

1. **Security:** This refers to the certainty of recovering the principal amount. Investments should prioritize the safety of the principal, ensuring it is not lost. For example, government bonds are often considered safer than corporate bonds due to the reliability of government repayment.
2. **Liquidity:** Investments should be easily convertible to cash without significant loss or difficulty. Highly liquid investments have readily available markets with willing buyers and sellers. Common stocks are typically liquid, while some bonds may have fixed terms affecting their liquidity.
3. **Yield:** Yield represents the net return from an investment. It should be appropriate given the level of security and liquidity. If the yield is lower than expected, investors may prefer other options like keeping funds in bank accounts or cash. Yield plays a crucial role in attracting investors to an investment opportunity.

Investment V/S Speculation

Investment involves a thorough analysis for safety of principal and adequate returns, while speculation lacks such analysis and relies on spur-of-the-moment decisions, often driven by incomplete information and rumors. Speculation, common in the secondary equity market, offers potentially higher returns but carries significantly higher risk.

The characteristics of an investor differ from the speculator as follows:

BASIS FOR COMPARISON	INVESTMENT	SPECULATION
Meaning	The purchase of an asset with the hope of getting returns is called investment.	Speculation is an act of conducting a risky financial transaction, in the hope of substantial profit.
Basis for decision	Fundamental factors, i.e. performance of the company.	Hearsay, technical charts and market psychology.
Time horizon	Long term	Short term
Risk involved	Moderate risk	High risk
Intent to profit	Changes in value	Changes in prices
Expected rate of return	Modest rate of return	High rate of return
Funds	An investor uses his own funds.	A speculator uses borrowed funds.
Income	Stable	Uncertain and Erratic
Behavior of participants	Conservative and Cautious	Daring and Careless

Investment V/S Gambling

Investment involves research-based decisions for potential returns, while gambling and betting rely solely on chance with predetermined high returns.

Gambling is different from Investment in the following respects:

BASIC FOR COMPARISON	INVESTMENT	GAMBLING
Planning Horizon	Longer Planning Horizon	Short Planning Horizon
Basis for Decisions	Scientific Analysis of Intrinsic worth of the security	Based on tips and rumors
Nature	Planned activity	Unplanned activity
Risk	Commercial Risk	Artificial Risk
Return Expectation	Risk-return trade-off determines return	Negative returns are expected
Motive	Safety of principal and stability of returns	Entertainment while earning

SECURITY ANALYSIS

Security analysis involves the valuation and examination of individual securities to make informed investment decisions. It aims to determine the intrinsic value of a security compared to its market value. Two main approaches to security analysis are fundamental analysis and technical analysis.

Fundamental analysis involves evaluating the economic, industry, and company-specific factors to determine the value of a security. This three-level systematic process assesses the overall external and internal environment of a company before valuing its shares. The analysis includes:

1. Economic Analysis
2. Industry Analysis
3. Company Analysis

We shall describe the analytical process at all these levels in details here under:

Economic Analysis:

Analysis of the economy is crucial for understanding how the overall economic environment affects the performance of companies and securities. Key macroeconomic factors include:

1. **Gross Domestic Product (GDP):** Indicates the rate of economic growth, with higher GDP suggesting favorable conditions for investors.
2. **Savings and Investment:** Economic growth requires substantial domestic savings to fuel investment, which impacts various asset classes including equities.
3. **Inflation:** High inflation can diminish real growth and affect consumer demand, while mild inflation is generally beneficial for the stock market.
4. **Interest Rates:** Lower interest rates reduce financing costs for firms, boosting profitability and stimulating investment.
5. **Budget:** Government budget deficits may lead to inflation, while surpluses can cause deflation, impacting the stock market.
6. **Tax Structure:** Tax incentives can influence investment decisions and savings behavior.
7. **Other Factors:** These include the balance of payments, agricultural performance, infrastructure development, and demographic trends.

Industry Analysis:

Industry level analysis focuses on understanding specific industries rather than the broader economy. Analysts examine factors such as industry composition, importance to the national economy, position in the industrial life cycle, and entry/exit barriers. Industry analysis considers technological changes, consumer preferences, and availability of substitutes,

which influence the industry life cycle.

The industry life cycle typically consists of three stages:

1. **Pioneering Stage:** Characterized by technological development and introduction of new products. Initial profitability attracts competition, leading to market saturation and strain on profits.
2. **Expansion Stage:** Demand for products increases steadily, with less price and production volatility. Capital is readily available, leading to increased internal accruals.
3. **Stagnation Stage:** Growth slows down or becomes negative, with limited product innovation and difficulty in accessing external capital. This stage is particularly challenging during economic slowdowns.

Company Analysis:

Company analysis involves examining company-specific information after considering economic and industry forecasts. Internal sources, such as financial statements, provide key data like income statements, balance sheets, and cash flows. External sources supplement this information, providing unbiased insights and additional data not available internally.

Traditional techniques include forecasting dividends and earnings using metrics like price- earning ratios to assess stock valuation for short-term horizons. Modern methods, such as regression analysis and decision tree analysis, build upon traditional approaches to overcome limitations and provide more robust insights for longer-term investment decisions.

Fundamental Analysis Tools: Although the raw data of the Financial Statement has some useful information, much more can be understood about the value of a stock by applying a variety of tools to the financial data.

1. Earnings per Share - EPS
2. Price to Earnings Ratio - P/E
3. Projected Earnings Growth - PEG
4. Price to Sales - P/S
5. Price to Book - P/B
6. Dividend Yield
7. Dividend Payout Ratio
8. Book value per share
9. Return on Equity

At this juncture, it is imperative to understand various Ratios, Comparative Financial Statements, Trend Analysis, Common Size Statements, Fund Flow Analysis and Cash Flow Analysis

A. Ratio Analysis

Ratio is a relationship between two figures expressed mathematically. Financial ratio provides numerical relationship between two relevant financial data. Financial ratios are calculated from the balance sheet and profit and loss account.

Financial ratios may be divided into six groups.

- ❖ Liquidity Ratios
- ❖ Turnover Ratios
- ❖ Leverage Ratios
- ❖ Profit Margin Ratios
- ❖ Coverage Ratios
- ❖ Valuation Ratios

1. ***Liquidity Ratios:***

Liquidity ratios assess a company's ability to meet its short-term obligations. The two main liquidity ratios are:

(*i*) **Current Ratio:** This ratio measures a company's ability to pay off its short- term liabilities with its short-term assets. It's calculated by dividing current assets by current liabilities. A ratio above 1 indicates that a company has more current assets than liabilities, suggesting it can cover its short-term obligations comfortably.

Current Assets/ Current Liabilities

(*ii*) **Acid Test Ratio (Quick Ratio):** The acid-test ratio assesses a company's ability to cover its short-term liabilities with its most liquid assets, excluding inventory. It's calculated by subtracting inventory from current assets and then dividing the result by current liabilities. This ratio provides a more stringent assessment of liquidity than the current ratio, focusing only on assets that can be quickly converted into cash. A higher acid-test ratio suggests a stronger liquidity position.

Current Assets – Inventories / Current Liabilities

2. Turnover Ratios:

Turnover ratios, also known as activity or asset management ratios, assess how efficiently a company utilizes its assets. Here are some commonly used turnover ratios:

(*i*) **Inventory Turnover Ratio:** This ratio measures how efficiently a company manages its inventory by indicating how many times inventory is sold and replaced within a specific period. A higher ratio suggests better inventory management and stronger sales.

= Net Sales/ Inventory or Cost of Goods Sold / Average Inventory

(*ii*) **Receivables Turnover Ratio:** The receivables turnover ratio assesses how efficiently a company collects on credit extended to customers. It indicates how many times receivables are collected and converted into cash within a period. A higher ratio indicates faster collection and efficient credit management.

= Net credit Sales / Average Accounts Receivable

(*iii*) **Capital Employed Turnover Ratio:** This ratio measures how effectively a company utilizes its capital employed in generating sales revenue. A higher ratio suggests better utilization of capital to generate sales.

= Net Sales/ Average Capital Employed

(*iv*) **Working Capital Turnover Ratio:** The working capital turnover ratio assesses how effectively a company utilizes its working capital to generate revenue. A higher ratio indicates efficient utilization of working capital in revenue generation.

= Net Sales / Working Capital

(*v*) **Asset Turnover Ratio:** This ratio measures how efficiently a company utilizes its assets to generate sales revenue. A higher ratio suggests efficient asset utilization and better revenue generation relative to asset investments.

= Net Sales / Average Total Assets

3. Leverage Ratios:

Leverage ratios assess the extent to which a company relies on debt financing in its capital structure, impacting risk and return for shareholders. Here are some common leverage ratios:

(*i*) **Debt-to-Assets Ratio:** This ratio compares a company's total debt to its total assets, indicating the proportion of assets financed by debt. A higher ratio suggests higher financial risk.

Formula: Total Debt / Total Assets

(*ii*) **Debt-to-Equity Ratio (D/E):** This ratio compares a company's total debt to its shareholders' equity, revealing the extent to which debt finances operations relative to equity. A high D/E ratio indicates higher reliance on debt financing.

Formula: Total Debt / Total Equity

(*iii*) **Debt-to-Total Capitalization Ratio:** This ratio compares total debt to the sum of all capital sources (debt, equity, minority interest, preferred stock), indicating the percentage of the total capital structure attributable to debt.

Formula: Total Debt / (Debt + Equity + Minority Interest + Preferred Stock)

(*iv*) **Net Debt-to-Total Capitalization Ratio:** Adjusting total debt to account for available cash, this ratio provides a clearer picture of a company's debt burden.

Formula: (Total Debt – Cash) / (Debt + Equity + Minority Interest + Preferred Stock – Cash)

(*v*) **Operating Leverage Ratio (DOL):** This ratio measures the sensitivity of a company's operating income to changes in sales, reflecting how changes in sales impact operating income.

Formula: (Sales – Variable Costs) / Profit, where Profit = Sales – Variable Costs – Fixed Costs

(*vi*) **Financial Leverage Ratio (DFL):** This ratio measures the sensitivity of a company's earnings per share to changes in operating income due to changes in its capital structure. A higher DFL indicates more volatile earnings due to higher financial leverage.

Formula: EBIT / EBT

4. Profit Margin Ratios:

Profitability ratios provide insight into how effectively a company generates profits relative to its revenue, assets, and equity. Here's a brief explanation of each ratio along with its formula:

(*i*) **Gross Profit Margin:** This ratio measures the percentage of revenue that exceeds the cost of goods sold (COGS), indicating how efficiently a company produces its goods.

Formula: Gross Profit Margin = (Gross Profit / Net Sales) * 100

(*ii*) **Operating Profit Margin:** It assesses the company's ability to generate profit from its core operations before deducting interest and taxes.

Formula: Operating Profit Margin = (Operating Profit / Net Sales) * 100

(*iii*) **Net Profit Margin:** This ratio indicates the percentage of revenue that translates into net profit after deducting all expenses, interest, and taxes.

Formula: Net Profit Margin = (Net Income / Net Sales) * 100

(*iv*) **Return on Equity (ROE):** ROE measures how efficiently a company utilizes shareholders' equity to generate profit.

Formula: ROE = (Net Profit after Taxes / Shareholder's Equity) * 100

(*v*) **Return on Assets (ROA):** ROA evaluates the company's ability to generate profit from its assets.

Formula: ROA = (Net Profit after Taxes / Total Assets) * 100

(*vi*) **Return on Capital Employed (ROCE):** ROCE assesses the overall return generated by the company against the total capital employed, including both equity and debt.

Formula: ROCE = (EBIT / Capital Employed)

Where:

Gross Profit = Net Sales - Cost of Goods Sold

Operating Profit = Gross Profit - Operating Expenses - Depreciation and Amortization Net Income = Gross Profit - All Expenses - Interest - Taxes

EBIT = Net Profit Before Interest and Taxes

Capital Employed = Total Assets - Current Liabilities

5. Coverage Ratios:

Coverage ratios assess a company's ability to meet its financial obligations, particularly regarding debt servicing. Here's a brief explanation of each coverage ratio along with its formula:

(*i*) **Interest Coverage Ratio:** This ratio measures a company's ability to pay its interest expenses on outstanding debt.

Formula: Interest Coverage Ratio = Operating Income / Interest Expense

(*ii*) **Debt Service Coverage Ratio:** It assesses a company's ability to cover all of its debt obligations, including both principal and interest payments.

Formula: Debt Service Coverage Ratio = Operating Income / Total Debt Service

(*iii*) **Cash Coverage Ratio:** This ratio evaluates a company's ability to cover its interest expenses using its available cash balance.

Formula: Cash Coverage Ratio = Total Cash / Interest Expense

(*iv*) **Asset Coverage Ratio:** It measures the extent to which a company's assets can cover its debt obligations.

Formula: Asset Coverage Ratio = ((Total Assets – Intangible Assets) – (Current Liabilities - Short-term Debts)) / Interest Expense

6. Valuation Ratios:

Valuation ratios, also known as market value ratios, help investors assess the appropriateness of a company's stock price and the potential return on investment. Here's a brief overview of each valuation ratio along with its formula:

(*i*) **Price-to-Earnings Ratio (P/E):** This ratio compares a company's stock price to its earnings per share (EPS). It indicates how much investors are willing to pay per unit of earnings.

Formula: P/E = Stock Price Per Share / Earnings Per Share

(*ii*) **Price-to-Book Value Ratio (P/B):** P/B ratio compares a company's market value to its book value, reflecting the market's valuation relative to the company's net assets.

Formula: P/B Ratio = Market Price per Share / Book Value per Share

(*iii*) **Price-to-Sales Ratio (P/S):** This ratio compares a company's market capitalization to its total sales over the past 12 months, providing insight into how the market values the company's sales.

Formula: P/S Ratio = Market Value per Share / Sales per Share

(*iv*) **Price-to-Cash Flow Ratio (P/CF):** P/CF ratio assesses the relationship between a company's stock price and its operating cash flow, offering an alternative to the P/E ratio.

Formula: P/CF Ratio = Share Price / Operating Cash Flow per Share

(*vi*) **Price/Earnings-to-Growth (PEG) Ratio:** PEG ratio relates a company's P/E ratio to its earnings growth rate, helping investors gauge the stock's value relative to its expected growth.

Formula: PEG Ratio = (Price / EPS) / EPS Growth

B. Comparative Financial Statements

In the comparative financial statements balance sheet figures are provided for more than one year. The comparative financial statement provides time perspective to the balance sheet figures. The annual data are compared with similar data of previous years, either in absolute terms or in percentages.

C. Trend Analysis

In trend analysis, percentages are calculated relative to a base year to track the growth or decline of sales or profits over time. Increasing sales alongside rising inventories may suggest a loss of market share. Similarly, stagnant profits despite rising sales indicate potential issues with cost management.

D. Common size statement

A common size financial statement presents each line item as a percentage of a common figure, typically total assets for the balance sheet and total sales for the income statement. This format aids in analyzing trends over time and comparing companies. For the balance sheet, it provides insights into capital structure and financial health, while for the income statement, it helps assess margins and expense efficiency.

Advantages:

1. **Provides clarity:** Expressing each item as a percentage of total sales helps users understand the income statement better.
2. **Tracks trends:** Enables analysts to track the changing proportions of items on the income statement over time and their impact on net income.
3. **Facilitates comparison:** Allows for easy comparison of financial performance across different entities since items are standardized as percentages of total sales.

Disadvantages:

1. **Lack of standardization:** Some view common size income statements as less useful because there's no universally accepted standard proportion for each item relative to total sales.
2. **Consistency issues:** Inconsistencies in the preparation of income statements from year to year can lead to misleading comparative analysis using common size statements.

E. Fund Flow Analysis

Fund flow analysis provides a dynamic view of a company's financial position over time, focusing on changes between two balance sheet dates. It answers key questions for investors, such as how profits are utilized, the financial sources of dividends, funding for capital expenditures and debt repayments, and the destination of proceeds from asset sales or fundraising activities. By highlighting the sources and uses of funds, the statement reveals how funds are generated or lost in operations and how they are allocated among taxes, dividends, reserves, and investments in current assets. This offers investors a clearer understanding of a company's financial health and decision-making.

F. Cash Flow Statement

The cash flow statement provides insights into a company's cash inflows and outflows, derived from its operations and other transactions. It can be prepared in either vertical or horizontal form, using data from the balance sheet, income statement, and additional information. By analyzing cash movements over an operating cycle, the statement identifies the factors influencing changes in cash balances, such as increased profits not translating to cash, or reductions in cash despite profit growth. This helps investors understand how effectively a company manages its cash and whether it generates

sufficient cash to support its operations and growth.

TECHNICAL ANALYSIS

Technical analysis is a method used to forecast price direction by studying past market data, such as price and volume. It operates on the assumption that market prices are determined by the balance between supply and demand, leading to patterns in price and trading volume that repeat over time. Analysts familiar with these patterns can predict future price behavior. This analysis disregards intangible factors like investor sentiment and focuses on chart patterns to identify trends. It assumes that stock values move in trends that persist and change due to shifts in supply and demand equilibrium, which can be observed in market charts. The method acknowledges that markets operate randomly and incorporate all future events that affect share values.

DOW JONES THEORY

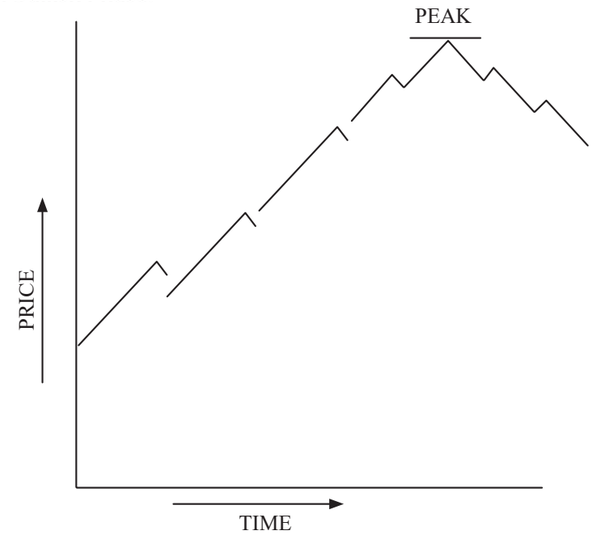
It is one of the earliest theories of technical analysis. The theory was formulated by Charles H. Dow of Dow Jones & Co. who was the first editor of Wall street Journal of USA. According to this theory, share prices demonstrate a pattern over four to five years.

These patterns can be divided into three distinct cyclical trends- primary, secondary or intermediate and minor trends.

Primary Trends

The primary trend, lasting from one to three years, signifies the overall direction of the market movement, either upward (bullish) or downward (bearish). It is the most significant trend in Dow theory and influences stock prices, secondary trends, and minor trends. An upward primary trend indicates a bullish market phase, while a downward primary trend indicates a bearish phase.

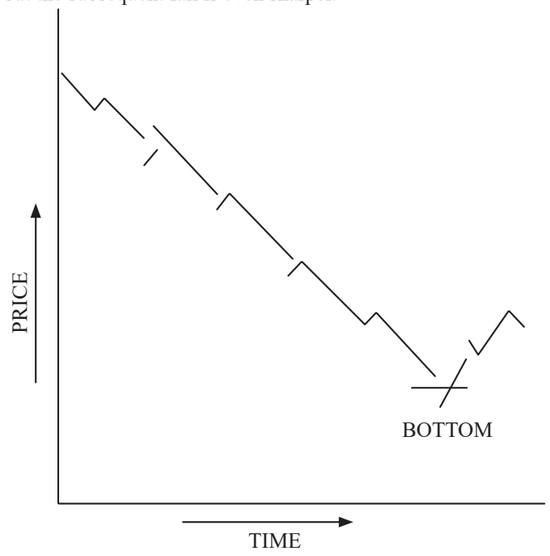
Graph of Bullish Phase:



In a bullish phase, after each peak, there is a fall but the subsequent rise is higher than the previous one. The prices reach higher level with each rise. After the peak has been reached, the primary trend now turns to a bearish phase.

Graph of a Bearish Phase:

In a bearish phase, the overall trend is that of decline in share values. After each fall, there is slight rise but the subsequent fall is even sharper.



Secondary Trends:

Secondary trends, as per Dow theory, move in the opposite direction of the primary trend, serving as corrections to it. They typically last between three weeks and three months, with retracements ranging from one-third to two-thirds of the primary trend's movement.

Minor Trend:

The last of the three trend types in Dow theory is the minor trend, which is defined as a market movement lasting less than three weeks. Minor trends are changes occurring every day within a narrow range. These trends are not decisive of any major movement. The minor trend is generally the corrective moves within a secondary move, or those moves that go against the direction of the secondary trend.

TOOLS OF TECHNICAL ANALYSIS

The two variables concerning groups of securities or individual securities that technicians watch are the behavior of prices and volume of trading contributing to and influenced by changing prices. Technical analysts use two major types of tools for their analysis. These are the charts and the price indicators.

TECHNICAL CHARTS

Technical charts plot prices and trading volumes to analyze the demand-supply equation and predict future price movements. Increased prices with rising volumes indicate strength, while declining prices with increased volumes suggest the beginning of a bearish trend.

There are four ways to construct a chart. These are Line Chart, Bar Chart, Candle Stick Chart and Point & Figure Chart.

Line Chart:

A line chart connects a series of data points representing closing prices over time with a line.

It ignores intra-period highs and lows, making it useful for broad analysis over longer time frames in finance.

Line Chart Example – Source: StockCharts.com

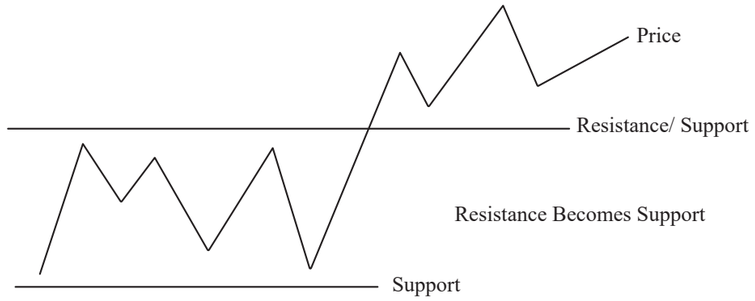
Patterns created by charts:

Once the charts have been constructed, analysts seek to locate certain indicators/patterns in the charts. The common patterns are being described below:

1. Support and resistance levels:

Support and resistance levels are key concepts in technical analysis. A support level is a price point where a stock tends to find buying interest, preventing it from falling further. It represents a floor for the stock's price, as buyers are willing to purchase shares at that level, creating demand. In contrast, a resistance level is a price point where a stock struggles to move higher despite repeated attempts. It acts as a ceiling for the stock's price, as selling pressure emerges at that level, creating supply. Support and resistance levels are indicative of market sentiment and can help traders make decisions about buying or selling. When these levels are breached, it often signals the beginning of a new trend, either bullish or bearish.

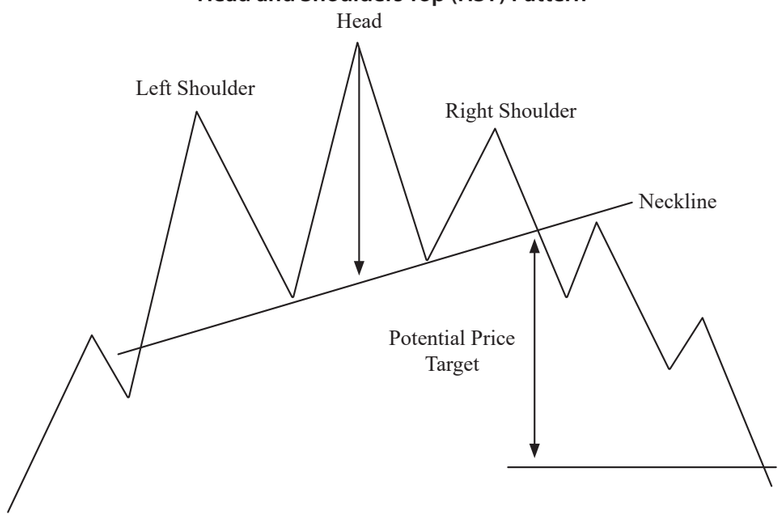
Support and Resistance



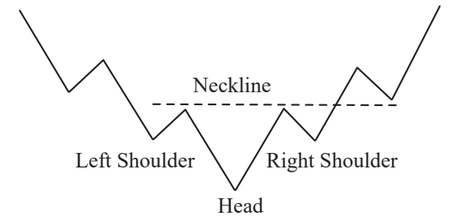
2. Heads and Shoulders configuration:

The head and shoulders configuration is a chart pattern that resembles the shape of a human head and shoulders. It typically indicates a trend reversal from bullish to bearish. In this pattern, there are three peaks, with the middle peak (the head) being higher than the other two (the shoulders). The neckline, which connects the lows of the two shoulders, acts as a support or resistance line. When the price breaks below the neckline after forming the third peak, it signals a potential trend reversal from bullish to bearish. Conversely, when the price breaks above the neckline after forming the third peak, it signals a potential trend reversal from bearish to bullish.

Head and Shoulders Top (HST) Pattern



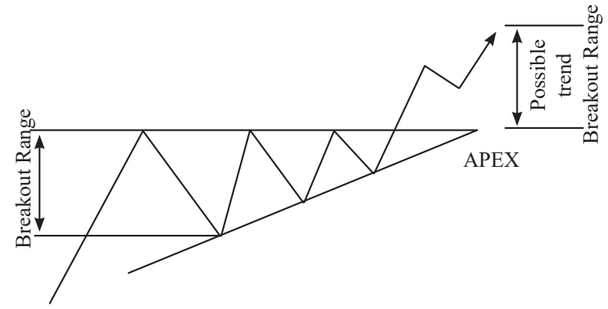
Inverse Head and Shoulder Top (IHST) Pattern



3. Triangle or coil formation:

This pattern represents a pattern of uncertainty. Hence it is difficult to predict which way the price will break out.

Potential Price Target



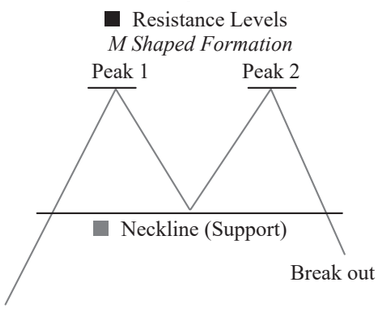
4. Double Top Formation:

It represents a bearish development, signaling that the price is expected to fall.

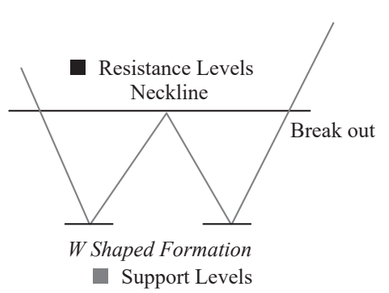
5. Double bottom formation:

It represents a bullish development, signaling that the price is expected to rise.

Double Top Formation



Double Bottom Formation



Bar Chart:

A bar chart displays the open, high, low, and close prices for a given period using vertical lines. The opening price is shown as a horizontal dash on the left side, while the closing price is on the right. Rising periods are often shaded black, while falling periods are shaded red.

Bar Chart Example – Source: StockCharts.com

Candlestick Charts:

Like a bar chart, candlestick charts have a thin vertical line showing the price range for a given period that is shaded different colors based on whether the stock ended higher or lower. The difference is a wider bar or rectangle that represents the difference between the opening and closing prices. Falling periods will typically have a red or black candlestick body, while rising periods will have a white or clear candlestick body. Days where the open and closing prices are the same will not have any wide body or rectangle at all.

Candlestick Example – Source: StockCharts.com

Limitations of charts:

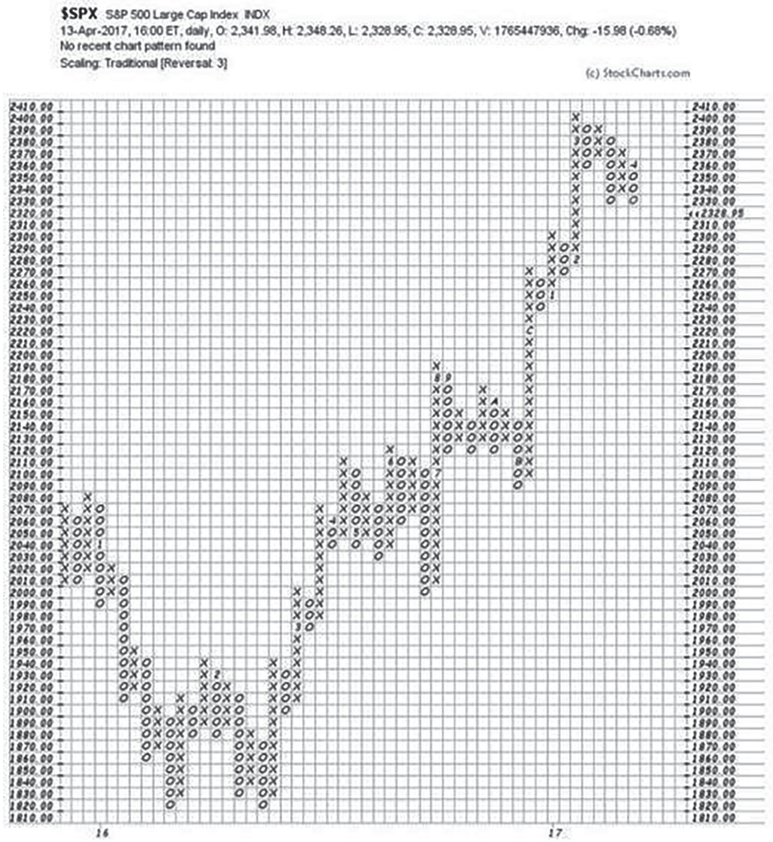
Interpretation of charts is prone to subjective analysis. This factor is a major cause of often contradictory analysis being derived from the same charts. Also the changes in charts are quite frequent in the short term perspective leading to a host of buy and sell

recommendations which are not in the best interest of the investor. Another disadvantage is that decisions are made on the basis of chart alone and other factors are ignored.

Point and Figure Charts:

In this type of charts, emphasis is laid on charting price changes only and time and volume elements are ignored. The first step in drawing a figure and point chart is to put a X in the

appropriate price column of a graph. Successive price increases are added vertically upwards in the same column as long as the uptrend continues. Once the price drops, the figures are moved to another column and Os are entered in downward series till the downward trend is reversed.



Point and Figure Chare Example – Source: StockCharts.com

TECHNICAL INDICATORS

Apart from the charts, technical analysts use a number of indicators generated from prices of stocks to finalise their recommendations. These indicators are often used in conjunction with charts. Some of the important indicators are the Advance Decline Ratio, the Market Breadth Index and Moving Averages.

Advance-Decline Ratio:

It is the ratio of the number of stocks that increase to the number of stocks that have declined. If the ratio is more than one, the trend is assumed to be bullish. If the ratio starts declining, a change of trend is signaled.

Market Breadth Index:

This index is a variation of the Advance-Decline Ratio. This index is computed by taking the difference between the number of stocks rising and the number of stocks falling. If during a month, 400 out of 1000 stocks in the market have risen and 300 have declined while 300 have remained unchanged, then market breadth would be calculated as = 2(400–300)/300. The figure of each time period is added to the previous period. If market breadth is increasing along with rise in stock indices, it confirms the bullish trend and vice versa.

Moving Averages:

A moving average is the average of share values of a set of consecutive number of days. If we have to calculate 50 days moving average, we calculate the average for days 1–50. Then on day 51, we add the value of day 51 and deduct the value of day 1 and so on . Similarly, moving averages for 100 days, 200 days and 300 days can be calculated. Moving averages provide a benchmark for future valuation. If share value is below the moving average, it has scope for appreciation. If the value is above the moving average, the upside is limited in the near term.

Relative Strength Index:

The Relative Strength Index (RSI) is a momentum indicator used in technical analysis to assess overbought or oversold conditions in a security's price. It ranges from 0 to 100 and helps identify potential trend reversals. An RSI reading above 70 suggests overbought, while below 30 indicates oversold. It compares a security's strength on up days to down days and can be calculated for different time frames, aiding traders in making better decisions.

$$RS = \frac{\text{Average gain per day}}{\text{Average loss per day}}$$

RS = Relative Strength

Price Rate of Change:

The Price Rate of Change (ROC) is a momentum indicator that measures the percentage change in price over a certain number of periods. It is plotted against zero, with positive values indicating upward price changes and negative values indicating downward changes. Rising ROC above zero confirms an uptrend, while falling ROC below zero indicates a downtrend. When prices are consolidating, ROC hovers near zero, providing little insight except for confirming consolidation.

$$ROC = \frac{\text{Closing Price}_{p} - \text{Closing Price}_{p-n}}{\text{Closing Price}_{p-n}} \times 100$$

Where,

Closing Price_{p} = Closing price of most recent period

$\text{Closing Price}_{p-n}$ = Closing price n periods before most recent period

Aroon Indicator:

The Aroon indicator measures trend changes and strength by tracking the time between highs and lows over a specified period, typically 25 periods. It consists of two lines: Aroon Up and Aroon Down. Values range from 0 to 100, with higher values indicating stronger trends. Crossovers between Aroon Up and Aroon Down can signal entry or exit points, with Up crossing above Down suggesting a buy signal and Down crossing below Up indicating a sell signal. Aroon readings above 50 indicate recent highs or lows, while readings near 100 suggest very recent price movements.

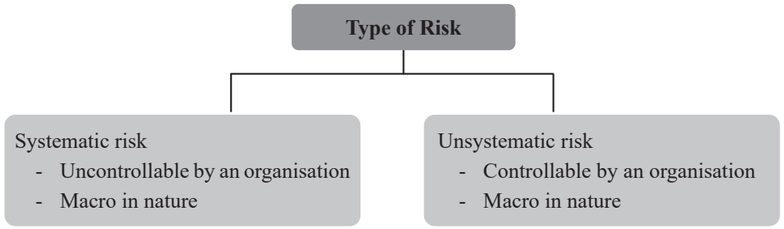
Formulas of the Aroon Indicator

$$\text{Aroon up} = \frac{25 - \text{Periods Since 25 period high}}{25} \times 100$$

$$\text{Aroon Down} = \frac{25 - \text{Periods Since 25 period low}}{25} \times 100$$

RISK AND ITS TYPES

Risk in security analysis is generally associated with the possibility that the realized returns will be less than the returns that were expected. In finance, different types of risk can be classified under two main groups, viz., systematic risk and unsystematic risk.

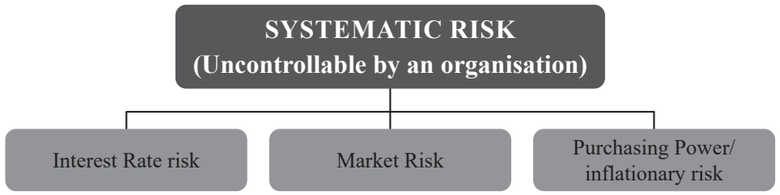


A. Systematic risk.
B. Unsystematic risk.

Systematic Risk:

Systematic risk refers to factors beyond a company's control that affect the entire market or industry. Economic, political, and sociological changes are examples. High systematic risk affects companies whose performance mirrors overall market trends. Interest rate risk is caused by fluctuations in market interest rates, particularly impacting debt securities. Market risk arises from consistent fluctuations in trading prices of securities. Purchasing power risk, or inflation risk, occurs when inflation erodes the value of investments, reducing purchasing power.

The types of systematic risk are depicted and listed below.\



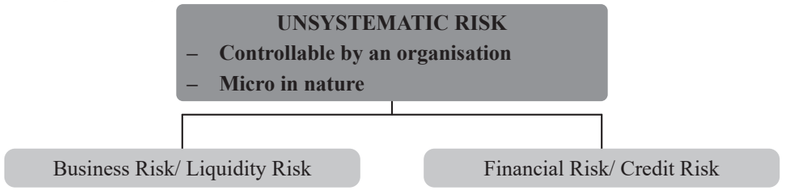
1. Interest Rate Risk
2. Market risk and
3. Purchasing power or Inflationary risk.

1. **Interest Rate Risk:** This risk arises from fluctuations in market interest rates, impacting the returns on debt securities with fixed interest rates. When interest rates rise, the value of existing bonds decreases, and vice versa.
2. **Market Risk:** Market risk is the potential for losses due to overall market fluctuations, affecting the prices of specific securities. It encompasses factors like economic conditions, geopolitical events, and investor sentiment.
3. **Purchasing Power or Inflationary Risk:** This risk results from the erosion of purchasing power caused by inflation. High inflation reduces the real value of investments, particularly fixed-income securities, leading to decreased purchasing power over time.

Unsystematic Risk:

Unsystematic risk stems from internal factors within a specific organization, making it controllable and peculiar to that firm or industry. It can be mitigated through planning and internal actions. This type of risk affects only individual organizations and is typically associated with industries producing non-durable consumer goods, such as suppliers of telephone services, power, and foodstuffs. Examples of unsystematic risk factors include changes in management and labor strikes, which impact only specific firms facing these issues.

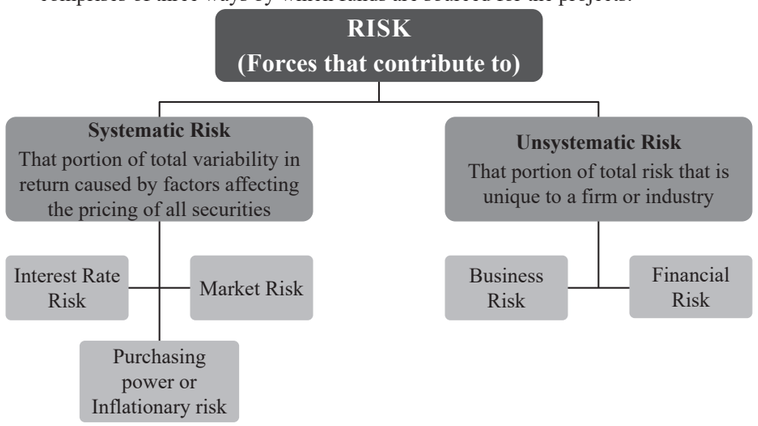
The types of unsystematic risk are depicted and listed below.



1. Business or liquidity risk,
2. Financial or credit risk.

Now let's discuss each risk classified under this group.

1. **Business or liquidity risk:** Business risk is also known as liquidity risk. It is so, since it emanates (originates) from the sale and purchase of securities affected by business cycles, technological changes, etc.
2. **Financial or credit risk:** Financial risk is also known as credit risk. It arises due to change in the capital structure of the organization. The capital structure mainly comprises of three ways by which funds are sourced for the projects.



RETURN OF THE SECURITY

Return on investment is the reward investors receive for holding a security over time. It comprises two components: current return, which is the periodic income generated by the investment, and capital return, which reflects the price change of the asset. Total return is the sum of both components. While current return can be zero or positive, capital return can be negative, zero, or positive.

MEASURING RETURN

Total return, also known as holding period return (r), is a comprehensive measure of investment performance that encompasses all returns earned from holding an asset or portfolio over a specific period. It considers both income generated by the investment and changes in its value, typically expressed as a percentage. Total return is valuable for comparing investments held for varying time frames, offering a uniform metric to evaluate performance across different assets.

Holding Period Return (HPR) and **annualized HPR** for returns over multiple years can be calculated as follows:

Holding Period Return = Income + (End of Period Value - Initial Value) / Initial Value

Annualized HPR = $\{[(\text{Income} + (\text{End of Period Value} - \text{Initial Value})] / \text{Initial Value} + 1)^{1/n}$, where n = number of years.

Returns for regular time periods such as quarters or years can be converted to a holding period return through the following formula:

(1+HPR) = (1+r1) x (1+r2) x (1+r3) x (1+r4) where r1, r2, r3 and r4 are periodic returns.

APPROACHES TO VALUATION OF SECURITY

Security analysis begins with assessing the intrinsic value of security. There are three main schools of thought on the matter of security price evaluation. Approaches to value security can be classified as:

1. Fundamentalists;
2. Technicians; and
3. Efficient market advocates.

Let us compare these different perspectives in summary form before describing them in detail.

1. The Fundamental Approach:

The Fundamental Approach to security analysis evaluates stocks based on their intrinsic value, determined by factors like earnings potential, industry dynamics, management quality, and dividend policy. Analysts estimate the present value of future income streams discounted at a risk-adjusted rate. By comparing intrinsic value to market price, decisions to buy or sell are made. If intrinsic value exceeds market price, it's recommended to buy; otherwise, it's advised to sell.

2. Technical Approach:

The Technical Approach to security analysis relies on past market data to predict future price levels, assuming that price movements follow identifiable patterns. It asserts that stock prices depend on supply and demand rather than intrinsic value. Technical analysts use tools like the Dow Jones Theory and chart patterns to forecast market movements.

3. Efficient Capital Market Theory:

The Efficient Capital Market Theory (ECMH) posits that securities markets are efficient, incorporating and reflecting all relevant information in stock prices. It suggests that beating the market is impossible because all available information is already factored into prices. However, this theory has been challenged by fundamental and technical analysts who argue that markets are not fully efficient. Despite this, ECMH remains influential in shaping investment strategies.

FUNDAMENTAL APPROACH TO VALUATION

The fundamental approach to valuation involves determining the intrinsic value of a security by analyzing various financial factors. This value represents the equilibrium point where supply and demand for the security stabilize. Money's time value is considered, using tools like compounding and discounting. Bond values are relatively straightforward, comprising present values of interest payments and the principal amount. Equity valuation is more complex due to uncertain earnings and dividend streams, which are discounted to derive the stock's value as the present value of future dividends.

$$P0 = \frac{D1}{(1+r)} + \frac{P1}{(1+r)}$$

Where;

D1 = Dividend to be received at the end of year 1

r = Investor's required rate of return or discount rate P1 = selling price at the end of year 1

P0 = selling price today

To simplify, let us assume that dividends will grow at the constant rate into the indefinite future. Under this assumption the value of a share is

$$P_0 = \frac{D(1+g)}{(1+r)^1} + \frac{D(1+g)^2}{(1+r)^2} + \frac{D(1+g)^3}{(1+r)^3} + \frac{D(1+g)^n}{(1+r)^n}$$

where n approaches infinity, this equation reduces simply to

$$P_0 = \frac{D1}{r-g}$$

This model states that the price of a share should be equal to next year's expected dividend divided by the difference between the appropriate discount rate for the share and its expected long term growth rate. Alternatively, this model can be stated in terms of the rate of return on an equity share as r = (D1/P0) + g

ALTERNATIVE APPROACH TO VALUATION

Random walk theory:

The Random Walk Theory proposes that stock price movements are entirely random and independent of past price changes. According to this theory, it's impossible to predict future stock prices based on past trends or patterns, as they are purely the result of random fluctuations. This suggests that there's no need for technical analysis, as stock prices move unpredictably. However, the theory doesn't discount fundamental analysis, which focuses on the intrinsic value of a stock based on economic and industry factors. While the Random Walk Theory may provide some simplicity and confidence in investing decisions, it only applies to short-term price changes and doesn't address long-term trends or price determination.

Efficient – Market Theory:

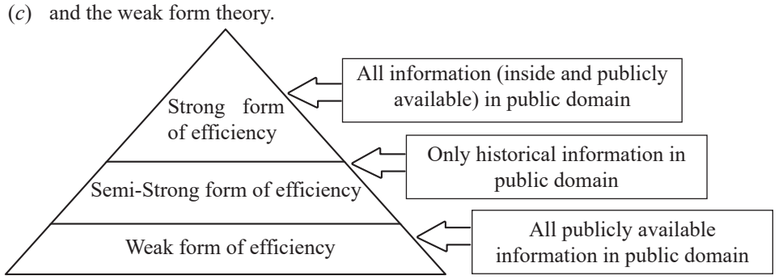
The Efficient Market Hypothesis (EMH) asserts that markets are efficient when all available information is quickly and accurately reflected in stock prices. In such markets, the only price changes occur due to new information. For a market to be efficient, several conditions must be met: prices must respond to new information swiftly, information must be widely and rapidly disseminated, transaction costs and taxes should be minimal, all investors should have equal access to funds, and investors should act rationally to maximize returns. In essence, EMH suggests that stock prices reflect all available information, making it impossible for investors to consistently outperform the market.

Research studies devoted to test the random walk theory on Efficient Capital Market Hypothesis (ECMH) are put into three categories i.e.

(*a*) the strong form,

(*b*) the semi-strong form,

(*c*) and the weak form theory.



The Efficient Market Hypothesis (EMH) comprises three forms of efficiency: strong, semi- strong, and weak.

(***a***) **Strong Form:** This form posits that all information, including insider information, is reflected in stock prices. It suggests that even corporate insiders cannot profit from their knowledge, as the market is both efficient and perfect.

(***b***) **Semi-strong Form:** In this hypothesis, security prices adjust rapidly to all publicly available information, such as financial statements and investment reports. Prices react almost instantly to new information, indicating a high level of market efficiency.

(***c***) **Weak Form:** This theory suggests that current stock prices fully reflect all historical information. According to this form, past stock price patterns cannot aid investors in making better investment choices. It implies that stock prices follow a random behavior.

Capital Asset Pricing Mode (CAPM):

CAPM explains the relationship between the Expected Return, Non-Diversifiable Risk (Systematic Risk) and the valuation of securities. Under CAPM price of a security is calculated with the help of expected return from security.

Formula for Computing Expected Return: E(RP) = Rf +(Rm –Rf {β}

Where E(RP) = Expected Return on Portfolio RF = Risk Free Rate of Interest/ Return

β = Portfolio Beta

RM = Expected Return on Market Portfolio

9 OPERATIONAL APPROACH TO FINANCIAL DECISION

TOPICS TO BE COVERED

- Introduction
- An Overview of Costing
- Basic Principles of Costing
- Classification of Costs

INTRODUCTION

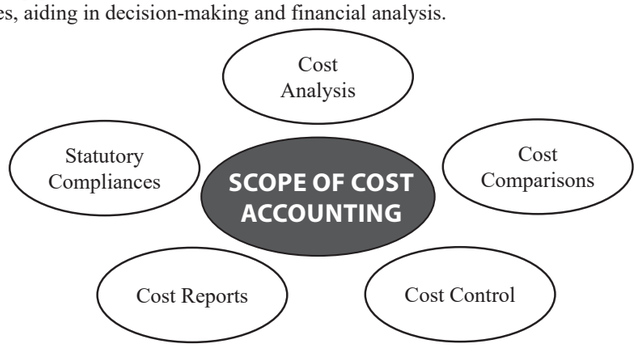
This chapter introduces the concept of "Cost Leadership," a key strategic dimension outlined by Michael E. Porter. Cost leadership involves delivering goods or services at the lowest possible cost while maintaining quality, enabling competitive pricing. To achieve cost leadership, organizations need robust Cost and Management Accounting systems. This chapter will explore various cost accounting topics and their application in both manufacturing and service industries, highlighting their role in attaining cost leadership and competitive advantage.

AN OVERVIEW OF COSTING

Costing is the process of allocating expenses to various business components, such as customers, products, or processes. It involves planning, managing, and reporting cost information to budget, anticipate, and monitor expenses accurately. Cost is the price paid for resources used in production or service delivery, and not all costs are expenses; some are assets. Cost accounting encompasses the practices and processes used to plan and regulate resource usage in a firm. It involves applying costing principles to control costs, determine profitability, and support managerial decision-making. Cost accounting is both a science, requiring systematic knowledge, and an art, calling for expertise in applying principles to managerial issues like cost control and pricing.

Nature and Scope of Costing

The nature and scope of costing involve determining costs and analyzing various aspects related to goods or activities. Costing encompasses methods and procedures for estimating costs, along with regulations governing pricing. It is a technique within cost accounting, which involves analyzing costs related to goods or activities and considering factors like cost structures, business opportunities, budget planning, and profitability analysis. Cost accounting provides detailed cost information for both internal and external reporting purposes, aiding in decision-making and financial analysis.



Nature of Costing

Cost accounting is characterized by several key aspects:

1. **Branch of Knowledge:** It is considered a branch of financial accounting but is distinct with its own principles and concepts, varying across industries.
2. **Science:** Cost accounting is regarded as a science due to its systematic knowledge encompassing various subjects like law, office practice, production, and material control.
3. **Art:** It requires the skill and expertise of a cost accountant to apply its principles, procedures, and methods to specific management issues, such as cost control and profitability analysis.
4. **Profession:** In recent years, cost accounting has emerged as a crucial and challenging profession, evidenced by the establishment of professional organizations and increased enrollment in relevant institutions for education and certification.

   Costing methodology involves two main processes: cost collection and classification, followed by apportionment and allocation of indirect costs. Cost estimation comprises expenditure analysis, production measurement, and cost allocation. Various costing systems like Historical, Estimated, and Standard Cost, as well as methods such as absorption costing, marginal costing, and standard costing, are utilized to determine costs accurately and efficiently.

Objectives of Costing

The objectives of costing can be summarized as follows:

- **Ascertainment of Cost:** Costing aims to determine the cost of products, processes, or operations accurately. This involves recording costs such as materials, labor, and other expenses meticulously to ensure all costs are included in pricing. Costing provides managers with crucial information for establishing selling prices and evaluating profitability.
- **Cost Control:** Beyond cost determination, costing focuses on controlling costs to enhance profitability. By comparing budgets, standards, and actual costs, managers identify discrepancies and take corrective actions to keep costs in check. Lower costs can lead to increased profits or lower selling prices, benefiting both the company and customers through improved product quality and customer loyalty.
- **Guidelines for Management:** Costing serves as a valuable tool for managerial decision-making by providing cost data that supports organizational efficiency. Managers utilize cost information to make informed decisions, such as launching new product lines, optimizing capacity utilization, or identifying growth opportunities, ultimately contributing to the overall effectiveness of the organization.

Types of Costing

Costing involves various types of costs, each serving different purposes in decision-making:

- **Variable Cost:** These costs change directly in proportion to changes in the level of activity. Examples include raw materials and direct labor.
- **Fixed Cost:** Fixed costs remain constant in total despite changes in activity levels. Examples include rent and salaries.
- **Direct Cost:** Direct costs can be traced directly to specific segments of operations. Examples include materials used for a specific product.
- **Indirect Cost:** Indirect costs cannot be directly identified with specific segments of operations. Examples include overhead costs shared by multiple departments.
- Additionally, there are specific types of costs relevant to decision-making:
- **Relevant Costs:** These are costs that influence the choice of alternatives in a particular decision and are affected by that decision.
- **Irrelevant Costs:** Irrelevant costs remain constant regardless of the decision made and are not affected by the alternatives chosen.
- Furthermore, there are costs categorized based on their characteristics:
- **Sunk Costs:** Historical costs incurred in the past that cannot be changed by future decisions. They are always irrelevant in decision-making.
- **Shutdown Costs:** Unavoidable fixed costs incurred even when a plant is temporarily shut down. Managers consider these costs when deciding whether to shut down or continue operations.
- **Imputed/Hypothetical/Notional Costs:** Costs representing a sacrifice or resource use, measured in monetary terms, without actual cash outlay. For example, imputed rent for using owned premises.
- **Out of Pocket Cost / Explicit Costs:** Costs requiring cash outlay due to a specific managerial decision, representing present and future cash outflows.

Advantages of Costing

Costing offers several advantages in managerial decision-making and operational efficiency:

- **Measurement and Improvement of Efficiency:** Cost accounting enables organizations to measure and improve efficiency by analyzing cost differences over time. It helps identify areas of inefficiency and opportunities for improvement.
- **Identification of Profitable and Unprofitable Activities:** Costing helps distinguish profitable and unprofitable activities by comparing costs with revenues. This information guides resource allocation and investment decisions.
- **Fixation of Prices:** Cost accounting provides accurate cost information for pricing decisions. It ensures that prices are set at levels that cover costs and generate profits, preventing losses from underpricing.
- **Guidance in Price Reductions:** During economic downturns, costing guides management in deciding when to reduce prices below total costs to remain competitive. It ensures informed decision-making during challenging market conditions.
- **Information for Proper Planning:** Detailed cost information supports effective production planning by optimizing resource utilization and minimizing waste. It ensures that production processes are efficiently managed to meet demand without overworking or idling resources.
- **Control over Materials:** Cost accounting provides real-time information on material stocks, enabling timely replenishment and preventing losses due to pilferage or mismanagement.

- **Decision Regarding Machine vs. Labour:** Costing aids in evaluating the cost implications of decisions such as replacing labor with machinery. It provides insights into the cost of production under different scenarios, facilitating informed decision-making.
- **Expansion in Production:** Costing helps determine whether to increase production of certain products based on their profitability and demand. It ensures resources are allocated efficiently to maximize returns.
- **Identification of Reasons for Losses:** Cost accounting reveals the underlying causes of profits or losses, distinguishing between normal and abnormal losses. It helps address inefficiencies and minimize losses.
- **Facilitation of Decision-Making:** Costing fosters a systematic approach to decision-making by encouraging calculations and analysis before making decisions. It helps prevent errors and ensures informed choices.
- **Check on Accuracy of Financial Accounts:** Cost accounting serves as an independent check on the accuracy of financial accounts by reconciling profits shown in cost accounts with those in financial accounts. It enhances the reliability of financial reporting.

Limitation of Costing

Costing, despite its advantages, also has several limitations:

- **Expensive:** Implementing a costing system and employing skilled cost accountants can be costly for organizations. The initial investment may outweigh the savings generated by the system.
- **Complexity:** Costing involves various processes such as expense gathering, classification, allocation, and apportionment, which are often perceived as complex and time-consuming. This complexity can lead to delays in report preparation.
- **Limited Applicability:** Not all businesses can employ the same costing methods and techniques. The suitability of costing methods depends on the nature of the business and its products. Using the wrong technique or procedure can mislead business outcomes.
- **Inappropriateness for Small-Scale Businesses:** Cost accounting systems are more suitable for large-scale businesses due to their complexity and cost. They may not be practical or cost-effective for small-scale businesses.
- **Lack of Uniformity:** Cost accounting lacks standardized processes, leading to variations in conclusions even among competent cost accountants using the same data. This lack of uniformity can result in inconsistencies in decision-making.
- **Lack of Accuracy:** Cost accounting involves making assumptions, which can affect the accuracy of cost estimates. These assumptions may not always reflect the actual circumstances accurately, leading to inaccuracies in cost calculations.

BASIC PRINCIPLES OF COSTING

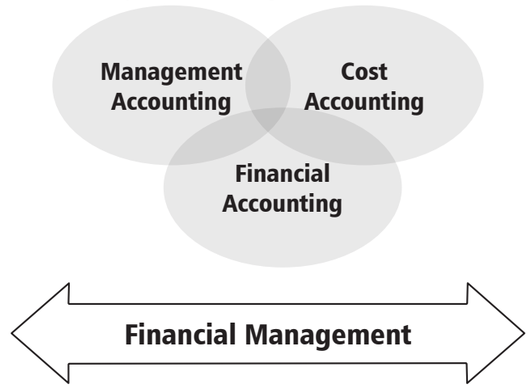
The basic principles of costing are as follows:

- **Cause-and-Effect Relationships:** Costs should be closely tied to their root causes, and their impact on various departments should be determined. Only units that pass through the departments incurring costs should share those costs.
- **Exclusion of Past Unrecoverable Costs:** Costs that could not be collected in the past should not be included in future costs. Including such costs can distort the results of future operations and financial statements.
- **Charge of Cost Only Upon Incurrence:** Only costs that have been legitimately incurred should be included in unit costs. For example, selling costs should not be included in unit costs while a product is still in production.
- **Exclusion of Abnormal Costs:** Costs incurred due to abnormal causes, such as theft or negligence, should be excluded from cost accounts. Including such costs can distort expense estimates and mislead management decisions.
- **Adherence to Double Entry Principles:** Cost ledgers and control accounts should preferably be maintained using double entry methods to minimize the risk of errors. This ensures the accuracy of cost sheets and statements used for cost estimation and control.

RELATIONSHIP OF COST ACCOUNTING, MANAGEMENT ACCOUNTING, FINANCIAL ACCOUNTING AND FINANCIAL MANAGEMENT

Different fields including Cost Accounting, Management Accounting, Financial Accounting, and Financial Management are closely related to one another.

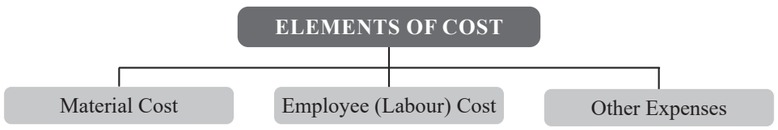
These fields can occasionally interact and depend on one another.



CLASSIFICATION OF COSTS

It refers to the categorization of expenses based on their shared traits. The following categories are crucial for classifying costs:

- By Nature or Element;
- By Functions; and
- By Variability or Behaviour
- By Capability
- By Regularity
- By Costs for Managerial Decision Making.



MATERIAL COST

Material cost refers to the price of materials used in production, excluding indirect materials. Labor cost encompasses wages, benefits, and payroll taxes for employees, categorized as direct and indirect costs. Other expenses include all costs other than materials and labor, encompassing services provided and the hypothetical cost of using owned assets.

MARGINAL COSTING

Marginal costing focuses on determining the cost of producing one additional unit of output. It is a vital concept in cost accounting as it helps in identifying the most efficient level of production. Marginal cost is calculated by estimating the costs incurred for producing one more unit, providing insights into decision-making regarding production levels and pricing strategies.

Need for Marginal Costing

The need for marginal costing in modern management accounting is evident due to several reasons:

1. **Cost-Volume-Profit Analysis:** Marginal costing provides data for cost-volume-profit analysis, essential for profit planning. It eliminates the need for separate data sets and simplifies the relationship between costs, volume, and profit.
2. **Effect on Profit:** Marginal costing ensures that profits are not affected by changes in fixed expenses due to inventory fluctuations. This clarity aids in understanding profit trends accurately.
3. **Alignment with Management Thinking:** Direct cost statements align more closely with management's thought process, enhancing understanding and usability compared to absorption cost statements.
4. **Emphasis on Fixed Costs:** Marginal costing highlights the impact of fixed costs on profits by presenting them separately in income statements.
5. **Facilitation of Comparative Analysis:** Marginal income figures allow for the comparative analysis of products, territories, customer segments, etc., without distortion from allocated fixed costs.
6. **Compatibility with Cost Control Strategies:** Marginal costing complements cost control strategies like standard costs and flexible budgets, providing a cohesive approach to cost management.
7. **Basis for Pricing Decisions:** Marginal costing provides a logical basis for setting sales prices and tendering for contracts, especially during periods of low business activity.
8. **Break-Even Analysis:** Marginal costing is essential for determining the break-even point, enabling businesses to understand the level of sales required to cover all costs.

Features of Marginal Costing

The features of marginal costing include:

1. **Cost Division:** Marginal costing accurately separates total costs into fixed and variable components, including the variable portion of semi-variable costs.
2. **Simplicity in Profit Explanation:** Marginal costing simplifies profit explanations by attributing fluctuations to cost-volume interactions rather than changes in inventory valuation.
3. **Decision-Making Ease:** Decisions are easier to make based on marginal cost presentations, providing clear insights into product profitability and cost coverage.
4. **Cost Analysis and Presentation:** Marginal costing is useful for cost analysis and presentation, catering to different management levels for effective cost control.
5. **Profit Planning:** It facilitates future profit planning by utilizing contribution and marginal cost ratios to analyze changes in selling price and variable costs.
6. **Performance Evaluation:** Marginal costing aids in evaluating the performance of various components within a business, such as units and products.
7. **Forecasting:** Marginal costing supports forecasting activities by providing insights into cost behavior and profitability trends.

8. **Optimum Product Mix:** It helps determine the optimal mix of products by analyzing marginal costs and contributions.
9. **Optimum Sales Mix:** Marginal costing assists in identifying the best sales mix for maximizing profits across different products.
10. **Stock Valuation:** Stocks, including finished goods and work-in-progress, are valued at variable costs only.
11. **Timely Write-Off of Fixed Costs:** Fixed costs are written off promptly after being incurred and are not included in product costs or inventories.
12. **Pricing Basis:** Prices are determined based on marginal cost and marginal contribution.
13. **Integration of Cost Recording and Reporting:** Marginal costing combines cost recording and reporting techniques, providing comprehensive insights into cost management and control.

Ascertainment of Profit under Marginal Cost:

The term "contribution" refers to a sum of money equal to the selling price of a good less the marginal cost.

One way to characterize contribution is as follows:

Contribution = Selling Price – Marginal Cost

Contribution = Fixed Expenses + Profit

Contribution – Fixed Expenses = Profit

Marginal costing Income Statement for the period		
Sales		XXX
opening inventory - at variable production cost	XXX	
Variable Production cost:		
Direct materials	XXX	
Direct labour	XXX	
Variable Production overheads	XXX	
less: closing inventory at variable production cost	(XXX)	
Variable/marginal Production cost of sales	(XXX)	
Variable selling and distribution cost	(XX)	
Variable cost of sales		(XXX)
Contribution margin		XXX
Fixed costs:		
Fixed Production overheads	(XX)	
Administration costs (usually 100% fixed)	(XX)	
Selling and Distribution fixed cost	(XX)	(XX)
Profit		XX

Advantages of Marginal Costing

The advantages of marginal costing include:

- **Effective Cost Control:** By dividing costs into fixed and variable components, marginal costing enables management to control costs more effectively.
- **Simplified Overheads Treatment:** Overhead allocation is simplified, reducing the likelihood of over or under-recovery of overheads due to the separation of fixed overheads from production costs.
- **Uniform and Realistic Valuation:** Exclusion of fixed overhead costs from product costs leads to more realistic valuation of work-in-progress and finished goods.
- **Management Decision Support:** Marginal costing aids management in making decisions regarding new production lines, buy versus manufacture choices, pricing strategies, and tendering.
- **Production Planning:** It assists in production planning by depicting profit levels at various output levels through cost-volume-profit analysis and break-even charts.
- **Enhanced Results with Standard Costing:** When used alongside standard costing, marginal costing can provide improved results in cost analysis and control.
- **Selling Price Fixation:** The differentiation between fixed and variable costs helps in determining appropriate selling prices, especially in competitive markets with varying degrees of competition.
- **Facilitates Budgetary Control:** The expense classification in marginal costing supports budgeting and flexible budgeting for different activity levels.
- **Tender Preparation:** Marginal costing aids businesses in preparing competitive tenders by determining the minimum acceptable price (floor price) based on total variable costs.
- **Make or Buy Decisions:** It assists in deciding whether to manufacture a component or buy it externally, considering whether the purchase price recovers some fixed expenses.
- **Clear Presentation:** Marginal costing statements and graphs are easily understood by management, with break-even analysis presenting cost, sales, and contribution behavior in visual formats, enhancing comprehension and decision-making.

BREAKEVEN POINT

The break-even point is the level of sales at which total revenue equals total costs, resulting in neither profit nor loss for a business. It's a crucial concept in managerial decision-making and profit planning. Break-even analysis helps forecast profit accurately, set up flexible budgets, evaluate performance for control purposes, formulate pricing policies, and determine overhead costs charged to product costs at various levels of operation. Graphical charts, such as break-even charts, are commonly used to visualize this relationship between sales volume, costs, and revenue.

Steps in Construction of Break-even Chart:

Building a break-even chart involves the following steps:

Step 1: Choose a scale for the horizontal axis' sales (units).

Step 2: Choose a scale for the vertical axis of costs and revenues.

Step 3: Create a fixed cost line that is perpendicular to the horizontal axis.

Step 4: Beginning at the fixed cost point on the vertical axis, draw the total cost line.

Step 5: Draw a sales line that extends from the origin (zero) to the point of greatest sales.

Step 6: When total costs equal total revenues, the sales line will cross the total cost line.

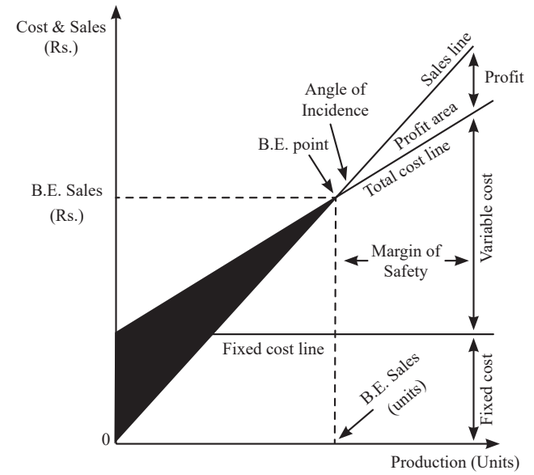
Step 7: The "break-even point," or the location where there is neither a profit nor a loss, is the intersection of two lines.

Step 8: The sales value and quantity produced at break-even point are given by the lines drawn from junction to the horizontal axis and vertical axis.

Step 9: If the production falls below the break-even threshold, a loss is displayed, and if it exceeds the break-even point, a profit is displayed.

Step 10: The margin of safety is equal to the total sales minus break-even sales.

Step 11: The angle of incidence is the angle that the sales line creates with the total cost line when it intersects that line at the break-even point.



Break-even point analysis is a useful tool for evaluating an organization's viability, profit planning, and expense control. It represents the point at which total sales revenue equals total costs, resulting in zero net profitability. This analysis considers both fixed and variable expenses and helps in financial planning to recover expenditures and increase revenues. The break-even point is dynamic and changes with variations in operating conditions like selling price, variable costs, and fixed costs. To calculate it, costs are categorized into fixed and variable, and the premise assumes constant selling price per unit, variable cost per unit, and total fixed expenses. The break-even point indicates the operational and sales capacity needed to cover all costs, beyond which any additional activity or sales generate profit for the company.

Formulae for Break-Even Analysis:

$$\text{Break – Even point (Unit)} = \frac{\text{Fixed cost}}{\text{Contribution per unit}}$$

$$\text{Break-even point (unit) (Rs.)} = \frac{\text{Fixed cost}}{\text{p/v ratio}}$$

$$\text{or} = \text{Break – even units} \times \text{Selling price p.u.}$$

$$\text{P/V ratio} = \frac{\text{Contribution}}{\text{Sales}} \times 100$$

$$\text{Desired sales} = \frac{\text{Fixed cost} + \text{Desired profit}}{\text{p/v ratio}}$$

At break-even point

Contribution = Fixed cost

Contribution – Fixed cost = 0

Assumption and Limitation of Breakeven Analysis:

In conducting a break-even analysis, it's important to consider certain assumptions and limitations:

(*a*) Costs must be accurately divided into fixed and variable components, but separating semi-variable costs can be challenging.

(*b*) Fixed costs are assumed to remain constant across all levels of activity, which may not always be the case.

(*c*) Variable costs are expected to fluctuate with production volume, but in reality, this relationship may not always hold true.

(*d*) The analysis assumes equal production and sales units with no beginning or ending inventory, which is not always realistic.

(*e*) It assumes a constant sales mix and selling price, whereas in practice, these factors may change frequently.

(*f*) Productivity, operational effectiveness, and other factors are assumed to remain constant, which may not be the case in reality.

(*g*) Break-even charts typically represent only one product and may not capture the complexity of multiple products or sales mixes.

(*h*) The analysis overlooks the impact of capital investment, which is crucial for determining profitability.

(*i*) Break-even charts often depict costs and revenue as straight lines, whereas their real-life relationship may be more complex and curvilinear.

PROFIT VOLUME RATIO

Profit-Volume Ratio (P/V) measures the percentage of turnover that each product contributes to. It shows how the contribution to sales is related. Knowing the business's profitability is helpful.

This ratio is calculated as:

P/V Ratio = Contribution/Sales x 100

One can increase contribution by doing any of the following:

(*a*) A rise in the asking price

(*b*) Lower marginal costs through effective use of labour, resources, and machinery.

(*c*) Emphasize the selling of goods having a comparatively higher PV ratio.

Limitation:

When using PV ratios in break-even analysis, it's important to consider the following limitations:

(*a*) PV ratio heavily relies on revenue exceeding variable costs.

(*b*) It doesn't factor in capital expenditures for increased production capacity and fixed costs.

(*c*) It offers a general idea of the relative profitability of products but may not aid in making final decisions.

(*d*) Accurate classification of costs into fixed and variable categories is crucial for valid comparisons.

(*e*) A higher PV ratio per unit indicates greater profitability only when all other factors remain constant.

MARGIN OF SAFETY

The margin of safety represents the difference between actual sales and the break-even point. It indicates the level of sales beyond the break-even point, providing a buffer against losses. A larger margin of safety indicates a stronger financial position for the business, implying higher profits and greater stability.

Margin of Safety is calculated by using the following formulae:

Margin of Safety = Actual Sales – Break-even Sales

Or = Profit/ PV ratio

Or = Profit × Selling price p.u. / Selling price per unit – Variable cost per unit

Margin of Safety as % of Total Sales

= Margin of Safety / Total Sales × 100

How to improve margin of Safety

The product or product line will be more profitable the bigger the margin of safety.

Any of the following measures can increase the margin of safety:

(*a*) Trying to maintain the maximum level of actual sales while keeping the break-even point at the lowest possible level.

(*b*) Increased in sales volume

(*c*) A rise in the asking price.

(*d*) Increasing contribution due to a change in product mix.

(*e*) Reducing in fixed costs

(*f*) Reducing in variable costs.

(*g*) Eliminating unprofitable products from the sales mix

Angle of Incidence

The angle of incidence refers to the angle formed between the sales line and the total cost line on a break-even chart. A larger angle of incidence suggests higher profitability, while a smaller angle indicates lower profitability. It serves as a measure of profitability beyond the break-even point. A business with a wider angle of incidence and a larger margin of safety is considered more profitable, while one with a smaller angle and lower margin of safety may face challenges.