Referencer for Quick Revision

Intermediate Course Paper-8: Financial Management and Economics for Finance

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Board of Studies
(Academic)
ICAI

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Financial Management-A Capsule for Quick Revision

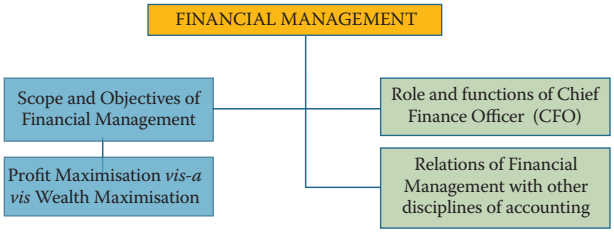
To sustain and grow their financial standing, organisations across the world essentially require managers who are competent in various domains of finance. One of the fundamental domains of finance, financial management deals with the functions relating to how much and which assets are to be acquired, how to raise capital to acquire the assets and what is to be done to maximize the shareholder's wealth. Financial management comprises the processes of planning and controlling subsystems of funds.

A study in financial management will help the students to understand the functions of financial managers, providing with an overview of broad issues and problems that financial managers face in various commercial domains of our economy. This subject introduce various concepts and theories relating to finance, which are fundamental to the methodologies and proficiencies offered as aids to understand, identify and solve the problems of financial managers. Study of financial management will help the Chartered Accountancy students to develop an acumen, so as to grow competencies in financing decision, investment decision, dividend decision and working capital management. Keeping in view the importance of the Subject, Board of Studies (BoS) has decided to bring a capsule on Financial Management.

In the beginning of each topic, a chapter overview has been provided to present a holistic viewpoint on the topic's coverage. This capsule, though, facilitates the students in undergoing quick revision, under no circumstances; such revisions can substitute the detailed study of the material provided by the BoS.

SCOPE AND OBJECTIVES OF FINANCIAL MANAGEMENT

Chapter Overview

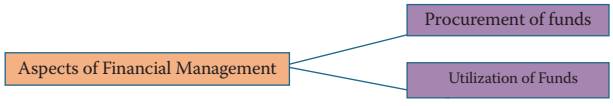


Meaning of Financial Management

Financial management comprises the forecasting, planning, organizing, directing, co-ordinating and controlling of all activities relating to acquisition and application of the financial resources of an undertaking in keeping with its financial objective.

Two Basic Aspects of Financial Management

There are two basic aspects of financial management viz., procurement of funds and an effective use of these funds to achieve business objectives.

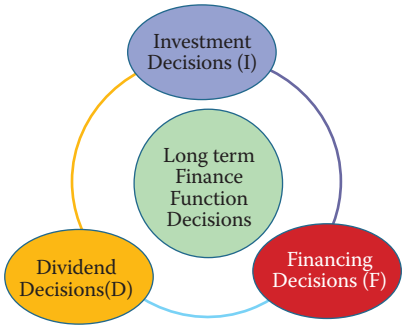


Finance functions/ finance decision

Value of a firm will depend on various finance functions/decisions. It can be expressed as

V = f (I,F,D).

The finance functions are divided into long term and short term functions/decisions



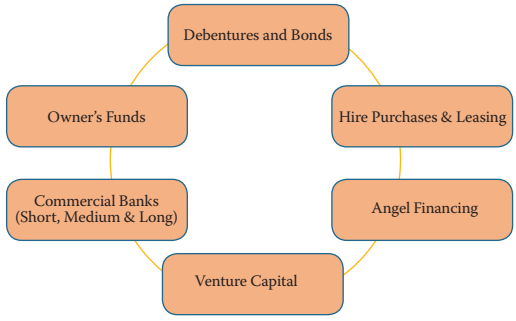
Short- term Finance Decisions/Function	Working capital Management (WCM)

Scope of Financial Management:

- Determination of size of the enterprise and determination of rate of growth.
- Determining the composition of assets of the enterprise.
- Determining the mix of enterprise's financing i.e., consideration of level of debt to equity, etc. and short term functions/decisions
- Analysis, planning and control of financial affairs of the enterprise.

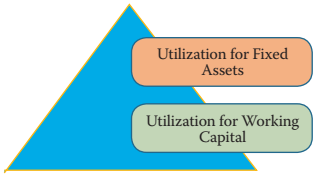
Procurement of Funds:

Since funds can be obtained from different sources, therefore their procurement is always considered as a complex problem by business concerns. Some of the sources for funds for a business enterprise are:



Effective Utilisation of Funds:

The Finance Manager has to point out situations where the funds are being kept idle or where proper use of funds is not being made. All the funds are procured at a certain cost and after entailing a certain amount of risk.



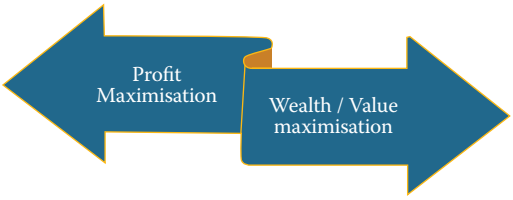
Evolution of Financial Management

The evolution of financial management is divided into three phases. Financial Management evolved as a separate field of study at the beginning of the century. The three stages of its evolution are

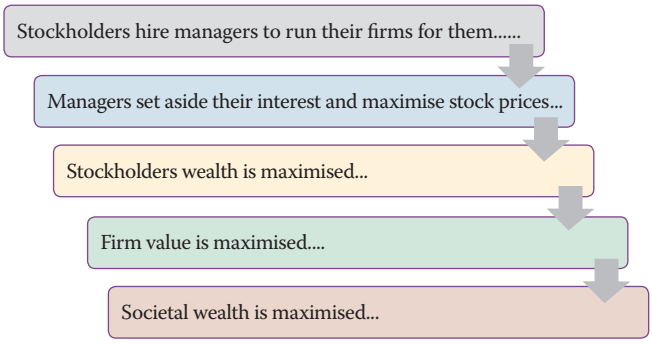
Stages of Evolution of Financial Management

Traditional Phase	Transitional Phase	Modern Phase

Objectives of Financial Management



How do we measure the value/wealth of a firm?

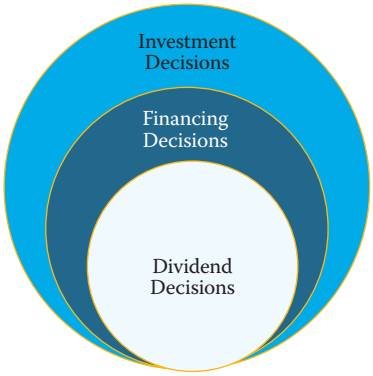


Value of a firm (V) = Number of Shares (N) × Market price of shares (MP)

Or

V = Value of equity (V_e) + Value of debt (V_d)

Three Important Decisions for Achievement of Wealth Maximisation



Conflict between Profit versus Value maximisation Principle:

As a normal tendency, the management may pursue its own personal goals (profit maximization). But in an organization where there is a significant outside participation (shareholding, lenders etc.), the management may not be able to exclusively pursue its personal goals due to the constant supervision of the various stakeholders of the company-employees, creditors, customers, government, etc.

The below table highlights some of the advantages and disadvantages of both profit maximisation and wealth maximization goals

Goal	Objective	Advantages	Disadvantages
Profit Maximization	Large amount of profits	(i) Easy to calculate profits (ii) Easy to determine the link between financial decisions and profits.	(i) Emphasizes the short term gains (ii) Ignores risk or uncertainty (iii)Ignores the timing of returns (iv)Requires immediate resources.
Shareholders Wealth Maximisation	Highest market value of shares	(i) Emphasizes the long term gains (ii) Recognises risk or uncertainty (iii) Recognises the timing of returns (iv) Considers shareholders' return.	(i) Offers no clear relationship between financial decisions and share price. (ii) Can lead to management anxiety and frustration.

Role of Finance executive in today's World vis-a-vis in the past

Today, the role of chief financial officer, or CFO, is no longer confined to accounting, financial reporting and risk management. Some of the key differences that highlight the changing role of a CFO are as follows

What a CFO used to do?	What a CFO now does?
Budgeting	Budgeting
Forecasting	Forecasting
Accounting	Managing M & As
Treasury (cash management)	Profitability analysis (for example, by customer or product)
Preparing internal financial reports for management.	Pricing analysis
Preparing quarterly, annual filings for investors.	Decisions about outsourcing
Tax filing	Overseeing the IT function.
Tracking accounts payable and accounts receivable.	Overseeing the HR function.
Travel and entertainment expense management.	Strategic planning (sometimes overseeing this function).
	Regulatory compliance.
	Risk management.

Relationship of financial management with related disciplines:

Financial management is not a totally independent area. It draws heavily on related disciplines and areas of study namely economics, accounting, production, marketing and quantitative methods. Even though these disciplines are inter-related, there are key differences among them.

Financial Management and Accounting:	**Treatment of Funds**	In accounting, the measurement of funds is based on the accrual principle.
		The treatment of funds in financial management is based on cash flows.
	Decision – making	Chief focus of an accountant is to collect data and present the data.
		The financial manager's primary responsibility relates to financial planning, controlling and decision making.

Financial Management and Other Related Disciplines:

Financial management also draws on other related disciplines such as marketing, production and quantitative methods apart from accounting. For instance, financial managers should consider the impact of new product development and promotion plans made in the marketing area since their plans will require capital outlays and have an impact on the projected cash flows.

TYPES OF FINANCING

Chapter Overview

Sources of Finance

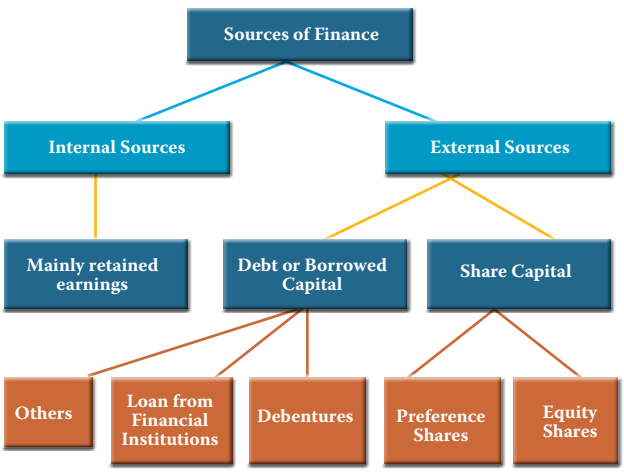
Equity Share Capital | Preference Share Capital | Retained Earnings | Debentures/ Bonds | Loans from Financial Institution | Others

Classification of Financial Sources

There are mainly two ways of classifying various financial sources (i) Based on basic Sources (ii) Based on Maturity of repayment period

Sources of Finance based on Basic Sources

Based on basic sources of finance, types of financing can be classified as



Sources of Finance based on Maturity of Payment

Sources of finance based on maturity of payment can be classified as

Sources of Finance

Long-term

1. Share capital or Equity shares
2. Preference shares
3. Retained earnings
4. Debentures/Bonds of different types
5. Loans from financial institutions
6. Loans from State Financial Corporations
7. Loans from commercial banks
8. Venture capital funding
9. Asset securitisation
10. International financing like Euro-issues, Foreign currency loans

Medium-term

1. Preference shares
2. Debentures/Bonds
3. Public deposits/fixed deposits for duration of three years
4. Medium term loans from Commercial banks, Financial Institutions, State Financial Corporations
5. Lease financing/Hire-Purchase financing
6. External commercial borrowings
7. Euro-issues
8. Foreign Currency bonds

Short-term

1. Trade credit
2. Accrued expenses and deferred income
3. Short term loans like Working Capital Loans from Commercial banks
4. Fixed deposits for a period of 1 year or less
5. Advances received from customers
6. Various short-term provisions

Owner's Capital or Equity Capital:

A public limited company may raise funds from promoters or from the investing public by way of owner's capital or equity capital by issuing ordinary equity shares.

Preference Share Capital:

These are a special kind of shares; the holders of such shares enjoy priority, both as regards to the payment of a fixed amount of dividend and also towards repayment of capital on winding up of the company

Debt Securitisation:

Securitization is a process in which illiquid assets are pooled into marketable securities that can be sold to investors. The process leads to the creation of financial instruments that represent ownership interest in, or are secured by a segregated income producing asset or pool of assets.

Lease Financing:

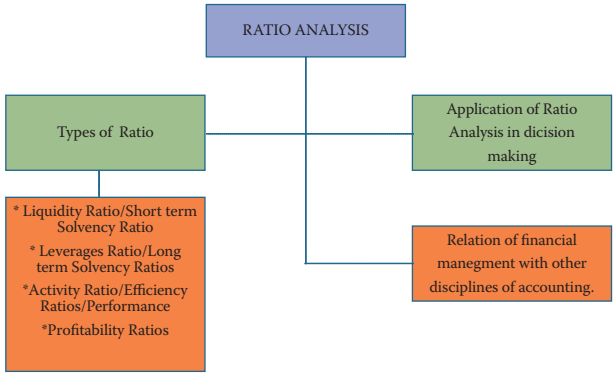
Leasing is a general contract between the owner and user of the asset over a specified period of time. The asset is purchased initially by the lessor (leasing company) and thereafter leased to the user (lessee company) which pays a specified rent at periodical intervals.

Short term Sources of Finance:

There are various sources available to meet short- term needs of finance. The different sources are as shown alongside

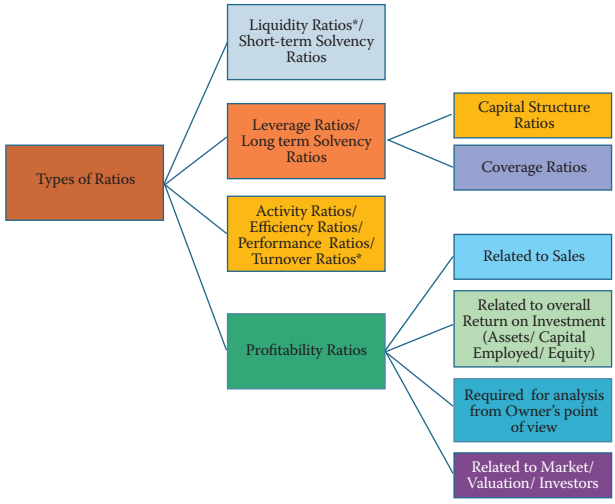
FINANCIAL ANALYSIS AND PLANNING - RATIO ANALYSIS

Chapter Overview



Ratio and its Types:

Ratio analysis is a comparison of different numbers from the balance sheet, income statement, and cash flow statement against the figures of previous years, other companies, the industry, or even the economy in general for the purpose of financial analysis. Types of the Ratios is as given slongside:



Summary of Ratios:

Summary of the ratios has been tabulated as under

Ratio	Formulae	Comments
Liquidity Ratio		
Current Ratio	Current Assets / Current Liabilities	A simple measure that estimates whether the business can pay short term debts. Ideal ratio is 2 : 1.
Quick Ratio	Quick Assets / Current Liabilities	It measures the ability to meet current debt immediately. Ideal ratio is 1 : 1.
Cash Ratio	(Cash and Bank Balances + Marketable Securities) / Current Liabilities	It measures absolute liquidity of the business.

Basic Defense Interval Ratio	(Cash and Bank Balances + Marketable Securities) / Operating Expenses – No. of days	It measures the ability of the business to meet regular cash expenditures.
Net Working Capital Ratio	Current Assets – Current Liabilities	It is a measure of cash flow to determine the ability of business to survive financial crisis.
Capital Structure Ratio		
Equity Ratio	Shareholders' Equity / Capital Employed	It indicates owner's fund in companies to total fund invested.
Debt Ratio	Total Outside Liablilities / Total Debt + Net Worth	It is an indicator of use of outside funds.
Debt to equity Ratio	Total Outside Liabilities / Shareholders' Equity	It indicates the composition of capital structure in terms of debt and equity.
Debt to Total assets Ratio	Total Outside Liabilities / Total Assets	It measures how much of total assets is financed by the debt.
Capital Gearing Ratio	(Preference Share Capital + Debentures + Other Borrowed Funds) / (Equity Share Capital + Reserves & Surplus – Losses)	It shows the proportion of fixed interest bearing capital to equity shareholders' fund. It also signifies the advantage of financial leverage to the equity shareholder.
Proprietary Ratio	Prorietary Fund / Total Assets	It measures the proportion of total assets financed by shareholders.
Coverage Ratios		
Debt Service Coverage Ratio (DSCR)	Earnings available for debt service / Interest + Instalments	It measures the ability to meet the commitment of various debt services like interest, installment etc. Ideal ratio is 2.
Interest Coverage Ratio	EBIT / Interest	It measures the ability of the business to meet interest. Ideal ratio is > 1.
Preference Dividend Coverage Ratio	Net Profit/Earning after taxes (EAT) / Preference dividend liability	It measures the ability to pay the preference shareholders' dividend. Ideal ratio is > 1.
Fixed Charges Coverage Ratio	EBIT + Depreciation / Interest + Re-payment of loan / 1 – tax rate	This ratio shows how many times the cash flow before interest and taxes covers all fixed financing charges. The ideal ratio is > 1.
Activity Ratio/ Efficiency Ratio/ Performance Ratio/ Turnover Ratio		
Total Asset Turnover Ratio	Sales/COGS / Average Total Assets	A measure of total asset utilisation. It helps to answer the question - What sales are being generated by each rupee's worth of assets invested in the business?
Fixed Assets Turnover Ratio	Sales/COGS / Fixed Assets	This ratio is about fixed asset capacity. A reducing sales or profit being generated from each rupee invested in fixed assets may indicate overcapacity or poorer-performing equipment.
Capital Turnover Ratio	Sales/COGS / Net Assets	This indicates the firm's ability to generate sales per rupee of long term investment.
Working Capital Turnover Ratio	Sales/COGS / Working Capital	It measures the efficiency of the firm to use working capital.
Inventory Turnover Ratio	COGS/Sales / Average Inventory	It measures the efficiency of the firm to manage its inventory.
Debtors Turnover Ratio	Credit Sales / Average Accounts Receivable	It measures the efficiency at which firm is managing its receivables.

Receivables (Debtors') Velocity	$\frac{\text{Average Accounts Receivable}}{\text{Average Daily Credit Sales}}$	It measures the velocity of collection of receivables.
Payables Turnover Ratio	$\frac{\text{Annual Net Credit Purchases}}{\text{Average Accounts Payables}}$	It measures the velocity of payables payment.
Profitability Ratios based on Sales		
Gross Profit Ratio	$\frac{\text{Gross Profit}}{\text{Sales}} \times 100$	This ratio tells us something about the business's ability consistently to control its production costs or to manage the margins it makes on products it buys and sells.
Net Profit Ratio	$\frac{\text{Net Profit}}{\text{Sales}} \times 100$	It measures the relationship between net profit and sales of the business.
Operating Profit Ratio	$\frac{\text{Operating Profit}}{\text{Sales}} \times 100$	It measures operating performance of business.
Expenses Ratio		
Cost of Goods Sold (COGS) Ratio	$\frac{\text{COGS}}{\text{Sales}} \times 100$	It measures portion of a particular expenses in comparison to sales.
Operating Expenses Ratio	$\frac{\text{Administrative exp.} + \text{Selling \& Distribution OH}}{\text{Sales}} \times 100$	
Operating Ratio	$\frac{\text{COGS + Operating Expenses}}{\text{Sales}} \times 100$	
Financial Expenses Ratio	$\frac{\text{Financial Expenses}}{\text{Sales}} \times 100$	
Profitability Ratios related to Overall Return on Assets/ Investments		
Return on Investment (ROI)	$\frac{\text{Return/ Profit / Earnings}}{\text{Investments}} \times 100$	It measures overall return of the business on investment/ equity funds/ capital employed/ assets.
Return on Assets (ROA)	$\frac{\text{Net Profit after taxes}}{\text{Average Total Assets}} \times 100$	It measures net profit per rupee of average total assets/ average tangible assets/ average fixed assets.
Return on Capital Employed ROCE (Pre-tax)	$\frac{\text{EBIT}}{\text{Capital Employed}} \times 100$	It measures overall earnings (either pre-tax or post tax) on total capital employed.

Users and Objective of Financial Analysis : A Bird's Eye view

Financial Statement analysis is useful to various shareholders to obtain the derived information about the firm

S.No.	Users	Objectives	Ratios used in general
1.	Shareholders	Being owners of the organisation they are interested to know about profitability and growth of the organization	• Mainly Profitability Ratio [In particular Earning per share (EPS), Dividend per share (DPS), Price Earnings (P/E), Dividend Payout ratio (DP)]
2.	Investors	They are interested to know overall financial health of the organisation particularly future perspective of the organisations.	• Profitability Ratios • Capital structure Ratios • Solvency Ratios • Turnover Ratios
3.	Lenders	They will keep an eye on the safety perspective of their money lended to the organisation	• Coverage Ratios • Solvency Ratios • Turnover Ratios • Profitability Ratios

4.	Creditors	They are interested to know liability position of the organisation particularly in short term. Creditors would like to know whether the organisation will be able to pay the amount on due date.	• Liquidity Ratios • Short term solvency Ratios/ Liquidity Ratios
5.	Employees	They will be interested to know the overall financial wealth of the organisation and compare it with competitor company.	• Liquidity Ratios • Long terms solvency Ratios • Profitability Ratios • Return of investment
6.	Regulator / Government	They will analyse the financial statements to determine taxations and other details payable to the government.	Profitability Ratios
7.	Managers:-		
	(a) Production Managers	They are interested to know various data regarding input output, production quantities etc.	• Input output Ratio • Raw material consumption.
	(b) Sales Managers	Data related to quantities of sales for various years, other associated figures and produced future sales figure will be an area of interest for them	• Turnover ratios (basically receivable turnover ratio) • Expenses Ratios
	(c) Financial Manager	They are interested to know various ratios for their future predictions of financial requirement.	• Profitability Ratios (particularly related to Return on investment) • Turnover ratios • Capital Structure Ratios
	Chief Executive/ General Manager	They will try to find the entire perspective of the company, starting from Sales, Finance, Inventory, Human resources, Production etc.	• All Ratios
8.	Different Industry		
	(a) Telecom	Finance Manager /Analyst will calculate ratios of their company and compare it with Industry norms.	• Ratio related to 'call' • Revenue and expenses per customer
	(b) Bank		• Loan to deposit Ratios • Operating expenses and income ratios
	(c) Hotel		• Room occupancy ratio • Bed occupancy Ratios
	(d) Transport		• Passenger -kilometre • Operating cost - per passenger kilometre.

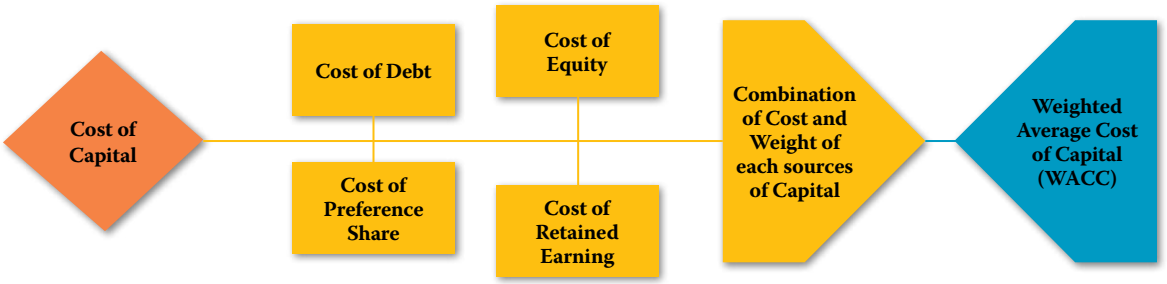
CA INTERMEDIATE - PAPER 8A - FINANCIAL MANAGEMENT

Major task of a Finance Manager is to procure funds and effectively utilize them while maximizing wealth. He/She is required to select such capital structure in which shareholders' wealth is maximum. For this purpose, first he/she needs to calculate cost of various sources of finance. This cost is the return expected by the providers of capital as a compensation for their contribution.

Afterwards, the source and quantum of capital is decided keeping in mind the cost, risk and returns involved. However, practically it is difficult to achieve this together, hence a finance manager has to make a balance among these. So, before working on the capital structure decision, a finance manager needs to determine the cost of capital of various sources, the brief of which has been discussed below in this edition of capsule of Financial Management covering topic 'Cost of Capital'. Students are advised to meticulously go through the concept and practice examples given for better understanding.

COST OF CAPITAL

Points of Discussion

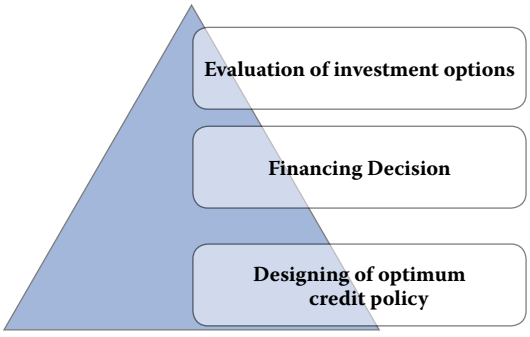


Meaning of Cost of Capital

Cost of Capital

- **Return expected by the providers of capital** (i.e. shareholders, lenders and the debt-holders)

Significance of Cost of Capital



Determination of Cost of Capital

Cost is **not** the amount which the **company plans to pay** or actually pays, **rather** it is the **expectation of stakeholders**

TO CALCULATE COST

Identify various cash flows

Like:
- **Inflow of amount received at the beginning.**
- **Outflow of payment of interest, dividend, redemption amount etc.**
- **Inflow of tax benefit on interest or Outflow of payment of dividend tax.**

THEREAFTER, use trial & error method to arrive at a rate where **present value of outflows** is **equal to present value of inflows** which is basically **IRR**.

Cost of LONG-TERM DEBT (K_d)

Long-term Debt

- Do **not confers ownership** to the providers of finance.
- Debt providers do **not participate in the affairs** of the company.
- They **get charge on the profit** before taxes in the form of interest

Cost of long term Debt

- **Cost of Irredeemable Debt**
- **Cost of Redeemable Debt**

Cost of Irredeemable Debentures

$$K_d = \frac{I}{NP}(1-t)$$

Where,

K_d = Cost of debt after tax
I = Annual interest payment
NP = Net proceeds of debentures* (new debentures) or Current market price (existing debentures)
t = Tax rate

*Net proceeds means issue price less issue expenses or floatation cost

Cost of Redeemable Debentures

Using Approximation method:

$$^{\#}K_d = \frac{I(1-t)+\frac{(RV-NP)}{n}}{\frac{(RV+NP)}{2}}$$

Where,

I = Interest payment
NP = Net proceeds (new) or Current market price (existing)
RV = Redemption value of debentures
t = Tax rate applicable to the company
n = Remaining life of debentures

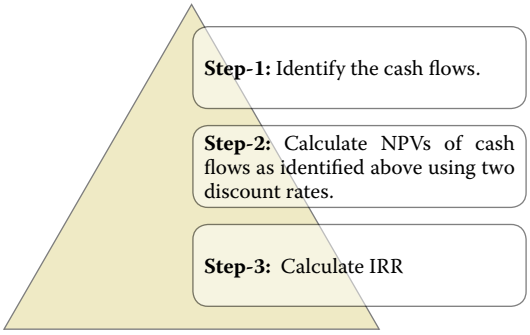
#This formula is used where only interest on debt is tax deductible. Sometime, debts are issued at discount and/ or redeemed at a premium. If such discount on issue and/ or premium on redemption are tax deductible, the following formula can be used:

$$K_d = \frac{I+\frac{(RV-NP)}{n}}{\frac{(RV+NP)}{2}}(1-t)$$

Using Present value method [Yield to maturity (YTM) approach]:

YTM- An internal rate of return at which current price of a debt equals to the present value of all cash-flows.

STEPS TO CALCULATE RELEVANT CASH FLOWS



Step-1: Identify the cash flows.

The relevant cash flows are as follows:

Year	Cash flows
0	Net proceeds in case of new issue/ Current market price in case of existing debt (NP or P_0)
1 to n	Interest net of tax [I(1-t)]
n	Redemption value (RV)

Step-2: Calculate NPVs of cash flows as identified above using **two discount rates** (guessing) to get each a positive NPV (lower rate) and a negative NPV (higher rate).

Step-3: Calculate IRR.

$$IRR = L + \frac{NPV_L}{NPV_L - NPV_H}(H-L)$$

[Here, H and L stands for higher discount rate and lower discount rate respectively. It is to be noted that **higher the difference between H and L, lower the accuracy of answer.**]

Example: A company issued 10,000, 10% debentures of ₹100 each on 01.04.2021 to be matured on 01.04.2026. The company wants to know the current cost of its existing debt if the market price of the debentures is ₹80, considering 35% tax rate.

Step-1: Identification of relevant cash flows

Year	Cash flows
0	Current market price (P_0) = ₹80
1 to 5	Interest net of tax [I(1-t)] = 10% of ₹100 (1-0.35) = ₹6.5
5	Redemption value (RV) = Face value i.e. ₹100

Step- 2: Calculation of NPVs at two discount rates

Year	Cash flows (₹)	Discount factor @ 10% (L)	Present Value (₹)	Discount factor @ 15% (H)	Present Value (₹)
0	80	1.000	(80.00)	1.000	(80.00)
1 to 5	6.5	3.791	24.64	3.352	21.79
5	100	0.621	62.10	0.497	49.70
NPV			+6.74		-8.51

Step- 3: Calculation of IRR

$$IRR = L + \frac{NPV_L}{NPV_L - NPV_H}(H-L) = 10\% + \frac{6.74}{6.74-(-8.51)}(15\%-10\%) = 12.21\%$$

Amortisation of Bond

A bond **may** be **amortised every year** i.e., principal is repaid every year rather than at maturity.

In such a situation, the **principal** will **go down** with annual payments and interest will be computed on the outstanding amount.

Cash flows will be **uneven**.

$$\text{Value of Bond } V_B = \frac{C_1}{(1+K_d)^1} + \frac{C_2}{(1+K_d)^2} + \ldots\ldots + \frac{C_n}{(1+K_d)^n}$$

$$V_B = \sum_{t=1}^{n} \frac{C_t}{(1+K_d)^t}$$

Cost of Convertible Debentures

Option to either get the debentures redeemed into **cash or** get specified numbers of company's **shares**.

While determining redemption value, it is assumed that all the debenture holders will **choose the option which has the higher value i.e. beneficial to the holder.**

Cost of PREFERENCE SHARE CAPITAL (K_p)

Preference Share Capital

- Paid **dividend** at a **specified rate** on face value.
- Dividend treated as an **appropriation of** after-tax **profit**.
- Does **not reduce** the **tax** liability of the company.

Cost of Preference Share Capital

- **Cost of Irredeemable Preference Share Capital**
- **Cost of Redeemable Preference Share Capital**

Cost of Irredeemable Preference Shares

$$K_p = \frac{PD}{P_0}$$

Where,

PD = Annual preference dividend

P_0 = Net proceeds[$] from issue of preference shares

[$]Net proceeds means issue price less issue expenses or floatation cost

Cost of Redeemable Preference Shares

$$K_p = \frac{PD + \frac{(RV - NP)}{n}}{\frac{(RV + NP)}{2}}$$

Where,

PD = Annual preference dividend

RV = Redemption value of preference shares

NP = Net proceeds from issue of preference shares

n = Remaining life of preference shares

Cost of EQUITY SHARE CAPITAL (K_e)

Equity Share Capital

- It is the **expectation of equity** shareholders.
- **Value is performance** divided by expectations.
- **Performance means amount paid by company to investors**, like interest, dividend, redemption price etc. which is **uncertain in case of equity.**

Methods to compute Cost of Equity Share Capital

- **Dividend Price Approach**
- **Earning Price Approach**
- **Growth Approach**
- **Realized Yield Approach**
- **Capital Asset Pricing Model (CAPM)**

Dividend Price Approach

This approach **assumes** that the **dividend** per share is expected to remain **constant** forever.

$$K_e = \frac{D}{P_0}$$

Where,

D = Expected dividend (also written as D_1)

P_0 = Market price of equity (ex- dividend)

Earnings Price Approach

This approach **co-relate the earnings** of the company **with** the **market price** of its share.

$$K_e = \frac{E}{P}$$

Where,

E = Current earnings per share

P = Market price per share

Growth Approach or Gordon's Model

Rate of **dividend growth** remains **constant**. **Earnings, dividends and equity share price** all **grow** at the **same rate**.

$$K_e = \frac{D_1}{P_0} + g$$

Where,
D_1 = $[D_0 (1+ g)]$ i.e. next expected dividend
P_0 = Current Market price per share
g = Constant Growth Rate of Dividend

In case of newly issued equity shares where **floatation cost is incurred,**

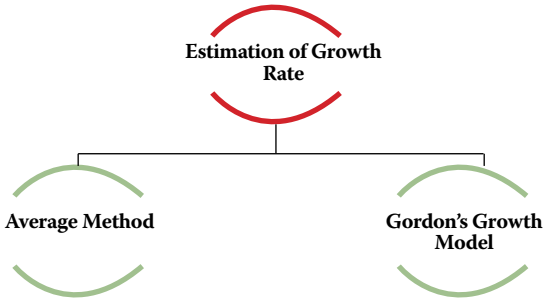
$$K_e = \frac{D_1}{P_0 - F} + g$$

Where,
F = Flotation cost per share

Example: A company has paid dividend of ₹1 per share (of face value of ₹10 each) last year and it is expected to grow @ 10% every year. The market price of share is ₹55.

$$K_e = \frac{D_1}{P_0} + g = \frac{₹1(1+0.1)}{₹55} + 0.1 = 0.12 \text{ or } 12\%$$

Estimation of Growth Rate



(i) Average Method

Current Dividend $(D_0) = D_n(1+g)^n$
or
Growth rate $= \sqrt[n]{\frac{D_0}{D_n}} - 1$

Where,
D_0 = Current dividend,
D_n = Dividend in n years ago

Other ways:

Step-I
- Divide D_0 by D_n, find out the result, then refer the FVIF table.

Step-II
- Find out the result found at Step-I in corresponding year's row.

Step-III
- See the interest rate for the corresponding column. This is the growth rate.

Example: The current dividend (D_0) is ₹16.10 and the dividend 5 year ago was ₹10. The growth rate in the dividend can found out as follows:
Step-I: Divide D_0 by D_n i.e. ₹16.10 ÷ ₹10 = 1.61
Step-II: Find out the result found at Step-I i.e. 1.61 in corresponding year's row i.e. 5th year.
Step-III: See the interest rate for the corresponding column which is 10%. Therefore, growth rate (g) is 10%.

(ii) Gordon's Growth Model

This model attempts to **derive** a **future growth rate**.

Growth (g) = b × r

Where,
b = earnings retention rate*
r = rate of return on fund invested
*Proportion of earnings available to equity shareholders which is not distributed as dividend.

Realised Yield Approach

Average rate of **return realised** in the **past** few years historically **regarded** as **'expected return'** in future.
Computes **cost** of **equity based on** the **past records** of dividends actually realised.

Example: Mr. X had purchased a share of ABC Limited for ₹1,000 and received dividend for five years @ 10%. At the end of the fifth year, he sold the share for ₹1,128. The cost of equity as per realised yield approach would be as follows:
It would be the discount rate which equates the present value of the dividends received in the past five years plus the present value of sale price of ₹1,128 to the purchase price of ₹1,000.
The discount rate which equalises these two is 12% (approx..)

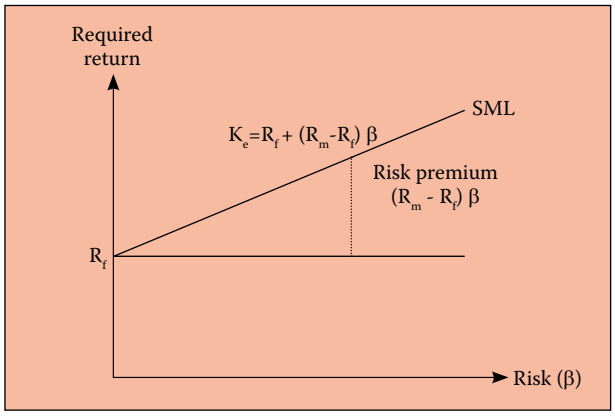
Year	Dividend (₹)	Sale Proceeds (₹)	Discount Factor @ 12%	Present Value (₹)
1	100	-	0.893	89.3
2	100	-	0.797	79.7
3	100	-	0.712	71.2
4	100	-	0.636	63.6
5	100	-	0.567	56.7
6	Beginning	1,128	0.567	639.576
				1,000.076

Capital Asset Pricing Model (CAPM) Approach

Diversifiable or Unsystematic risk (related with the company's performance) can be eliminated by an investor through diversification.

However, **non-diversifiable or systematic risk (macro-economic or market specific risk)** is the risk which **cannot be eliminated**; thus, a business should be concerned as per CAPM method, solely with non-diversifiable risk.

Cost of Equity under CAPM = Risk free rate + Risk premium



$$K_e = R_f + ß\ (R_m - R_f)$$

Where,

K_e	=	Cost of equity capital
R_f	=	Risk free rate of return
ß	=	Beta coefficient (represents systematic risk)
R_m	=	Rate of return on market portfolio
$(R_m - R_f)$	=	Market risk premium

Risk Return relationship of various securities

Example: The risk-free rate of return equals 10%. The company's beta equals 1.75 and the return on the market portfolio equals to 15%. Thus, the cost of equity capital of the company would be:

$K_e = R_f + ß\ (R_m - R_f)$

$K_e = 0.10 + 1.75\ (0.15 - 0.10) = 0.1875$ or 18.75%

Cost of Retained Earnings (Kr)

Retained Earnings

- It is the **opportunity cost of dividends foregone by shareholders.**

Formulas used for calculation of cost of retained earnings are same as formulas used for calculation of cost of equity.

Dividend Price method: $K_r = \frac{D}{P}$

Earning Price method: $K_r = \frac{EPS}{P}$

Growth method: $K_r = \frac{D_1}{P_0} + g$

For K_e : P = net proceeds realized i.e. issue price less floatation cost. But for K_r : P = current market price. However, sometimes issue price may also be used ignoring Floatation cost.

Weighted Average Cost Of Capital (WACC)

WACC

- A company makes a mix of various sources of finance.
- **Cost** of total capital will be equal to **WAC** of **individual sources** of finance.

Steps to calculate WACC:

Step 1
- **Calculate** the **total capital** from all the sources of capital.
- Eg. Long-term debt capital + Pref. Share Capital + Equity Share Capital + Retained Earnings

Step 2
- **Calculate** the **proportion** (or %) of each source of capital to the total capital.
- [Equity Share Capital (for example)/Total Capital (as calculated in Step1 above)]

Step 3
- **Multiply** the **proportion** as calculated in Step 2 above **with** the respective **cost of capital**.
- (K_e × Proportion (%) of equity share capital (for example) calculated in Step 2 above)

Step 4
- **Aggregate** the **cost of capital** as calculated in Step 3 above. **This is the WACC.**
- ($K_e + K_d + K_p + K_s$ as calculated in Step 3 above)

Choice of Weights

Book Value (BV)

Operationally **easy and convenient.**

Reserves such as share premium and retained profits are **included in the BV of equity.**

Market Value (MV)

More correct and **represent** a firm's **capital structure**.

Preferable to use **MV** weights for the **equity**.

Reserves such as share premium and retained profits are **ignored** as they are in effect incorporated into the value of equity.

No separate MV for retained earnings.

Example: The capital structure of the company is as under:

	(₹)
10% Debentures with 10 years maturity (₹100 per debenture)	5,00,000
5% Preference shares with 10 years maturity (₹100 per share)	5,00,000
Equity shares (₹10 per share)	10,00,000
	20,00,000

The market prices of these securities are:

Debentures ₹105 per debenture

Preference shares ₹110 per preference share

Equity shares ₹24 per equity share

After tax Cost of Capital: Equity = 10%, Debt = 6.89% and Preference shares = 4.08%

The WACC applying BV and MV would be as follows:

(a) Calculation of WACC using BV weights

Source of capital	Book Value	Weights	After tax cost of capital	WACC (K_o)
	(₹)	(a)	(b)	(c) = (a)×(b)
10% Debentures	5,00,000	0.25	0.0689	0.01723
5% Preference shares	5,00,000	0.25	0.0408	0.0102
Equity shares	10,00,000	0.50	0.10	0.05000
	20,00,000	**1.00**		**0.07743**

WACC (K_o) = 0.07743 or 7.74%

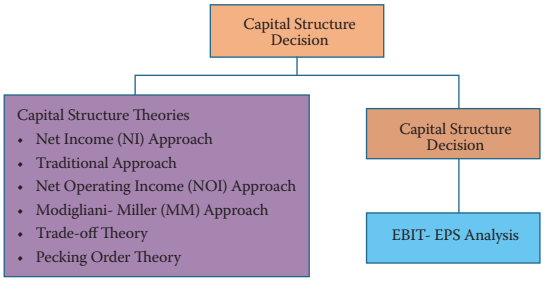
(b) Calculation of WACC using MV weights

Source of capital	Market Value	Weights	After tax cost of capital	WACC (Ko)
	(₹)	(a)	(b)	(c) = (a)×(b)
10% Debentures (₹105× 5,000)	5,25,000	0.151	0.0689	0.0104
5% Preference shares (₹110× 5,000)	5,50,000	0.158	0.0408	0.0064
Equity shares (₹24× 1,00,000)	24,00,000	0.691	0.10	0.0691
	34,75,000	**1.000**		**0.0859**

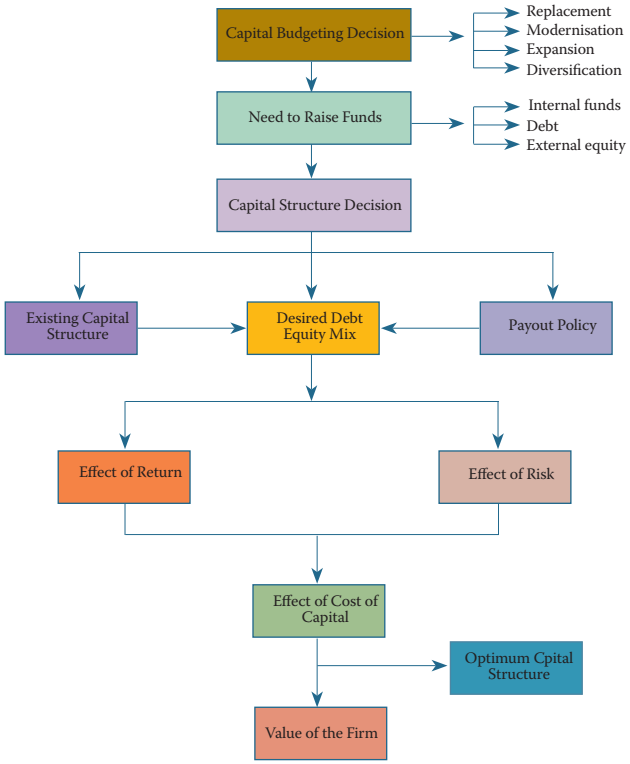
WACC (K_o) = 0.0859 or 8.59%

FINANCING DECISIONS-CAPITAL STRUCTURE

Chapter Overview

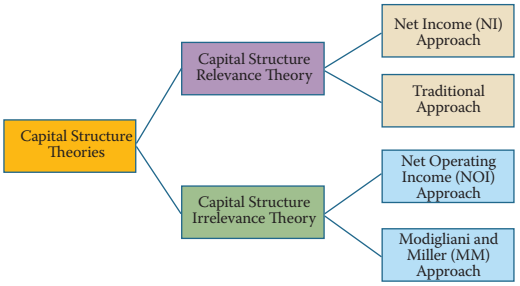


Capital Structure decision refers to deciding the forms of financing (which sources to be tapped); their actual requirements (amount to be funded) and their relative proportions (mix) in total capitalisation.



Capital Structure Theories:

The following approaches explain the relationship between cost of capital, capital structure and value of the firm



Net Income (NI) Approach:

According to this approach, capital structure decision is relevant to the value of the firm. An increase in financial leverage will lead to decline in the weighted average cost of capital (WACC), while the value of the firm as well as market price of ordinary share will increase. Conversely, a decrease in the leverage will cause an increase in the overall cost of capital and a consequent decline in the value as well as market price of equity shares

The value of the firm on the basis of Net Income Approach can be ascertained as follows:

V = Market Value of Equity + Market Value of Debt

$$\text{Overall cost of capital} = \frac{\text{EBIT}}{\text{Value of the Form}}$$

Traditional Approach:

This approach favours that as a result of financial leverage up to some point, cost of capital comes down and value of firm increases. However, beyond that point, reverse trends emerge. The principle implication of this approach is that the cost of capital is dependent on the capital structure and there is an optimal capital structure which minimises cost of capital.

Net Operating Income Approach (NOI):

Any change in the leverage will not lead to any change in the total value of the firm and the market price of shares, as the overall cost of capital is independent of the degree of leverage. As a result, the division between debt and equity is irrelevant.

As per this approach, an increase in the use of debt which is apparently cheaper is offset by an increase in the equity capitalisation rate. This happens because equity investors seek higher compensation as they are opposed to greater risk due to the existence of fixed return securities in the capital structure.

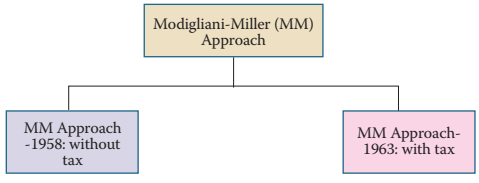
$$V = \frac{NOI}{K_O}$$

Where,

V = Value of the firm
NOI = Net operating Income
K_o = Cost of Capital

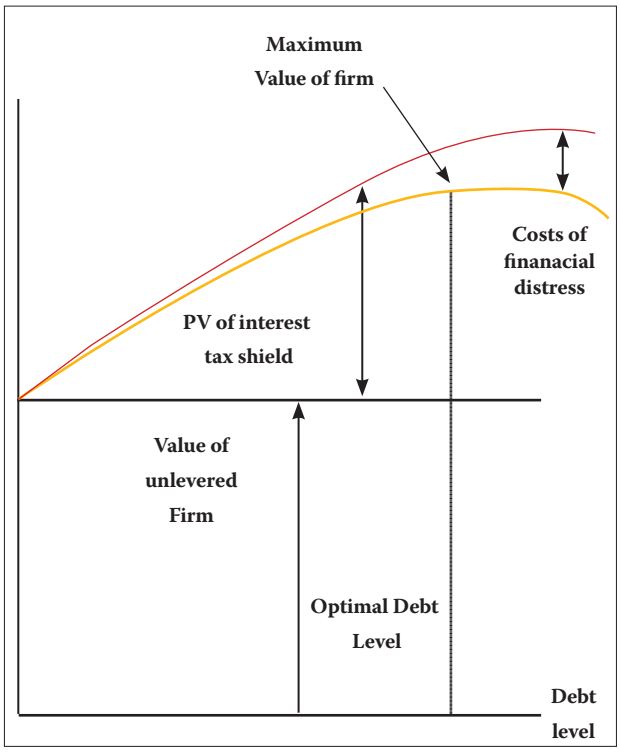
Modigliani-Miller Approach (MM):

The NOI approach is definitional or conceptual and lacks behavioral significance. It does not provide operational justification for irrelevance of capital structure. However, Modigliani-Miller approach provides behavioral justification for constant overall cost of capital and therefore, total value of the firm. This approach indicates that the capital structure is irrelevant because of the arbitrage process which will correct any imbalance i.e. expectations will chane and a stage will be reached where arbitrage is not possible.



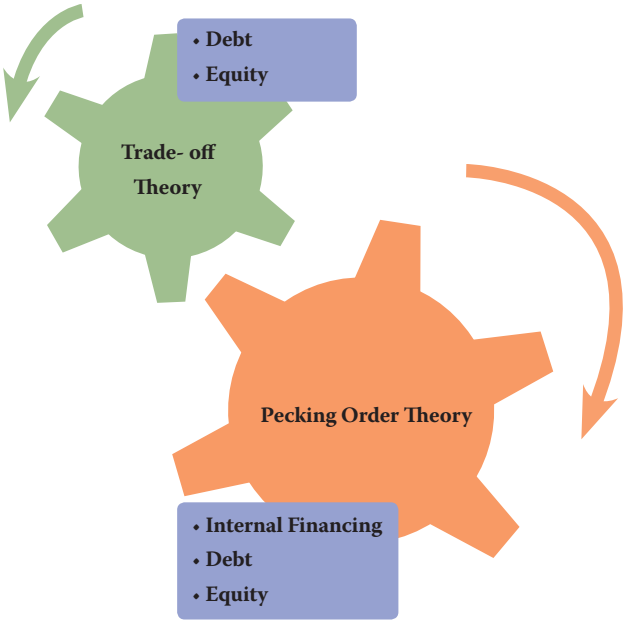
The Trade-off Theory:

The trade-off theory of capital structure refers to the idea that a company chooses how much debt finance and how much equity finance to use by balancing the costs and benefits.



Pecking order theory:

This theory is based on Asymmetric information, which refers to a situation in which different parties have different information.



EBIT-EPS Analysis:

The basic objective of financial management is to design an appropriate capital structure which can provide the highest earnings per share (EPS) over the company's expected range of earnings before interest and taxes (EBIT).

EPS measures a company's performance for the shareholders. The level of EBIT varies from year to year and represents the success of a company's operations.

However, The EPS criterion ignores the risk dimension as well as it is more of a performance measure.

$$\frac{(EBIT-I_1)(1-t)}{E_1} = \frac{(EBIT-I_2)(1-t)}{E_2}$$

Where,

EBIT	=	Indifference point
E_1	=	Number of equity shares in Alternative 1
E_2	=	Number of equity shares in Alternative 2
I_1	=	Interest charges in Alternative 1
I_2	=	Interest charges in Alternative 2
T	=	Tax-rate
Alternative 1	=	All equity finance
Alternative 2	=	Debt-equity finance

Over- Capitalisation

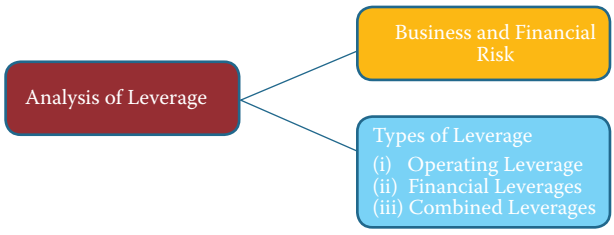
- It is a situation where a firm has more capital than it needs or in other words assets are worth less than its issued share capital, and earnings are insufficient to pay dividend and interest.

Under Capitalisation

- It is just reverse of over-capitalisation. It is a state, when its actual capitalisation is lower than its proper capitalisation as warranted by its earning capacity.

FINANCING DECISIONS- LEVERAGES

Chapter Overview



In financial analysis, leverage represents the influence of one financial variable over some other related financial variable. These financial variables may be costs, output, sales revenue, Earnings Before Interest and Tax (EBIT), Earning per share (EPS) etc.

Business Risk and Financial Risk:

Risk facing the common shareholders is of two types, namely business risk and financial risk. Therefore, the risk faced by common shareholders is a function of these two risks, i.e. (Business Risk, Financial Risk).

Business Risk

- It refers to the risk associated with the firm's operations. It is the uncertainty about the future operating income (EBIT), i.e. how well can the operating incomes be predicted?

Financial Risk

- It refers to the additional risk placed on the firm's shareholders as a result of debt use i.e. the additional risk a shareholder bears when a company uses debt in addition to equity financing.

Types of Leverage:

There are three commonly used measures of leverage in financial analysis. These are

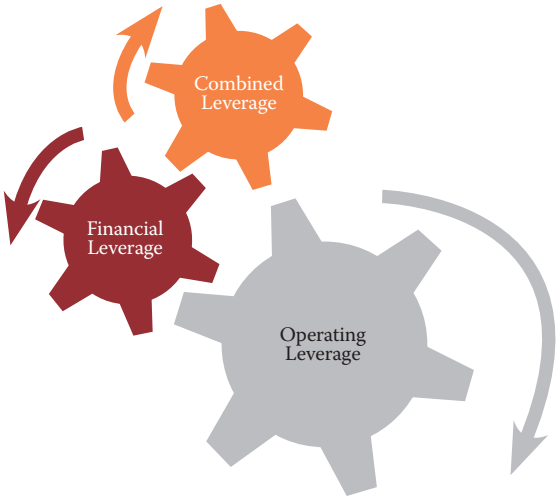


Chart Showing Operating Leverage, Financial Leverage and Combined Leverage

Profitability Statement			
Sales	xxx		
Less: **Variable Cost**	(xxx)		
Contribution	xxx	Operating Leverage	Combined Leverage
Less: **Fixed Cost**	(xxx)		
Operating Profit/ EBIT	xxx	Financial Leverage	
Less: **Interest**	(xxx)		
Earnings Before Tax (EBT)	xxx		
Less: **Tax**	(xxx)		
Profit After Tax (PAT)	xxx		
Less: **Pref. Dividend (if any)**	(xxx)		
Net Earnings available to equity shareholders/ PAT	xxx		
No. Equity shares (N)			
Earnings per Share (EPS) = (PAT ÷ N)			

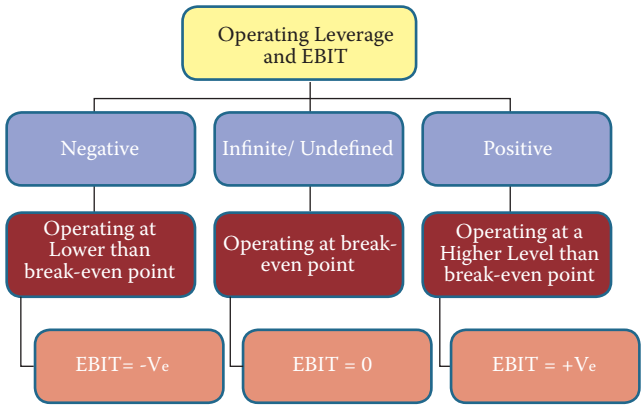
Operating Leverage:

Operating leverage (OL) maybe defined as the employment of an asset with a fixed cost in the hope that sufficient revenue will be generated to cover all the fixed and variable costs.

$$\text{Operating leverage} = \frac{\text{Contribution}}{\text{EBIT}}$$

$$\text{Degree of Operating Leverage (DOL)} = \frac{\%\text{ change in EBIT}}{\%\text{ change in Sales}}$$

Positive and Negative Operating Leverage:



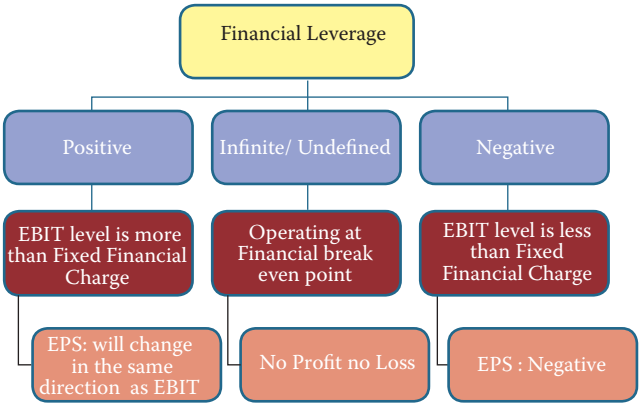
Financial Leverage:

Financial leverage (FL) maybe defined as 'the use of funds with a fixed cost in order to increase earnings per share.' In other words, it is the use of company funds on which it pays a limited return.

$$\text{Financial leverage} = \frac{\text{EBIT}}{\text{EBT}}$$

$$\text{Degree of Financial Leverage (DFL)} = \frac{\%\text{ change in EPS}}{\%\text{ change in EBIT}}$$

Positive and Negative Financial Leverage:



Combined Leverage:

Combined leverage

- It maybe defined as the potential use of fixed costs, both operating and financial, which magnifies the effect of sales volume change on the earning per share of the firm.

Degree of Combined Leverage = DOL X DFL

$$\text{Degree of Combined Leverage (DCL)} = \frac{\%\text{ change in EPS}}{\%\text{ change in Sales}}$$

Financial Leverage as 'Trading on Equity'

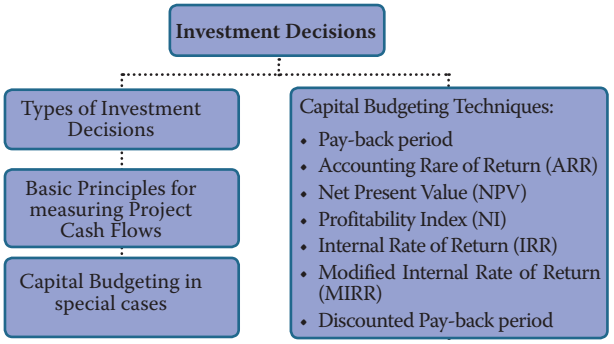
- Financial leverage indicates the use of funds with fixed cost like long term debts and preference share capital along with equity share capital which is known as trading on equity. When the quantity of fixed cost fund is relatively high in comparison to equity capital, it is said that the firm is "trading on equity".

Financial Leverage as a 'Double edged Sword'

- On one hand when cost of 'fixed cost fund' is less than the return on investment financial leverage will help to increase return on equity and EPS. However, when cost of debt is more than the return it will affect return of equity and EPS unfavourably. This is why financial leverage is known as "double edged sword".

INVESTMENT DECISIONS

Chapter Overview:



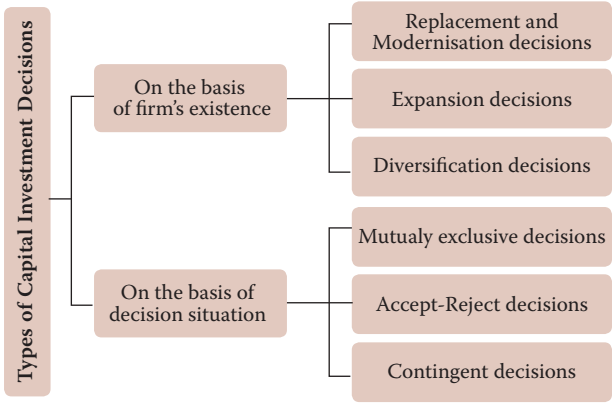
Capital Budgeting involves

- Identification of investment projects that are strategic to business overall objectives;
- Estimating and evaluating post-tax incremental cash flows for each of the investment proposals; and
- Selection of an investment proposal that maximizes the return to the investors

Capital Budgeting Process:

Chapter Overview

Generally, capital investment decisions are classified in two ways. One way is to classify them on the basis of firm's existence. Another way is to classify them on the basis of decision situation.



Estimation of Project Cash Flows

Capital Budgeting analysis considers only incremental cash flows from an investment likely to result due to acceptance of any project. Therefore, one of the most important tasks in capital budgeting is estimating future cash flows for a project.

Calculating Cash Flows

Particulars	No Depreciation is Charged	Depreciation is Charged
	(₹ Crore)	(₹ Crore)
Total Sales	***	***
Less: **Cost of Goods Sold**	***	***
	***	***
Less: **Depreciation**	-	***
Profit before tax	***	***
Tax @ 30%	***	***
Profit after Tax	***	***
Add: Depreciation*	-	***
Cash Flow	***	***

* Being non-cash expenditure, depreciation has been added back while calculating the cash flow.

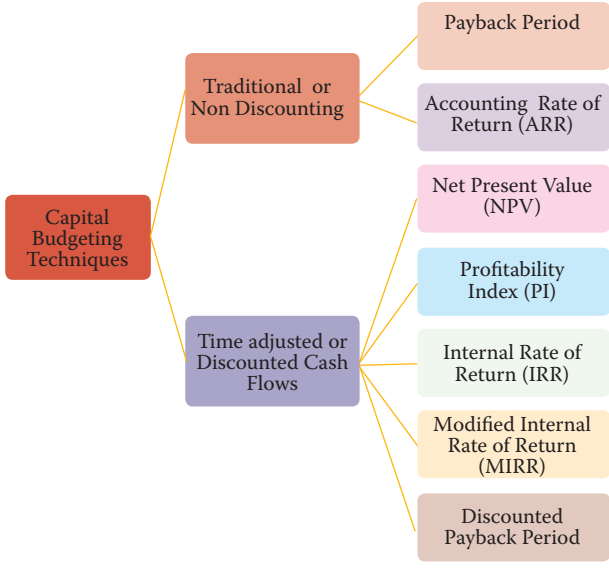
Statement showing the calculation of Cash Inflow after Tax (CFAT):

Sl. no.		(₹)
1	Total Sales Units	xxx
2	Selling Price per unit	xxx
3.	Total Sales [1 × 2]	xxx
4.	Less: Variable Cost	xxx
5.	Contribution [3 - 4]	xxx
6.	Less: Fixed Cost	
	(a) Fixed Cash Cost	xxx
	(b) Depreciation	xxx
7.	Earning Before Tax [6 - 7]	xxx
8.	Less: Tax	xxx
9.	Earning After Tax [7-8]	xxx
10.	Add: Depreciation	xxx
11.	Cash Inflow After Tax (CFAT) [9 +10]	xxx

Capital Budgeting Techniques:

In order to maximise the return to the shareholders of a company, it is important that the best or most profitable investment projects are selected as the results for making a bad long-term investment decision can be both financially and strategically devastating, particular care needs to be taken with investment project selection and evaluation.

There are a number of techniques available for appraisal of investment proposals and can be classified as presented below:



Payback Period:

The payback period of an investment is the length of time required for the cumulative total net cash flows from the investment to equal the total initial cash outlay.

$$\text{Payback period} = \frac{\text{Total initial capital investment}}{\text{Annual expected after-tax net cash flow}}$$

Accounting (Book) Rate of Return (ARR):

The accounting rate of return of an investment measures the average annual net income of the project (incremental income) as a percentage of the investment.

$$\text{Accounting rate of return} = \frac{\text{Average annual net income}}{\text{Investment}} \times 100$$

Net Present Value Technique (NPV):

The net present value technique is a discounted cash flow method that considers the time value of money in evaluating capital investments.

$$NPV = \sum_{t=1}^{n} \frac{C_t}{(1+k)^t} - I$$

Where,

C = Cash flow of various years
K = discount rate
N = Life of the project
I = Investment

Profitability Index /Desirability Factor/ Present Value Index Method (PI):

In comparing alternative proposal of comparing, we have to compare a number of proposals each involving different amounts of cash inflows. One of the methods of comparing such proposals is to work out what is known as the '*Desirability factor*', or '*Profitability index*' or '*Present Value Index Method*'.

$$\text{Profitability Index (PI)} = \frac{\text{Sum of discounted cash in flows}}{\text{Initial cash outlay or Total discounted cash outflow (as the case maybe)}}$$

Decision Rule:

If PI ≥ 1	**Accept the Proposal**
If PI ≤ 1	Reject the Proposal

In case of mutually exclusive projects; project with higher PI should be selected.

Internal Rate of Return Method (IRR):

Internal rate of return for an investment proposal is the discount rate that equates the present value of the expected net cash flows with the initial cash outflow.

$$LR + \frac{\text{NPV at LR}}{\text{NPV at LR- NPV at HR}} \times (HR-LR)$$

Where,

LR = Lower Rate

HR = Higher Rate

Summary of Decision criteria of Capital Budgeting techniques:

Techniques		For Independent Project	For Mutually Exclusive Projects
Non-Discounted	**Pay Back**	(i) When Payback period ≤ Maximum Acceptable Payback period: **Accepted** (ii) When Payback period ≥ Maximum Acceptable Payback period: **Rejected**	Project with least Payback period should be selected
	Accounting Rate of Return (ARR)	(i) When ARR ≥ Minimum Acceptable Rate of Return: **Accepted** (ii) When ARR ≤ Minimum Acceptable Rate of Return: **Rejected**	Project with the maximum ARR should be selected.
Discounted	**Net Present Value (NPV)**	(i) When NPV > 0: **Accepted** (ii) When NPV < 0: **Rejected**	Project with the highest positive NPV should be selected
	Profitability Index(PI)	(i) When PI > 1: **Accepted** (ii) When PI < 1: **Rejected**	When Net Present Value is same, project with Highest PI should be selected
	Internal Rate of Return (IRR)	(i) When IRR > K: **Accepted** (ii) When IRR < K: **Rejected**	Project with the maximum IRR should be selected

CA INTERMEDIATE (NEW) - PAPER 8A – FINANCIAL MANAGEMENT

This edition of capsule of Financial Management introduces the students at Intermediate level to two interesting chapters, namely 'Risk Analysis in Capital Budgeting' and 'Dividend Decision', which are added in this subject under new scheme of syllabus. The level of skills expected at the intermediate level requires understanding the various decisions undertaken to manage finance i.e. Procurement, investment and distribution of dividend to equity shareholders.
When a proposal for capital investment is forwarded to the management, management relies on the estimated cash flows to undertake investment decisions. The premises of capital investment decisions rest on the 'degree of accuracy in estimating cashflows' and 'selection of cut-off' rate against which estimated return from the proposal is evaluated. Finance Managers applies various techniques of risk measurement and factors risk elements while making estimation of cashflows under risk and uncertainty. The subscribers of equity shares finance the capital investment proposal bearing highest risks in comparison with other finance providers. Being the highest risk taker equity shareholders expect a 'return commensurate with the magnitude of risk borne by them. Managers of finance are required to discover a trade-off point where shareholders' expectation of return meets with appropriateness of risk adjusted return. 'Dividend decisions' covers the various approaches or models which are widely used and accepted in finance world.

RISK ANALYSIS IN CAPITAL BUDGETING

Points of Discussion

- Risk and Uncertainty in capital budgeting
- Sources of risks
- Consideration of risks and uncertainities in capital budgeting
- Techniques used for Analysis of Risks
- Advantages and Limitations of Risk Analysis Techniques

Risk & Uncertainty and its Measurement

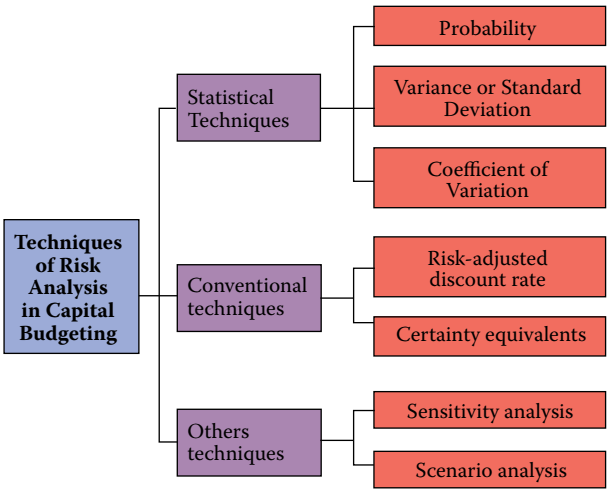
RISK

- Risk is the variability of possible outcomes from the expected one.
- Uncertainty is a situation when probability of cash flows are unknown
- Risk is measured by the Variance or Standard Deviation (SD). SD is a commonly used tool which measures the dispersion of possible outcomes around the mean.

Sources of Risk

- Project-specific risk
- Company-specific risk
- Industry-specific risk
- Market risk
- Competition risk
- Risk due to Economic conditions
- International risk

Techniques of Risk Analysis



Statistical Technique: • PROBABILITY

Probability is a measure about the chances that an event will occur.

Event certain to occur
- Probability = 1

No Chance of happening an event
- Probability = **0**

Expected cash flows are assigned a probability factor (Pi) and net cash flows are calculated.

$$E(R)/ENCF = \sum_{i=1}^{n} NCF_i \times P_i$$

Where,

$E(R)/ENCF$ = Expected Cash flows
P_i = Probability of Cash flow
NCF_i = Cash flows

Example:

Expectation	Cash Flows (₹) (2)	Probability (3)	Expected cash flow (2×3) (₹)
Best guess	3,00,000	0.3	3,00,000×0.3 = 90,000
High guess	2,00,000	0.6	2,00,000×0.6 =1,20,000
Low guess	1,20,000	0.1	1,20,000×0.1 =12,000
Expected Net cash flow (ENCF)			2,22,000

Statistical Technique: • VARIANCE

It measures the degree of dispersion between numbers in a data set from its average.

Variance is calculated as below:

$$\sigma^2 = \sum_{j=1}^{n} (NCF_j - ENCF)^2 P_j$$

Where, σ^2 = variance in net cash flow;
P = probability and ENCF = expected net cash flow.

Variance measures the uncertainty of a value from its average. Thus, variance helps an organization to understand the level of risk it might face on investing in a project.

A variance value of ZERO would indicate that the cash flows that would be generated over the life of the project would be same.

A LARGE variance indicates that there will be a large variability between the cash flows of the different years.

A SMALL variance would indicate that the cash flows would be somewhat stable throughout the life of the project.

Statistical Technique: • THE COEFFICIENT OF VARIATION

The Coefficient of Variation calculates the risk borne for every percent of expected return.

It is calculated as below:

$$\text{Coefficient of variation} = \frac{\text{Standard Deviation}}{\text{Expected Return / Expected Cash Flow}}$$

It enables to calculate the risk borne for every unit of estimated return from a particular investment.

The investment with lower ratio of standard deviation to expected return, provides a better risk – return trade off.

For selection between two projects, a project which has a lower Coefficient of Variation is selected.

Conventional Technique: • RISK ADJUSTED DISCOUNT RATE (RADR)

A risk adjusted discount rate is a sum of risk free rate and risk premium.

Risk free rate

The rate of return on Investments that bear no risk. For e.g., Government securities yield a return of 6 % and bear no risk. In such case, 6 % is the risk-free rate.

Risk Premium

The rate of return over and above the risk-free rate, expected by the Investors as a reward for bearing extra risk. For high risk project, the risk premium will be high and for low risk projects, the risk premium would be lower.

The required rate of return includes compensation for delay in consumption plus compensation for inflation equal to risk free rate of return, plus compensation for any kind of risk taken.

If the risk is higher than risk involved in a similar kind of project, discount rate is adjusted upward in order to compensate this additional risk borne.

It is calculated as below:

$$NPV = \sum_{t=0}^{n} \frac{NCF}{(1+k)^t} - I$$

Where, NCF_t = Net cash flow; K = Risk adjusted discount rate; I = Initial Investment

Advantages And Limitations Of Risk-Adjusted Discount Rate

ADVANTAGES of RADR

- It is easy to understand.
- It incorporates risk premium in the discounting factor.

LIMITATIONS of RADR

- Difficulty in finding risk premium and risk-adjusted discount rate.
- Though NPV can be calculated but it is not possible to calculate Standard Deviation of a given project.

Conventional Technique:

- CERTAINTY EQUIVALENT (CE)

To deal with risks in a capital budgeting, risky future cash flows are expressed in terms of the certain cashflows as their equivalent. Decision maker would be indifferent between the risky amount and the (lower) riskless amount considered to be its equivalent.

STEPS in the Certainty Equivalent (CE) Method

Step-1

- Remove risks by substituting equivalent certain cash flows from risky cash flows
- Multiply each risky cash flow by the appropriate α_t value (CE coefficient)

Step-2

- Discounted value of cash flow is obtained by applying risk less rate of interest

Step-3

- Capital budgeting methods are applied except in case of IRR method
- IRR is compared with risk free rate of interest rather than the firm's required rate of return

CE Coefficient (α_t) is calculated as below:

$$\text{CE Coefficient } (\alpha_t) = \frac{\text{Certain cash flow}}{\text{Risky or expected cash flow}_t}$$

Certainty Equivalent Coefficients transform expected values of uncertain flows into their Certainty Equivalents.

Calculation is made as below:

$$NPV = \sum_{t=1}^{n} \frac{\alpha_t \times NCF_t}{(1+k)^t} - I$$

Where,

NCF_t = the forecasts of net cash flow for year 't' without risk-adjustment

α_t = the risk-adjustment factor or the certainly equivalent coefficient.

K_f = risk-free rate assumed to be constant for all periods.

I = amount of initial Investment.

The value of Certainty Equivalent Coefficient lies between 0 & 1.

Certainty Equivalent Coefficient 1 indicates that the cash flow is certain or managements are risk neutral.

In industrial situation, cash flows are generally uncertain and managements are usually risk averse.

Advantages and Disadvantages of CE Method

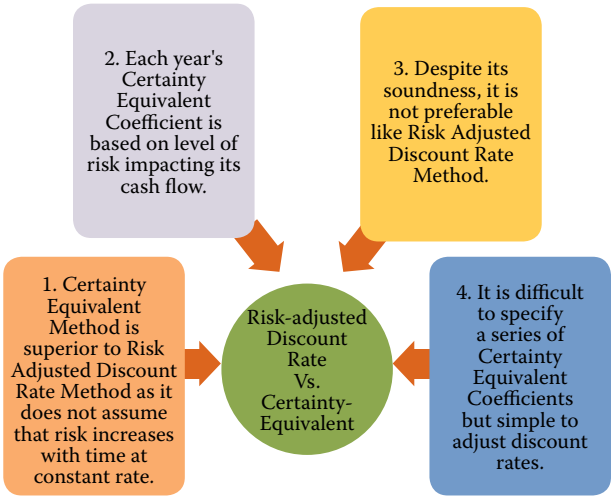
ADVANTAGES of CE Method

- Simple and easy to understand and apply.
- It can easily be calculated for different risk levels applicable to different cash flows.

DISADVANTAGES of CE Method

- CEs are subjective and vary as per each individual's estimate.
- CEs are decided by the management based on their perception of risk. However, the risk perception of the shareholders who are the money lenders for the project is ignored.

Risk-Adjusted Discount Rate Vs. Certainty-Equivalent:



Other Technique: • SENSITIVITY ANALYSIS

Sensitivity Analysis → A modeling technique used in Capital Budgeting decisions to study the impact of changes in the variables on the outcome of the project.

As per CIMA terminology," A modeling and risk assessment procedure in which changes are made to significant variables in order to determine the effect of these changes on the planned outcome. Particular attention is thereafter paid to variables identifies as being of special significance"

In Sensitivity Analysis, the project outcome is studied after taking into change in only one variable. → **The more sensitive is the NPV, the more critical is the variable.** → **It is a way of finding impact in the project's NPV (or IRR) for a given change in one of the variables.**

Steps involved in Sensitivity Analysis

Step-1 — **Finding variables, which have an influence on the NPV (or IRR) of the project**

Step-2 — **Establishing mathematical relationship between the variables.**

Step-3 — **Analysis the effect of the change in each of the variables on the NPV (or IRR) of the project.**

Advantages and Disadvantages of Sensitivity Analysis

ADVANTAGES of Sensitivity Analysis

- **Critical Issues:** This analysis identifies critical factors that impinge on a project's success or failure.
- **Simplicity:** It is a simple technique.

DISADVANTAGES of Sensitivity Analysis

- **Assumption of Independence:** This analysis assumes that all variables are independent i.e. they are not related to each other, which is unlikely in real life.
- **Ignore probability:** This analysis does not look to the probability of changes in the variables.

Other Technique: • SCENARIO ANALYSIS

Scenario Analysis → **This analysis brings in the probabilities of changes in key variables and also allows us to change more than one variable at a time.**

Although sensitivity analysis is probably the most widely used risk analysis technique, it does have limitations.

Therefore, we need to extend sensitivity analysis to deal with the probability distributions of the inputs.

In addition, it would be useful to vary more than one variable at a time so we could see the combined effects of changes in the variables.

Scenario analysis provides answer to these situations of extensions.

Examining Risk of Investment through Scenario Analysis

Scenario analysis begins with base case or most likely set of values for the input variables.

Then, go for worst case scenario (low unit sales, low sale price, high variable cost and so on) and best case scenario.

Alternatively scenarios analysis is possible where some factors are changed positively and some factors are changed negatively.

In a nutshell Scenario analysis examine the risk of investment, to analyse the impact of alternative combinations of variables, on the project's NPV (or IRR).

Sensitivity Analysis Vs. Scenario Analysis

Sensitivity Analysis Vs Scenario Analysis

SENSITIVITY analysis calculates the impact of the change of a single input variable on the outcome of the project viz., NPV or IRR. The sensitivity analysis thus enables to identify that single critical variable that can impact the outcome in a huge way and the range of outcomes of the project given the change in the input variable.

SCENARIO analysis, on the other hand, is based on a scenario. The scenario may be recession or a boom wherein depending on the scenario, all input variables change. Scenario Analysis calculates the outcome of the project considering this scenario where the variables have changed simultaneously.

DIVIDEND DECISIONS

Points of Discussion

- Meaning of Dividend and its significance
- Forms of Dividend
- Determinants of Dividend Decisions
- Theories of Dividend
- Meaning, Advantages and Limitations of Stock split

Meaning of Dividend and its Significance

Dividend is the part of profit after tax which is distributed to the shareholders of the company.

Profit after tax

- Distributed → Dividend
- Retained → Retained Earnings

Significance of Dividend policy

Long Term Financing Decision:

Equity can be raised externally through issue of equity shares or can be generated internally through retained earnings. But retained earnings are preferable because they do not involve floatation costs.

Whether to retain or distribute the profit forms the basis of the Dividend decision. Since payment of cash dividend reduces the amount of funds necessary to finance profitable investment opportunities thereby restricting it to find other avenues of finance.

The decision is based on the following

Whether the organization has opportunities in hand to invest the amount of profits, if retained?

Whether the return on such investment (ROI) will be higher than the expectations of shareholders i.e. K_e?

Wealth Maximization Decision:

Because of market imperfections and uncertainty, shareholders give higher value to near dividends than future dividends and capital gains.

Payment of dividends influences the market price of the share. Higher dividends increase value of shares and low dividends decrease it.

When the firm increases retained earnings, shareholders' dividends decrease and consequently market price is affected.

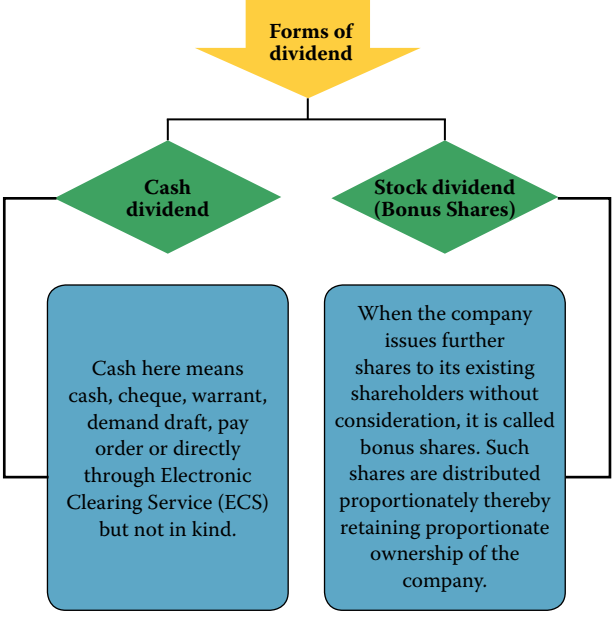
Use of retained earnings to finance profitable investments increases future earnings per share.

On the other hand, increase in dividends may cause the firm to forego investment opportunities for lack of funds and thereby decrease the future earnings per share.

Thus, management should develop a dividend policy which divides net earnings into dividends and retained earnings in an optimum way so as to achieve the objective of wealth maximization for shareholders.

Such policy will be influenced by investment opportunities available to the firm and value of dividends as against capital gains to shareholders.

Forms of Dividend



Advantages and Limitations of Stock Dividend

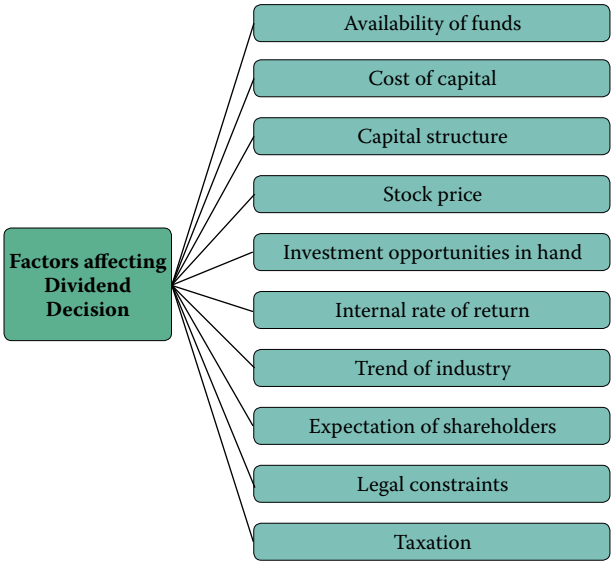
ADVANTAGES OF STOCK DIVIDEND

- Policy of paying fixed dividend per share and its continuation increases total cash dividend of the shareholders in future
- Conservation of cash for meeting profitable investment opportunities.
- Cash deficiency and restrictions imposed by lenders to pay cash dividend

LIMITATIONS OF STOCK DIVIDEND

- Stock dividend does not affect the wealth of shareholders and therefore it has no value for them
- Stock dividends are more costly to administer than cash dividend

Determinants of Dividend Decisions



Practical Considerations in Dividend Policy

A discussion on internal financing ultimately turns to practical considerations which determine the dividend policy of a company.

The formulation of dividend policy depends upon answers to the questions:

Whether there should be a stable pattern of dividends over the years.	Whether the company should treat each dividend decision completely independent.

Theories of Dividend

Theories of Dividend

Irrelevance Theory (Dividend is ireevelant)	Relevance Theory (Dividend is relevant)	Other Models

M.M. Approach	Walter's Model	Gordon's Model	Dividend Discount Model (DDM)	Graham & Dodd's Model	Linter's Model

Dividend's Irrelevance Theory → • MODIGLIANI and MILLER (M.M) HYPOTHESIS

According to MM hypothesis, market value of equity shares depends solely on its earning power and is not influence by the manner in which its earnings are split between dividends and retained earnings.

Market value of equity shares is not affected by dividend size.

Assumptions of MM Hypothesis:

- Perfect capital markets
- No taxes or no tax discrimination
- Fixed investment policy
- No floatation or transaction cost
- Risk of uncertainty does not exist

Price of shares is calculated as below:

$$P_0 = \frac{P_1 + D_1}{1 + K_e}$$

Where,

P_0 = Price in the beginning of the period.
P_1 = Price at the end of the period.
D_1 = Dividend at the end of the period.
K_e = Cost of equity/ rate of capitalization/ discount rate.

As per MM hypothesis, the value of firm will remain unchanged due to dividend decision.

This can be computed with the help of the following formula:

$$V_f \text{ or } nP_0 = \frac{(n + \Delta n)P_1 - I + E}{(1 + K_e)}$$

Where,

V_f = Value of firm in the beginning of the period
n = number of shares in the beginning of the period
Δn = number of shares issued to raise the funds required
I = Amount required for investment
E = total earnings during the period

Advantages and Limitations of MM Hypothesis

ADVANTAGES of MM Hypothesis

- This model is logically consistent.
- It provides a satisfactory framework on dividend policy with the the concept of Arbitrage process.

LIMITATIONS of MM Hypothesis

- Validity of various assumptions is questionable.
- This model may not be valid under uncertainty.

Dividend's relevance Theory → • WALTER'S MODEL

As per Walter's Model, in the long run, share prices reflect only the present value of expected dividends. Retentions influence stock prices only through their effect on further dividends.

As per Walter's Model, two factors which influence the market price of a share are (i) Dividend per share and (ii) Relationship between IRR and Ke.

The relationship between dividend and share price based on Walter's formula is shown below:

$$\text{Market Price (P)} = \frac{D + \frac{r}{K_e}(E - D)}{K_e}$$

Where,

P = Market Price of the share.
E = Earnings per share.
D = Dividend per share.
K_e = Cost of equity/ rate of capitalization/ discount rate.
r = Internal rate of return/ return on investment

Assumptions of Walter's Model

- All investment proposals are financed through retained earnings only.
- 'r' rate of return & 'K_e' cost of capital are constant.
- Perfect capital markets.
- No taxes or no tax discrimination between dividend and capital gain.
- No floatation or transaction cost.
- The firm has perpetual life.

Conclusion of Walter's Model

Company	Condition of r vs K_e	Correlation between Size of Dividend and Market Price of share	Optimum dividend payout ratio
Growth	r > K_e	Negative	Zero
Constant	r = K_e	No correlation	Every payout ratio is optimum
Decline	r < K_e	Positive	100%

Growth Company:

- Company is able to invest/utilize the fund in a better manner. Shareholders can accept low dividend because their value of share would be higher.

Decline Company:

- Company is not in a position to cover the cost of capital; shareholders would prefer a higher dividend to utilize their funds in more profitable opportunities.

Advantages and Limitations of Walter's Model

ADVANTAGES of Walter's Model

- Simple to understand and easy to compute.
- It can envisage different possible market prices in different situations and considers internal rate of return, market capitalisation rate and dividend payout ratio in the determination of market value of shares.

LIMITATIONS of Walter's Model

- The formula does not consider all the factors affecting dividend policy and share prices.
- Determination of market capitalisation rate is difficult.
- The formula ignores such factors as taxation, various legal and contractual obligations, management policy and attitude towards dividend policy and so on

Dividend's relevance Theory

- GORDON'S MODEL

According to Gordon's model, when IRR is greater than cost of capital, the price per share increases and dividend pay-out decreases. On the other hand when IRR is lower than the cost of capital, the price per share decreases and dividend pay-out increases.

The following formula is used by Gordon to find out price per share:

$$P_0 = \frac{E_1(1-b)}{K_e - br}$$

Where,

P_0 = Price per share
E_1 = Earnings per share
b = Retention ratio; (1 - b = Payout ratio)
K_e = Cost of capital
r = IRR and br = Growth rate (g)

Assumptions of Gordon's Model

- Firm is an all equity firm i.e. no debt.
- IRR will remain constant.
- Ke will remains constant.
- Retention ratio (b), once decide upon, is constant.
- Growth rate (g = br) is also constant.
- $K_e > g$
- Investment proposals are financed through retained earnings only.

Conclusion of Gordon's Model

Company	Condition of r vs Ke	Optimum dividend payout ratio
Growth	r > Ke	Zero
Constant	r = Ke	There is no optimum ratio
Declining	r < Ke	100%

The "Bird-in-Hand" Theory

Myron Gordon revised his dividend model and considered the risk and uncertainty in his model.

Bird-in-hand theory of Gordon has two arguments

- **Investors are risk averse**
- **Investors put a premium on certain return and discount on uncertain return**

Gordon argues that what is available at present is preferable to what may be available in the future. As investors are rational, they want to avoid risk and uncertainty. They would prefer to pay a higher price for shares on which current dividends are paid. Conversely, they would discount the value of shares of a firm which postpones dividends. The discount rate would vary with the retention rate.

Relationship between Dividend and Share Price on the basis of Gordon's formula

$$\text{Market price per share } (P_0) = \left[\frac{D_0(1+g)}{K_e - g}\right]$$

Where,

P_0 = Market price per share (ex-dividend)
D_0 = Current year dividend
g = Constant annual growth rate of dividends
K_e = Cost of equity capital (expected rate of return).

Advantages and Limitations of Gordon's Model

ADVANTAGES of Gordon's Model

- A useful heuristic model that relates the present stock price to the present value of its future cash flows.
- Easy to understand.

LIMITATIONS of Gordon's Model

- Model depends on projections about company growth rate and future capitalization rates of the remaining cash flows, which may be difficult to calculate accurately.
- The true intrinsic value of a stock is difficult to determine realistically.

Other Models

- DIVIDEND DISCOUNT MODEL (DDM)

It is a financial model that values shares at the discounted value of the future dividend payments. Under this model, the price of a share will be traded is calculated by the PV of all expected future dividend payment discounted by an appropriate risk- adjusted rate. The dividend discount model price is the intrinsic value of the stock.

Intrinsic value = Sum of PV of future cash flows

Intrinsic value = Sum of PV of Dividends + PV of Stock Sale Price

$$\text{Stock Intrinsic Value} = \frac{D_1}{(1+K_e)^1} + \frac{D_2}{(1+K_e)^2} + \ldots\ldots + \frac{D_n}{(1+K_e)^n} + \frac{RV_n}{(1+K_e)^n}$$

Dividend Discount Model (Possible situation)

Dividend Discount Model (Possible situation)

- **Zero Growth**
- **Constant Growth**
- **Variable Growth**

Zero growth rates: It assumes all dividend paid by a stock remains same.

In this case the stock price would be equal to:

$$\text{Stock's intrinsic Value} = \frac{\text{Annual dividend}}{\text{Requied rate of return}}$$

i.e. $P_0 = \frac{D}{K_e}$

Where,

D = Annual dividend
K_e = Cost of capital
P_0 = Current Market price of share

Constant Growth Rate (Gordon's Growth Model): It assumes constant growth of dividend.

The relationship between dividend and share price on the basis of Gordon's formula is:

$$\text{Market price per share (P)} = \frac{D_0(1+g)}{K_e - g}$$

Where,

- P = Market price per share (ex-dividend)
- D_0 = current year dividend
- g = growth rate of dividends
- K_e = cost of equity capital/ expected rate of return

Notes:

- g = b × r
- b = proportion of retained earnings or (1- dividend payout ratio)

Variable growth rate: Variable-growth rate models (multi-stage growth models) can take many forms, even assuming the growth rate is different for every year.

However, the most common form is one that assumes 3 different rates of growth: an initial high rate of growth, a transition to slower growth, and lastly, a sustainable, steady rate of growth.

Basically, the constant-growth rate model is extended, with each phase of growth calculated using the constant-growth method, but using 3 different growth rates of the 3 phases.

The present values of each stage are added together to derive the intrinsic value of the stock.

Sometimes, even the capitalization rate, or the required rate of return, may be varied if changes in the rate are projected.

Other Models • GRAHAM & DODD's MODEL

The stock market places considerably more weight on dividends than on retained earnings.

The formula is given below:

$$P = m\left(D + \frac{E}{3}\right)$$

Where,

- P = Market price per share
- D = Dividend per share
- E = Earnings per share
- m = a multiplier

Other Models • LINTER's MODEL

Under Linter's model, the current year's dividend is dependent on current year's earnings and last year's dividend.

Parameters

- **The target payout ratio**
- **The spread at which current dividends adjust to the target**

The formula is given below:

$$D_1 = D_0 + [(EPS \times \text{Target payout}) - D_0] \times Af$$

Where,

- D_1 = Dividend in year 1
- D_0 = Dividend in year 0 (last year dividend)
- EPS = Earnings per share
- Af = Adjustment factor or Speed of adjustment

The following are the assumptions of Linter's Model:

- Firm have a long term dividend payout ratio.
- More concern on changes in dividends than the absolute amounts of dividends.
- Dividend changes follow changes in long run sustainable earnings.
- Managers are reluctant to affect dividend changes that may have to be reversed.

Criticism of Linter's Model

CRITICISM of Linter's Model

- Does not offer a market price for the shares
- Adjustment factor is an arbitrary number and not based on any scientific criterion or method

Stock Splits

Stock Splits → Splitting one share into many, say, one share of ₹ 500 in to 5 shares of ₹ 100

Advantages and Limitations of Stock Splits

ADVANTAGES of Stock Splits

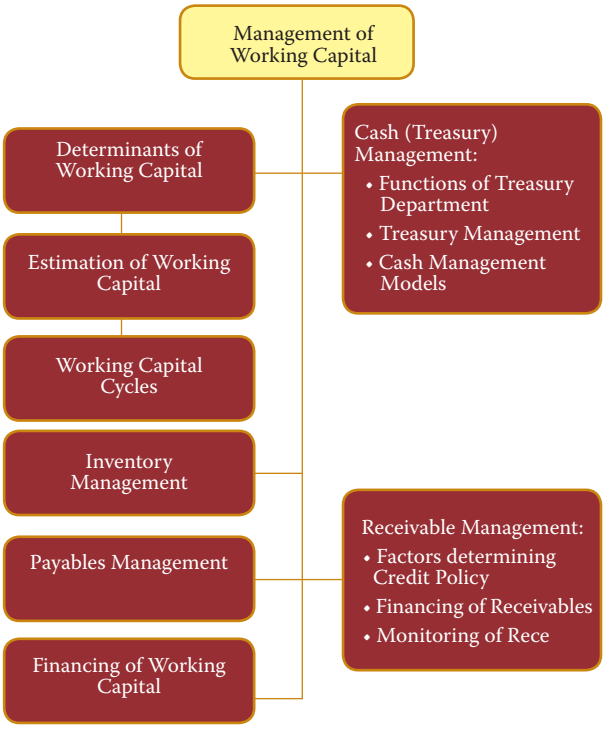
- Makes the share affordable to small investors.
- Number of shares may increase the number of shareholders.

LIMITATIONS of Stock Splits

- Additional expenditure need to be incurred on the process of stock split.
- Low share price may attract speculators or short term investors, which are generally not preferred by any company.

MANAGEMENT OF WORKING CAPITAL

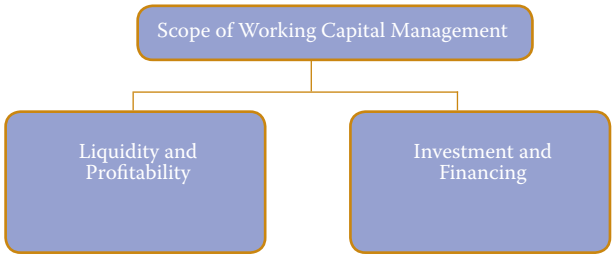
Chapter Overview



Working Capital: In accounting term working capital is the difference between the current assets and current liabilities.

Working Capital = Current Assets – Current Liabilities

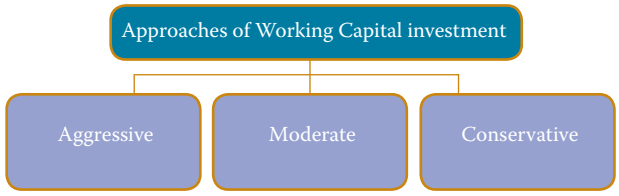
Scope of Working Capital Management



Liquidity vs Profitability: The trade-off between the components of working capital can be summarised as follows:

Component of Working Capital	Advantages of higher side (Profitability)	Trade-off (between Profitability and Liquidity)	Advantages of lower side (Liquidity)
Inventory	Fewer stock- outs increase the profitability.	Use techniques like EOQ, JIT etc. to carry optimum level of inventory.	Lower inventory requires less capital but endangered stock-out and loss of goodwill.
Receivables	Higher Credit period attract customers and increase revenue	Evaluate the credit policy; use the services of debt management (factoring) agencies.	Cash sales provide liquidity but fails to boost sales and revenue
Pre-payment of expenses	Reduces uncertainty and profitable in inflationary environment.	Cost-benefit analysis required	Improves or maintains liquidity.
Cash and Cash equivalents	Payables are honoured in time, improves the goodwill and helpful in getting future discounts.	Cash budgets and other cash management techniques can be used	Cash can be invested in some other investment avenues
Payables and Expenses	Capital can be used in some other investment avenues	Evaluate the credit policy and related cost.	Payables are honoured in time, improves the goodwill and helpful in getting future discounts.

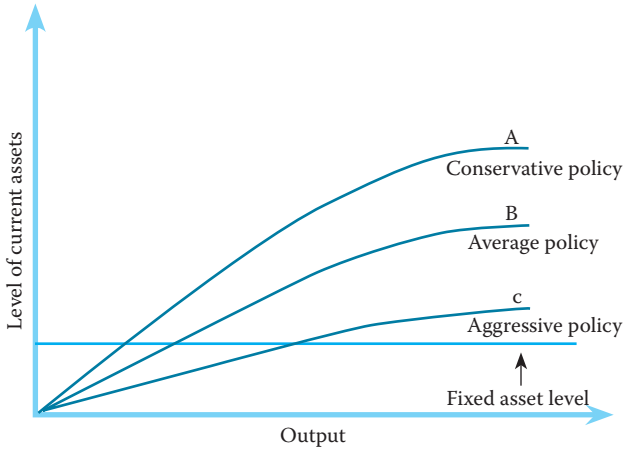
Investment and Financing



Aggressive
- Here investment in working capital is kept at minimal investment in current assets which means the entity does hold lower level of inventory, follow strict credit policy, keeps less cash balance etc.

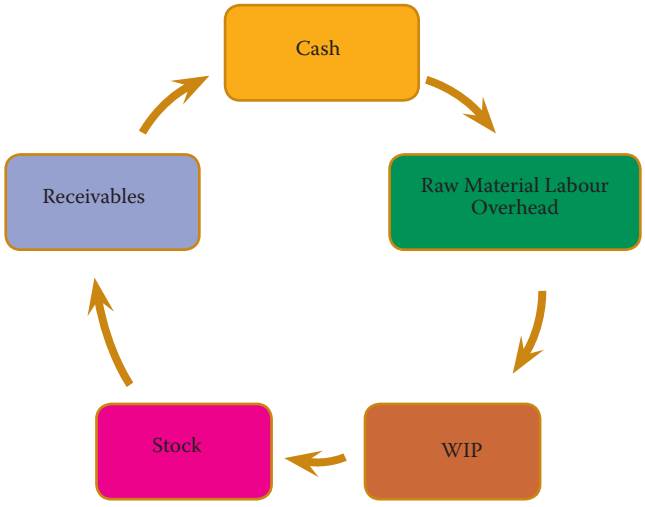
Conservative
- In this approach of organisation use to invest high capital in current assets. Organisations use to keep inventory level higher, follows liberal credit policies, and cash balance as high as to meet any current liabilities immediately.

Moderate
- This approach is in between the above two approaches. Under this approach a balance between the risk and return is maintained to gain more by using the funds in very efficient manner.



Operating/ Working Capital Cycle: Working Capital cycle indicates the length of time between a company's paying for materials, entering into stock and receiving the cash from sales of finished goods.

Working Capital Cycle



In the form of an equation, the operating cycle process can be expressed as follows:

Operating Cycle = R + W + F + D – C

Where,

R = Raw material storage period
W = Work-in-progress holding period
F = Finished goods storage period
D = Receivables (Debtors) collection period.
C = Credit period allowed by suppliers (Creditors).

The various components of Operating Cycle may be calculated as shown below:

(1)	Raw Material Storage Period	= Average stock of Raw material / Average Cost of Raw material Consumption per day
(2)	Work-in-Progress holding period	= Avg Work-in-progress inventory / Average Cost of Production per day
(3)	Finished Goods storage period	= Average stock of finished goods / Average Cost of Goods Sold per day
(4)	Receivables (Debtors) collection period	= Average Receivables / Average Credit Sales per day
(5)	Credit period allowed by suppliers (Creditors)	= Average Payables / Average Credit Purchases per day

Estimation of Amount of Different Components of Current Assets and Current Liabilities

(i) Raw Materials Inventory:

$$\frac{\text{Estimated Production (units)}}{\text{12 months / 365 days *}} \times \text{Estimated Cost per unit} \times \text{Average raw material storage period}$$

(ii) Work-in-Progress Inventory:

$$\frac{\text{Estimated Production (units)}}{\text{12 months / 365 days *}} \times \text{Estimated WIP cost per unit} \times \text{Average W-I-P holding period}$$

(iii) Finished Goods:

$$\frac{\text{Estimated Production (units)}}{\text{12 months / 365 days *}} \times \text{Estimated Cost of production per unit} \times \text{Average storage period}$$

(iv) Receivables (Debtors):

$$\frac{\text{Estimated Credit Sales unit}}{\text{12 months / 365 days *}} \times \text{Cost of sales (excluding depreciation) per unit} \times \text{Average collection period}$$

(v) Cash and Cash equivalents: Minimum desired Cash and Bank balance to be maintained

(vi) Trade Payables (Creditors):

$$\frac{\text{Estimated credit purchase}}{\text{12 months / 365 days *}} \times \text{Credit period allowed by suppliers}$$

(vii) Direct Wages:

$$\frac{\text{Estimated labour hours x wages rate per hour}}{\text{12 months / 365 days *}} \times \text{Average time lag in payment of wages}$$

(viii) Overheads (other than depreciation and amortization):

$$\frac{\text{Estimated Overheads}}{\text{12 months / 360 days *}} \times \text{Average time lag in payment of overheads}$$

**Number of days in a year may be taken as 365 or 360 days.*

Estimation of Working Capital Requirements

		Amount	Amount	Amount
I.	**Current Assets:**			
	Inventories:			
	- Raw Materials	---		
	- Work-in-process	---		
	- Finished goods	---	---	
	Receivables:			
	- Trade debtors	---		
	- Bills	---	---	
	Minimum Cash Balance		---	
	Gross Working Capital		---	---
II.	Current Liabilities:			
	Trade Payables		---	
	Bills Payables		---	
	Wages Payables		---	
	Payables for overheads		---	---
III.	**Excess of Current Assets over Current Liabilities [I – II]**			---
IV.	Add: Safety Margin			---
V.	**Net Working Capital [III + IV]**			---

MANAGEMENT OF RECEIVABLES

Approaches of Evaluation of Credit Policies

There are basically two methods of evaluating the credit policies to be adopted by a Company – Total Approach and Incremental Approach. The formats for the two approaches are given as under:

Statement showing the Evaluation of Credit Policies (based on Total Approach)

Particulars	*Present Policy*	*Proposed Policy I*	*Proposed Policy II*	*Proposed Policy III*
	₹	₹	₹	₹
A. Expected Profit:				
(a) Credit Sales	.....	.....	.....	.....
(b) Total Cost other than Bad Debts and Cash Discount				
(i) Variable Costs	.....	.....	.....	.....
(ii) Fixed Costs	.....	.....	.....	.....
	.....	.....	.....	.....
(c) Bad Debts	.....	.....	.....	.....
(d) Cash discount				
(e) Expected Net Profit before Tax (a-b-c-d)	.....	.....	.....	.....
(f) *Less:* Tax	.....	.....	.....	.....
(g) Expected Profit after Tax	.....	.....	.....	.....
B. Opportunity Cost of Investments in Receivables locked up in Collection Period	.....	.....	.....	.....
Net Benefits (A – B)	.....	.....	.....	.....

Statement showing the Evaluation of Credit Policies (based on Incremental Approach)

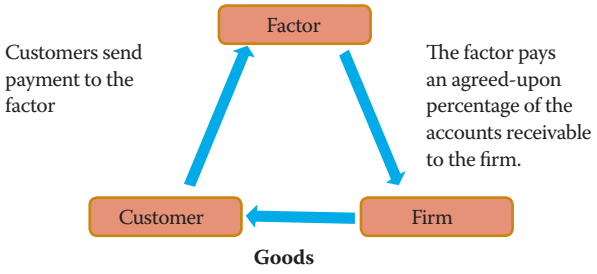
Particulars	*Present Policy days*	*Proposed Policy I days*	*Proposed Policy II days*	*Proposed Policy III days*
	₹	₹	₹	₹
A. Incremental Expected Profit:				
Credit Sales	.....	.....	.....	.....
(a) Incremental Credit Sales	.....	.....	.....	.....
(b) Less: Incremental Costs of Credit Sales				
(i) Variable Costs	.....	.....	.....	.....
(ii) Fixed Costs	.....	.....	.....	.....
(c) Incremental Bad Debt Losses	.....	.....	.....	.....
(d) Incremental Cash Discount	.....	.....	.....	.....
(e) Incremental Expected Profit (a-b-c-d)	.....	.....	.....	.....
(f) Less: Tax	.....	.....	.....	.....
(g) Incremental Expected Profit after Tax	.....	.....	.....	.....
	.....	.....	.....	.....
B. Required Return on Incremental Investments:				
(a) Cost of Credit Sales	.....	.....	.....	.....
(b) Collection Period (in days)	.....	.....	.....	.....

(c) Investment in Receivable (a x b/365 or 360)	.....	.....	.....	.....
(d) Incremental Investment in Receivables	.....	.....	.....	.....
(e) Required Rate of Return (in %)	.....	.....	.....	.....
(f) Required Return on Incremental Investments (d x e)	.....	.....	.....	.....
Incremental Net Benefits (A – B)	.....	.....	.....	.....

Financing of Receivables

(i) Pledging: This refers to the use of a firm's receivable to secure a short term loan.

(ii) Factoring: This refers to outright sale of accounts receivables to a factor or a financial agency.



The basic format of evaluating factoring proposal is given as under:

Statement showing the Evaluation of Factoring Proposal

	Particulars	₹
A.	**Annual Savings (Benefit) on taking Factoring Service**	
	Cost of Credit Administration saved	.....
	Bad Debts avoided	.....
	Interest saved due to reduction in Average collection period (Wherever applicable) [Cost of Annual Credit Sales × Rate of Interest × (Present Collection Period – New Collection Period)/360* days]	.....
	Total	.....
B.	**Annual Cost of Factoring to the Firm:**	
	Factoring Commission [Annual credit Sales × % of Commission (or calculated annually)]	.....
	Interest Charged by Factor on advance (or calculated annually)	.....
	[Amount available for advance or (Annual Credit Sales – Factoring Commission – Factoring Reserve)] × $\left[\frac{\text{Collection Period (days)}}{360^*} \times \text{Rate of Interest}\right]$	
	Total	.....
C.	**Net Annual Benefits/Cost of Factoring to the Firm:**	.....
	Rate of Effective Cost of Factoring to the Firm $= \frac{\text{Net Annual cost of Factoring}}{\text{Amount available for advance}} \times 100$ or $\frac{\text{Net annual Cost of Factoring}}{\text{Advances to be paid}} \times 100$	
	Advances to be paid = (Amount available for advance – Interest deducted by factor)	

CA INTERMEDIATE - PAPER 8(B) - ECONOMICS FOR FINANCE

At the Intermediate level, students are expected to not only acquire professional knowledge but also the ability to apply such knowledge in problem solving. In this capsule for students, an attempt has been made to capture the significance and importance of the subject of Economics for Finance with the intention to assist in revision of concepts discussed in the study material.

UNIT - I

National Income Accounting

Determination of National Income

National Income Accounting

- Different concepts of National Income
- Measurement of National Income in India
- Limitations and Challenges of National Income Computation

Introduction

Just as there are accounting conventions which measure the performance of business, there are conventions for measuring and analysing the economic performance of a nation.

National Income Accounting, pioneered by the Nobel prize-winning economists Simon Kuznets and Richard Stone, is one such measure.

National income

National Income is defined as the net value of all economic goods and services produced within the domestic territory of a country in an accounting year plus the net factor income from abroad

Usefulness and Significance of National Income Estimate

National income accounts provide a comprehensive, conceptual and accounting framework for analysing and evaluating the short-run performance of an economy

The distribution pattern of national income determines the pattern of demand for goods and services and enables businesses to forecast the future demand for their products.

Economic welfare depends to a considerable extent on the magnitude and distribution of national income, size of per capita income and the growth of these over time

National income estimates throw light on income distribution and the possible inequality in the distribution among different categories of income earners

Combined with financial and monetary data, national income data provides a guide to make policies for growth and inflation

Circular flow of income refers to the continuous circulation of production, income generation and expenditure involving different sectors of the economy.

Important Concepts

GNP_{MP} = GDP_{MP} + Net Factor Income from Abroad

NDP_{MP} = GDP_{MP} - Depreciation = NNP_{MP} - Net Factor Income from Abroad

NNP_{MP} =GNP_{MP} - Depreciation =NNP_{Mp} = NDP_{MP} + Ner Factor Income from abroad =NNP_{MP} = GDP_{MP} + Net Factor Income from Abroad - Depreciation

Market Price = Factor Cost + Net Indirect Taxes= Factor Cost + Indirect Taxes – Subsidies

Factor Cost = Market Price - Net Indirect Taxes = Market Price - Indirect Taxes + Subsidies

Gross Domestic Product at Factor Cost (GDP_{FC}) = GDP_{MP} – Indirect Taxes + Subsidies

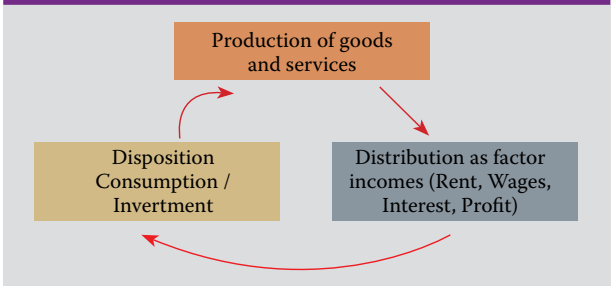
Net Domestic Product at Factor Cost (NDP_{FC}) is defined as the total factor incomes earned by the factors of production. = NDP_{FC} = NDP_{MP} - Net Indirect Taxes

Private Income = Factor income from net domestic product accruing to the private sector + Net factor income from abroad + National debt interest + Current transfers from government + Other net transfers from the rest of the world.

Personal income is a measure of the actual current income receipt of persons from all sources. PI = NI + income received but not earned - income earned but not received.

Disposable Personal Income (DI) that is available for their consumption or savings DI = PI - Personal Income Taxes - Non Tax Payments

Circular Flow of Income



Data requirements and Outcomes of Different Methods of National Income Calculation

Method	Date required	What is measured
Phase of Output: Value added method (Product Method)	The sum of net values added by all the producing enterprises of the country	Contribution of production units
Phase of income: Income Method	Total factor incomes generated in the production of goods and services	Relative contribution of factor owners
Phase of income: Income Method	Sum of expenditures of the three spending units in the economy, namely, government, consumer households, and producion enterprises	Flow of consumption and investment expenditures

The System of Regional Accounts in India

At present, practically all the states and union territories of India compute state income estimates and district level estimates. State Income or Net State Domestic Product (NSDP) is a measure in monetary terms of the volume of all goods and services produced in the state within a given period of time (generally a year) accounted without duplication.

Production Method

Gross value added (GVA_{MP}) = Value of output – Intermediate consumption = (Sales + change in stock) – Intermediate consumption

Income Method

- NNP_{FC} or National Income =
- Compensation of employees +
- Operating Surplus (rent + interest + profit) + Mixed Income of Self - employed + Net Factor Income from Abroad

Expenditure Method

- GDP_{MP}
- = Private final consumption expenditure + Government final
- consumption expenditure + Gross domestic capital formation (Net domestic capital formation + depreciation) + Net export

In agricultural sector, net value added is estimated by the production method, in small scale sector net value added is estimated by the income method and in the construction sector net value added is estimated by the expenditure method.

Limitation of National Income

- Lack of an agreed definition of national income.
- Accurate distinction between final goods and intermediate goods.
- Issue of transfer payments.
- Services of durable goods.
- Difficulty of incorporating distribution of income.
- Valuation of a new good at constant prices, and valuation of government services.

Challenges

- Inadequacy of data and lack of reliability of available data.
- Presence of non-monetized sector.
- Production for self-consumption.
- Absence of recording of incomes due to illiteracy and ignorance.
- Lack of proper occupational classification and
- Accurate estimation of consumption of fixed capital.

UNIT- II

Keynesian Theory of Determination of National Income

- The classical economists maintained that the economy is self-regulating and is always capable of automatically achieving equilibrium at the 'natural level' of real GDP or output, which is the level of real GDP that is obtained when the economy's resources are fully employed. While circumstances arise from time to time that cause the economy to fall below or to exceed the natural level of real GDP, wage and price flexibility will bring the economy back to the natural level of real GDP.
- Keynes argued that markets would not automatically lead to full-employment equilibrium and the resulting natural level of real GDP. The economy could settle in equilibrium at any level of unemployment. Keynesians believe that prices and wages are not so flexible; they are sticky, especially downward.

BASIC CONCEPTS AND FUNCTIONS

Aggregate Demand Function

Aggregate demand (AD) is what economists call total planned expenditure. In a simple two-sector economy, the ex-ante aggregate demand (AD) for final goods or aggregate expenditure consists of only two components:

(i) Ex ante aggregate demand for consumer goods (C), and
(ii) Ex ante aggregate demand for investment goods (I)

$$AD = C + I$$

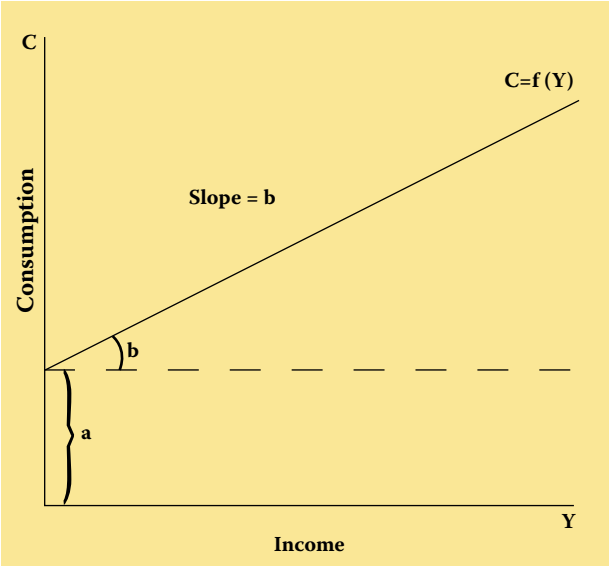
The Consumption Function

Consumption function expresses the functional relationship between aggregate consumption expenditure and aggregate disposable income, expressed as:

$$C = f(Y)$$

Keynesian Consumption Function

The Keynesian assumption is that consumption increases with an increase in disposable income, but that the increase in consumption will be less than the increase in disposable income (b <1). i.e. 0 < b < 1. This fundamental relationship between income and consumption plays a crucial role in the Keynesian theory of income determination.



Marginal Propensity to Consume (MPC)

The concept of MPC describes the relationship between change in consumption (ΔC) and the change in income (ΔY). The value of the increment to consumer expenditure per unit of increment to income is termed the Marginal Propensity to Consume (MPC).

Average Propensity to Consume (APC)

The concept of MPC describes the relationship between change in consumption (ΔC) and the change in income (ΔY). The value of the increment to consumer expenditure per unit of increment to income is termed the Marginal Propensity to Consume (MPC).

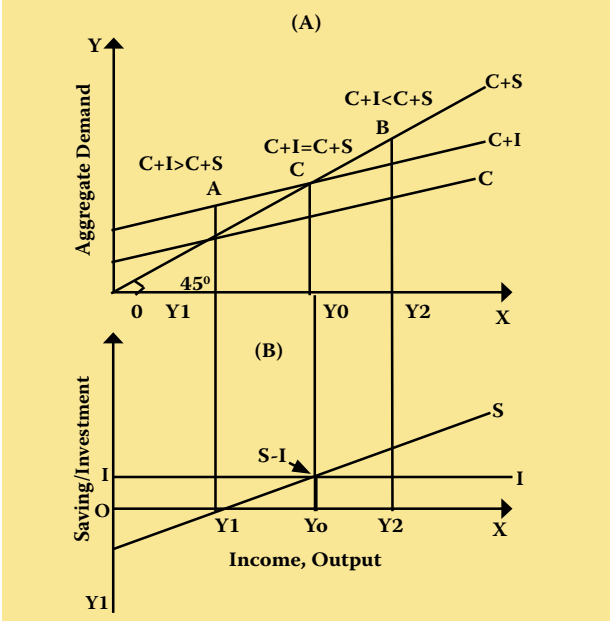
Average Propensity to Consume (APC)

Just as marginal propensity to consume, the average propensity to consume is a ratio of consumption defining income consumption relationship. The ratio of total consumption to total income is known as the average propensity to consume (APC).

Two Sector Model

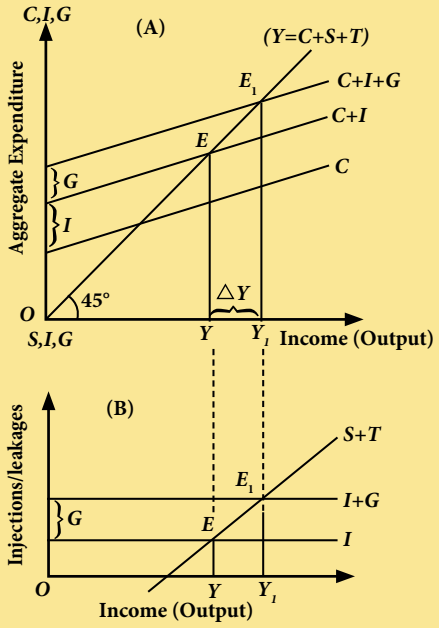
- In the two-sector economy aggregate demand (AD) or aggregate expenditure consists of only two components: aggregate demand for consumer goods and aggregate demand for investment goods, I being determined exogenously and constant in the short run.
- Consumption function expresses the functional relationship between aggregate consumption expenditure and aggregate disposable income, expressed as C = f (Y). The specific form consumption function, proposed by Keynes C = a + bY
- The value of the increment to consumer expenditure per unit of increment to income (b) is termed the Marginal Propensity to Consume (MPC).

Determination of Equilibrium Income: Two Sector Model



Three Sector Economy

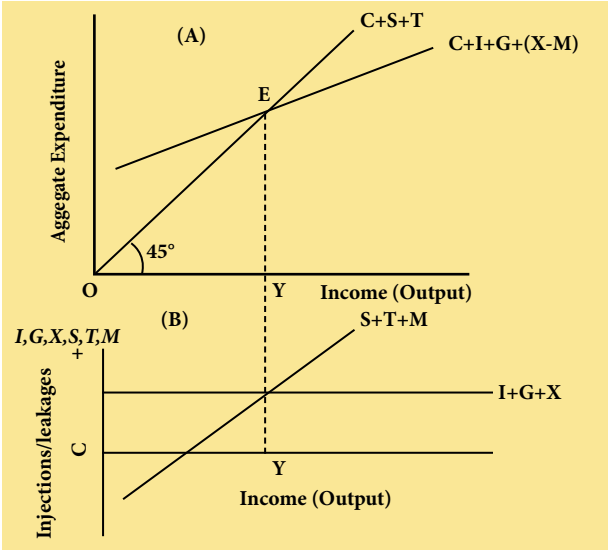
- Aggregate demand in the three-sector model of closed economy (neglecting foreign trade) consists of three components namely, household consumption(C), desired business investment demand(I) and the government sector's demand for goods and services(G).
- The government sector imposes taxes on households and business sector, effects transfer payments to household sector and subsidy payments to the business sector, purchases goods and services and borrows from financial markets.
- In equilibrium, it is also true that the (S + T) schedule intersects the (I + G) horizontal Schedule.



Four Sector Model

- The four-sector model includes all four macroeconomic sectors, the household sector, the business sector, the government sector, and the foreign sector and in equilibrium, we have Y = C + I + G + (X-M)
- The domestic economy trades goods with the foreign sector through exports and imports.
- Imports are subtracted from exports to derive net exports, which is the foreign sector's contribution to aggregate expenditures. If net exports are positive (X > M), there is net injection and national income increases. Conversely, if X<M, there is net withdrawal and national income decreases.

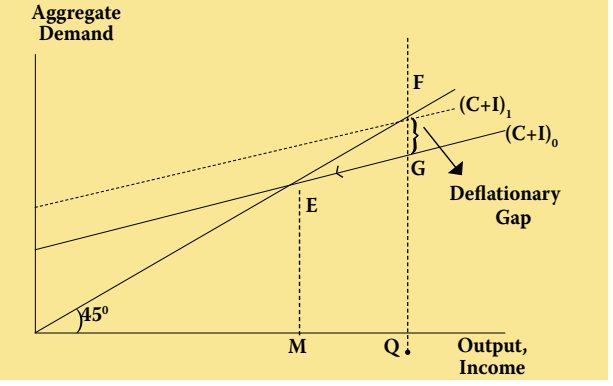
Determination of Equilibrium Income: Four Sector Model



Deflationary Gap

If the aggregate demand is for an amount of output less than the full employment level of output, then we say there is deficient demand. Deficient demand gives rise to a 'deflationary gap' or 'recessionary gap'

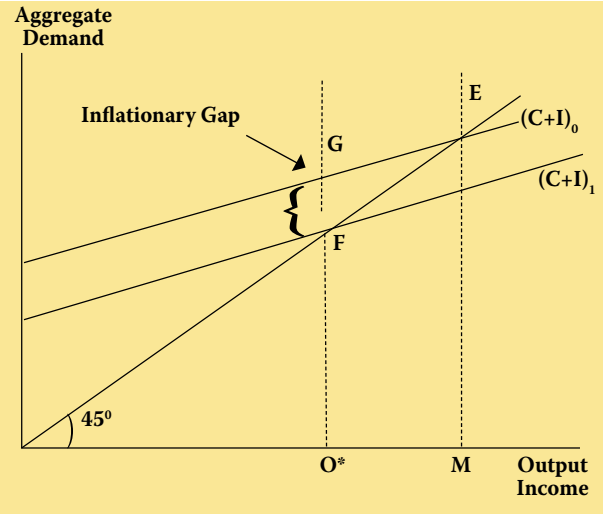
Deficient Demand – Deflationary Gap



Inflationary Gap

- If the aggregate demand is for an amount of output greater than the full employment level of output, then we say there is excess demand. Excess demand gives rise to 'inflationary gap' which is the amount by which actual aggregate demand exceeds the level of aggregate demand required to establish the full employment equilibrium.
- This is the sort of gap that tends to occur during a business-cycle expansion and sets in motion forces that will cause demand pull inflation.

Excess Demand – Inflationary Gap



Public Finance

Public Finance

- Since the 1930s, the traditional functions of the state have been supplemented with the economic functions (also called the fiscal functions or the public finance function)
- Richard Musgrave (1959) introduced the three branch taxonomy of the role of government in a market economy namely, resource allocation, income redistribution and macroeconomic stabilisation

Government Intervention

- Government intervention to direct the functioning of the economy is based on the belief that the objective of the economic system and the role of government is to improve the wellbeing of individuals and households.

Allocation Function

- The allocation responsibility of the governments involves appropriate corrective action when private markets fail to provide the right and desirable combination of goods and services

Market Failures

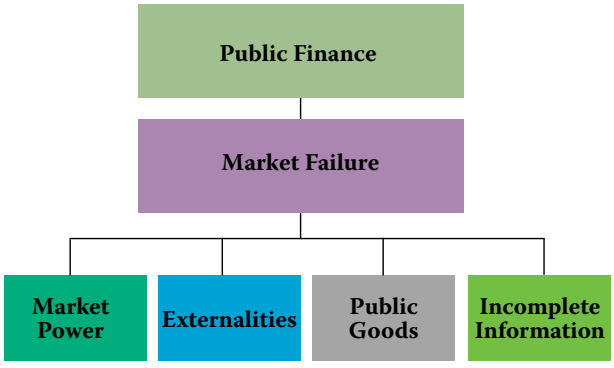
- Market failures, which hold back the efficient allocation of resources, occur mainly due to imperfect competition, presence of monopoly power, collectively consumed public goods, externalities, factor immobility, imperfect information, and inequalities in the distribution of income and wealth.

Distribution Function

- The distribution function aims at redistribution of income so as to ensure equity and fairness to promote the wellbeing of all sections of people and is achieved through taxation public expenditure, regulation and preferential treatment of target populations.

Stabilisation Function

- The stabilisation function is concerned with the performance of the aggregate economy in terms of labour employment and capital utilization, overall output and income, general price levels, economic growth and balance of international payments.



Market Power

Market power or monopoly power is the ability of a firm to profitably raise the market price of a good or service over its marginal cost. Firms that have market power are price makers and therefore, can charge a price that gives them positive economic profits.

Externalities

Externalities, also referred to as 'spillover effects', 'neighbourhood effects' 'third-party effects' or 'side-effects', occur when the actions of either consumers or producers result in costs or benefits that do not reflect as part of the market therefore are external to the market.

Types of Externalities

- Negative production externalities
- Positive Production externalities
- Negative consumption externalitied
- Positive consumption externalities

Causes of Externalities

- Externalities cause market inefficiencies because they hinder the ability of market prices to convey accurate information about how much to produce and how much to buy. Since externalities are not reflected in market prices, they can be a source of economic inefficiency.

Public Goods

- Public goods do not conform to the settings of market exchange and left to the market, they will not be produced at all or will be underproduced. This is because the price becomes zero.

Private Good

- Private goods are 'rivalrous' 'and excludable' and less likely to have the free rider problem. Additional resource costs are involved for providing to another individual.

Quasi Public Goods

- The quasi-public goods or services, also called a near public good (for e.g. education, health services) possess nearly all of the qualities of the private goods and some of the benefits of public good.

Common Access Resources

Common access resources or common pool resources are a special class of impure public goods which are non-excludable as people cannot be excluded from using them. These are rival in nature and their consumption lessens the benefits available for others. Examples of common access resources are fisheries, forests, backwater, etc.

Tragedy of the Commons

'The Tragedy of the Commons' (1968). Economists use the term to describe the problem which occurs when rivalrous but non excludable goods are overused to the disadvantage of the entire world.

Global Public Goods

Global public goods are those public goods with benefits/costs that potentially extend to everyone in the world. These goods have widespread impact on different countries and regions, population groups and generations throughout the entire globe.

The Free Rider Problem

A free rider is a person who benefits from something without expending effort or paying for it. In other words, free riders are those who utilize goods without paying for their use. Example is Wikipedia

Incomplete Information

Complete information is an important element of competitive market. Perfect information implies that both buyers and sellers have complete information about anything that may influence their decision making.

Asymmetric Information

Asymmetric information occurs when there is an imbalance in information between the buyer and the seller i.e., when the buyer knows more than the seller, or the seller knows more than the buyer. This can distort choices.

Adverse Selection

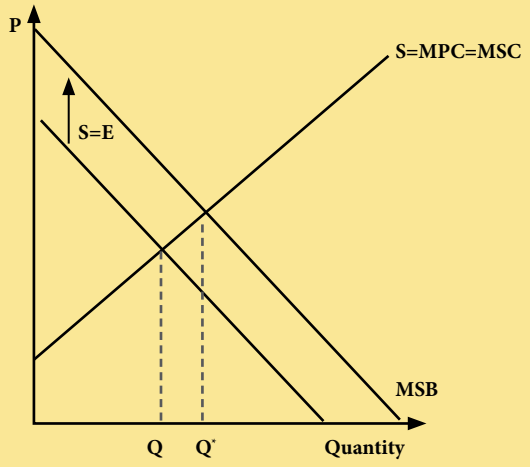
Adverse selection generally refers to any situation in which one party to a contract or negotiation, such as a seller, possesses information relevant to the contract or negotiation that the corresponding party, such as a buyer, does not have; this asymmetric information leads the party lacking relevant knowledge to make suboptimal decisions and suffer adverse effects.

Moral Hazard

Moral hazard is opportunism characterised by an informed person's taking advantage of a less-informed person through an unobserved action.

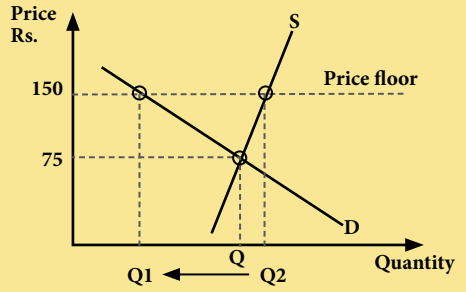
Effect of Subsidy on Output

- Subsidy is market-based policy and involves the government paying part of the cost to the firms in order to promote the production of goods having positive externalities.
- Two of the most common types of individual subsidies are welfare payments and unemployment benefits.



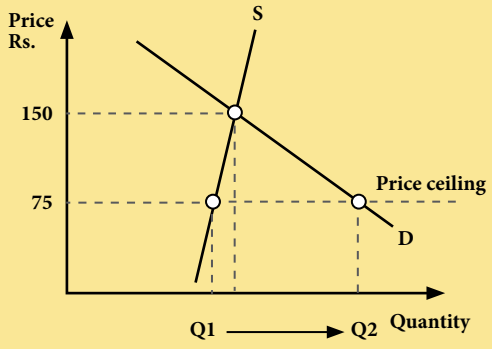
Market Outcome of Minimum Support Price

Government usually intervenes in many primary markets which are subject to extreme as well as unpredictable fluctuations in price. For example, in India, in the case of many crops the government has initiated the Minimum Support Price (MSP) programme as well as procurement by government agencies at the set support prices.



Market Outcome of Price Ceiling

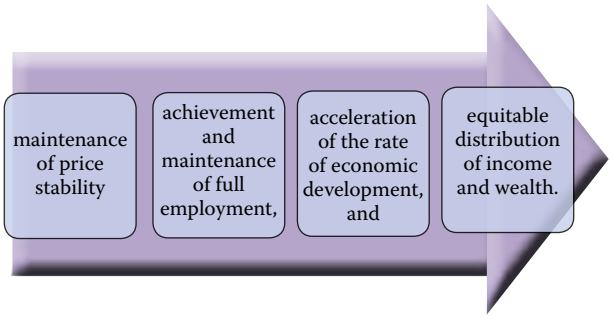
Price ceilings prevent a price from rising above a certain level. When a price ceiling is set below the equilibrium price, quantity demanded will exceed quantity supplied, and excess demand or shortages will result. For example: maximum prices of food grains and essential items are set by government during times of scarcity. A price ceiling which is set below the prevailing market clearing price will generate excess demand over supply.



FISCAL POLICY

- Fiscal policy involves the use of government spending, taxation and borrowing to influence both the pattern of economic activity and level of growth of aggregate demand, output, and employment.
- The significance of fiscal policy as a strategy for achieving certain socio-economic objectives was not recognised or widely acknowledged before 1930 due to the faith in the limited role of government advocated by the then prevailing laissez- faire approach.
- Fiscal policy is in the nature of a demand-side policy.

Objective of Fiscal Policy



Tools of Fiscal Policy

The tools of fiscal policy are taxes, government expenditure, public debt and the government budget.

Expansionary Fiscal Policy

Expansionary fiscal policy is designed to stimulate the economy during the contractionary phase of a business cycle and is accomplished by increasing aggregate expenditures and aggregate demand through an increase in all types of government spending and / or a decrease in taxes.

Contractionary Fiscal Policy

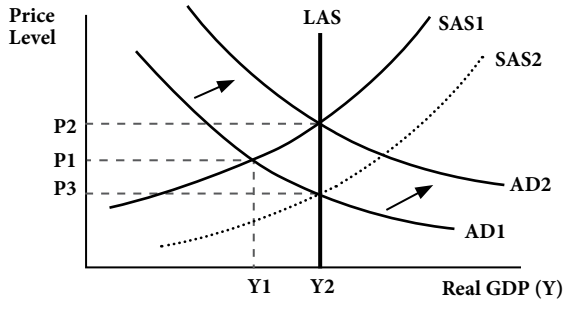
Contractionary fiscal policy is designed to restrain the levels of economic activity of the economy during an inflationary phase by decreasing the aggregate expenditures and aggregate demand through a decrease in all types of government spending and/ or an increase in taxes.

Pump Priming

Pump priming involves a one-shot injection of government expenditure into a depressed economy with the aim of boosting business confidence and encouraging larger private investment. It is a temporary fiscal stimulus in order to set off the multiplier process.

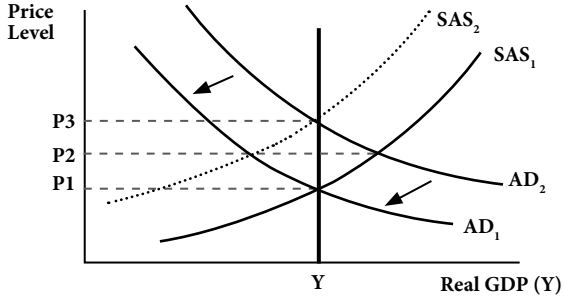
EXPANSIONARY FISCAL POLICY FOR COMBATING RECESSION

An expansionary fiscal policy is used to address recession and the problem of general unemployment on account of business cycles.

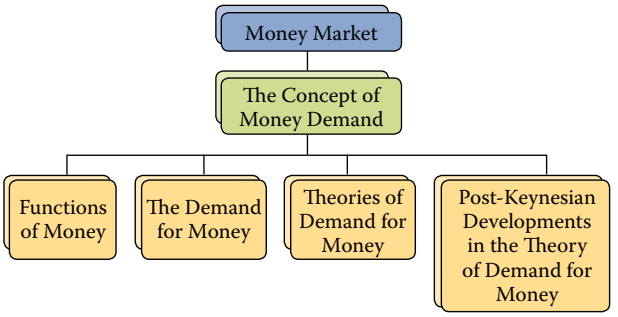


CONTRACTIONARY FISCAL POLICY FOR CO-MABATING INFLATION

Discretionary fiscal policy refers to deliberate policy actions on the part of the government to change the levels of expenditure and taxes to influence the level of national output, employment, and prices.



MONEY MARKET



Money has generalized purchasing power and is generally acceptable in settlement of all transactions and in discharge of other kinds of business obligations including future payments.

When money takes the form of a commodity with intrinsic value, it is called commodity money. For e.g., gold, silver or any other such elements may be used as money.

Fiat money is used as a medium of exchange because the government has, by law, made them "legal tender," which means, they serve, by law, as means of payment.

THE DEMAND FOR MONEY

The quantity theory of money, one of the oldest theories in Economics, was first propounded by Irving Fisher of Yale University in his book 'The Purchasing Power of Money' published in 1911 and later by the neoclassical economists

MV = PT

Where, M = the total amount of money in circulation (on an average) in an economy

V = transactions velocity of circulation

P = average price level (P= MV/T)

T = the total number of transactions.

The Cambridge approach

In the early 1900s, Cambridge Economists Alfred Marshall, A.C. Pigou, D.H. Robertson, and John Maynard Keynes (then associated with Cambridge) put forward a fundamentally different approach to quantity theory, known as cash balance approach.

Md = k PY

Md = is the demand for money balances, Y = real national income

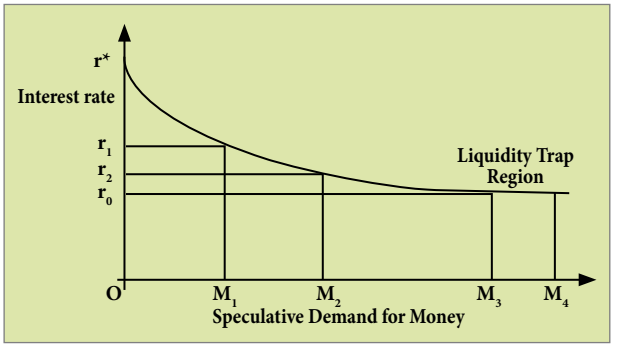
P = average price level of currently produced goods and services

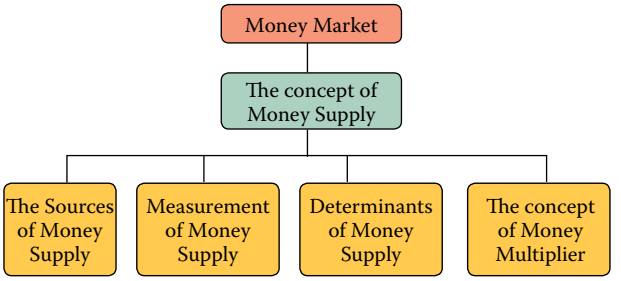
PY = nominal income

k = proportion of nominal income (PY) that people want to hold as cash balances

- Keynes' theory of demand for money is known as the 'liquidity preference theory'. 'Liquidity preference', is a term that was coined by John Maynard Keynes in his masterpiece 'The General Theory of Employment, Interest and Money' (1936).
- According to Keynes, people hold money (M) in cash for three motives: the transactions, precautionary and speculative motives.
- The transaction motive for holding cash is directly related to the level of in- come and relates to 'the need for cash for the current transactions for personal and business exchange.'
- The amount of money demanded under the precautionary motive is to meet unforeseen and unpredictable contingencies involving money payments and depends on the size of the income, prevailing economic as well as political conditions and personal characteristics of the individual such as optimism/ pessimism, farsightedness etc.
- The speculative motive reflects people's desire to hold cash in order to be equipped to exploit any attractive investment opportunity requiring cash expenditure. The speculative demand for money and interest are inversely related.

Liquidity trap is a situation where the desire to hold bonds is very low and approaches zero, and the demand to hold money in liquid form as an alternative approaches infinity.





The term money supply denotes the total quantity of money available to the people in an economy. The quantity of money at any point of time is a measurable concept.

The measures of money supply vary from country to country, from time to time and from purpose to purpose.

DETERMINANTS OF MONEY SUPPLY

- The current practice is to explain the determinants of money supply based on 'money multiplier approach' which focuses on the relation between the money stock and money supply in terms of the monetary base or high-powered money.

  M = m X MB

  Where M is the money supply, m is money multiplier and MB is the monetary base or high-powered money

The monetary base is the sum of currency in circulation and bank reserves

M1 = Currency notes and coins with the people + demand deposits with the banking system (Current and Saving deposit accounts) + other deposits with the RBI.

M2 = M1 + savings deposits with post office savings banks.

M3 = M1 + net time deposits of banks and

M4 = M3 + total deposits with the Post Office Savings Organization (excluding National Savings Certificates

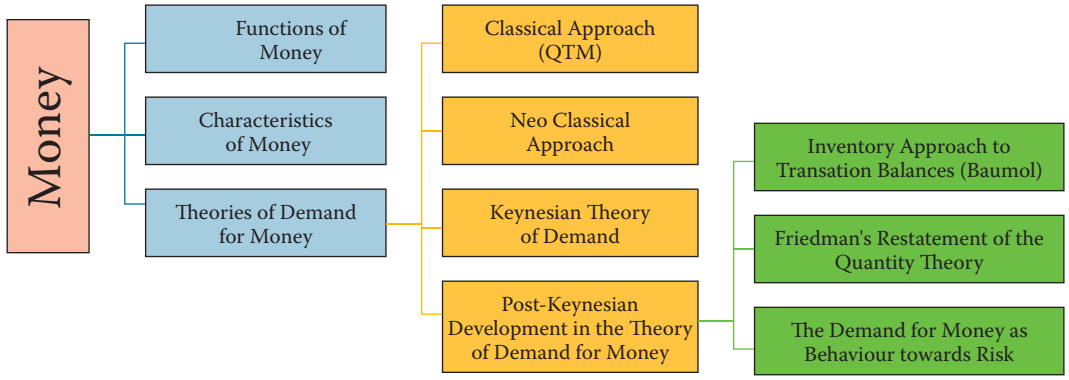
- The Reserve money, also known as central bank money, base money or high-powered money determines the level of liquidity and price level in the economy.
- The money multiplier is a function of the currency ratio which depends on the behaviour of the public, excess reserves ratio of the banks andthe required reserve ratio set by the central bank.

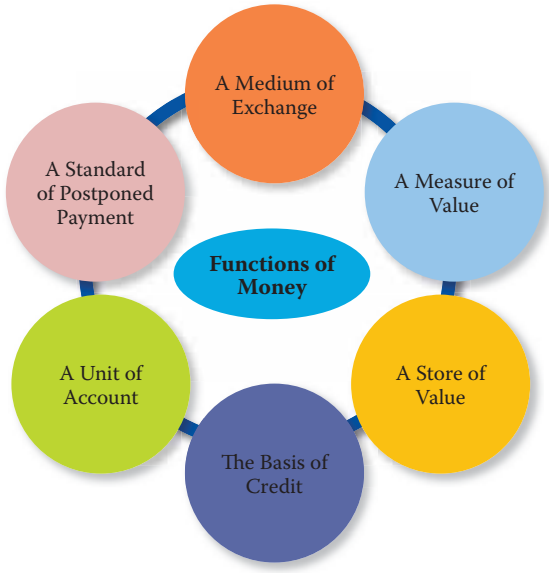
CA INTERMEDIATE - PAPER 8B - ECONOMICS FOR FINANCE

At the Intermediate level, students are expected to not only acquire professional knowledge but also the ability to apply such knowledge in problem solving. In this capsule for students, an attempt has been made to capture the significance and importance of the subject of Economics for Finance with the intention to assist in revision of concepts discussed in the study material.

The concept of Money Demand: Important theories

Money refers to assets which are commonly used and accepted as a means of payment or as a medium of exchange or for transferring purchasing power.





Post-Keynesian Development in the Theory of Demand for Money

- Inventory Approach to Transation Balances (Baumol)
- Baumol (1952) and Tobin (1956) developed a deterministic theory of transaction demand for 'real cash balance', known as Inventory Theoretic Approach, in which money is essentially viewed as an inventory held for transaction purposes.
- People hold an optimum combination of bonds and cash balance, i.e., an amount that minimises the opportunity cost.
- The optimal average money holding is: a positive function of income Y, a positive function of the price level P, a positive function of transactions costs c, and a negative function of the nominal interest rate i.

Friedman's Restatement of the Quantity Theory

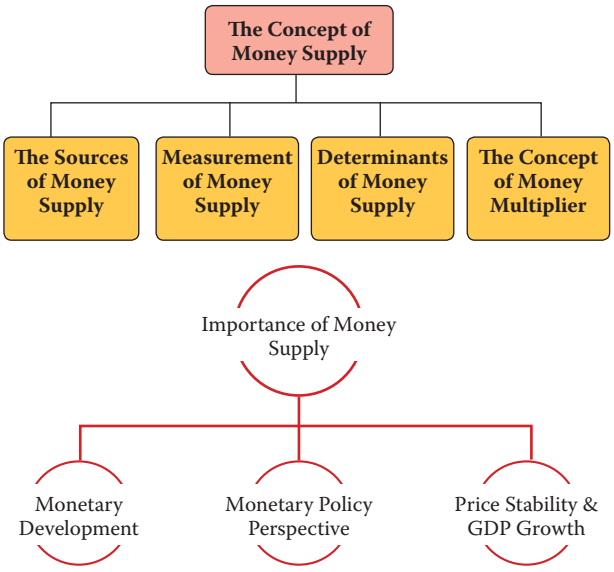
- Milton Friedman (1956) extending Keynes' speculative money demand within the framework of asset price theory holds that demand for money is affected by the same factors as demand for any other asset, namely, permanent income and relative returns on assets
- The nominal demand for money is positively related to the price level, P; rises if bonds and stock returns, r_b and r_e, respectively decline and vice versa; is influenced by inflation; and is a function of total wealth

The Demand for Money as Behaviour toward Risk

- The Demand for Money as Behaviour toward as 'aversion to risk' propounded by Tobin states that money is a safe asset but an investor will be willing to exercise a trade-off and sacrifice to some extent the higher return from bonds for a reduction in risk
- According to Tobin, rational behaviour induces individuals to hold an optimally structured wealth portfolio which is comprised of both bonds and money and the demand for money as a store of wealth, depends negatively on the interest rate.

CONCEPT OF MONEY SUPPLY

The measures of money supply vary from country to country, from time to time and from purpose to purpose.



Sources of Money Supply

- The central banks of all countries are empowered to issue currency and therefore, the central bank is the primary source of money supply in all countries. In effect, high powered money is the source of all other forms of money.
- The supply responses of the commercial banking system of the country to the changes in policy variables initiated by the central bank to influence the total money supply in the economy. In India, RBI is the Central Bank.

Measurement of Money Supply

- The measures of money supply vary from country to country, from time to time and from purpose to purpose.
- Measurement of money supply is essential as it enables a framework to evaluate whether the stock of money in the economy is consistent with the standards for price stability, to understand the nature of deviations from this standard and to study the causes of money growth.
- In India, RBI has been publishing data on four alternative measures of money supply denoted by M_1, M_2, M_3, M_4 besides the reserve money.

M1 = Currency and coins with the people + demand deposits of banks (Current and Saving accounts) + other deposits with the RBI.
M2 = M1 + savings deposits with post office savings banks.
M3 = M1 + net time deposits with the banking system.
M4 = M3 + total deposits with the Post Office Savings Organisation (excluding National Savings Certificates).

NEW MONETARY AGGREGATE

- Based on the recemondations of the Working Group on Money (1998), the RBI has started publishing a set of four new monetary aggregates on the basis of the balance sheet of the banking sector in conformity with the norms of progressive liquidity. The new monetary aggregates are :

Reserve money, also known as central bank money, base money, or high-powered money, determines the level of liquidity and price level in the economy.

Reserve Money = Currency in circulation + Bankers' deposits with the RBI + Other deposits with the RBI
= Net RBI credit to the Government + RBI credit to the Commercial sector + RBI's Claims on banks + RBI's net foreign assets + Government's Currency liabilities to the public – RBI's net non-monetary Liabilities

NM1 = Currency with the public + Demand deposits with the banking system + 'Other' deposits with the RBI.
NM2 = NM1 + Short-term time deposits of residents (including an upto contractual maturity of one year).
NM3 = NM2 + Long-term time deposits of residents + Call/Term funding from financial institutions.

Liquidity aggregates

L1 = NM3 + All deposits with the post office savings banks (excluding National Savings Certificates).
L2 = L1 + Term deposits with term lending institutions and refinancing institutions (FIs) + Term borrowing by FIs + Certificates of deposit issued by FI's.
L3 = L2 + Public deposits of non-banking financial companies.

The concept of money multiplier

The money supply is defined as

M= *m* × MB

Where **M** is the money supply, ***m*** is money multiplier and **MB** is the monetary base or high-powered money.

$$\text{Money Multiplier(m)} = \frac{\text{(Money Supply)}}{\text{(Monetary Base)}}$$

The money multiplier approach to money supply propounded by Milton Friedman and Anna Schwartz, (1963) considers three factors as immediate determinants of money supply
a) the stock of high-powered money (H)
b) the ratio of deposit to reserve, e = {R/D} and
c) the ratio of deposit to currency, c ={C/D}

The additional units of high powered money that goes into 'excess reserves' of the commercial banks do not lead to any additional loans and therefore, these excess reserve do not lead to the creation of deposits.

When the required ratio falls, there will be multiple expansions for demand deposits.

Excess reserve ratio is negatively related to the market interest rate.

Effect of Government Expenditure on Money supply

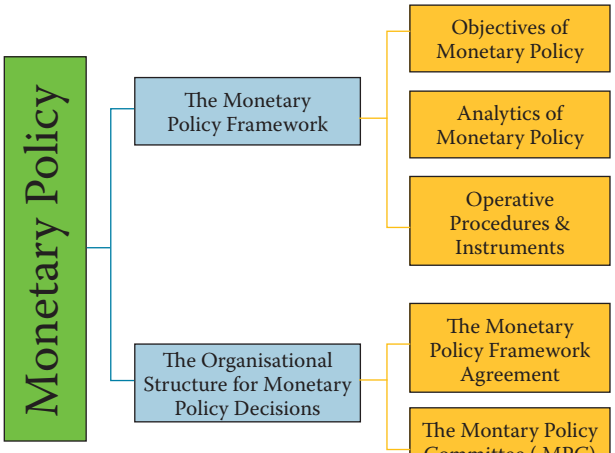
- When the Reserve Bank lends to the governments under WMA/OD, it results in the generation of excess reserves (i.e., excess balances of commercial banks with the Reserve Bank).

The Credit Multiplier

- The Credit Multiplier also referred to as the deposit multiplier or the deposit expansion multiplier, describes the amount of additional money created by commercial bank through the process of lending the available money, it has in excess of the central bank's reserve requirements.

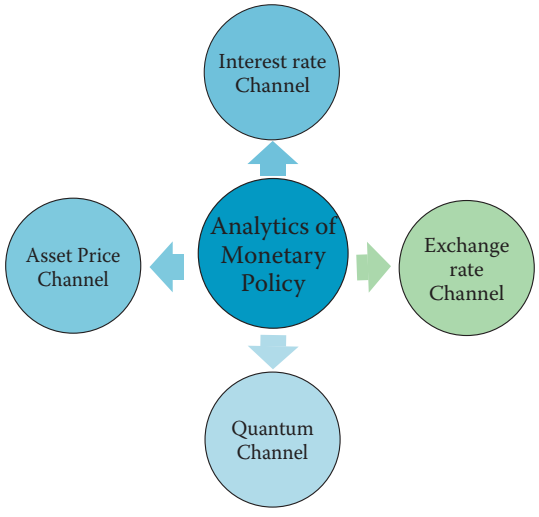
MONETARY POLICY

Monetary policy refers to the use of monetary policy instruments which are at the disposal of the central bank to regulate the availability, cost and use of money and credit so as to promote economic growth, price stability, optimum levels of output and employment, balance of payments equilibrium, stable currency or any other goal of government's economic policy.



Objectives of Monetary Policy

- Price Stability
- Economic Growth
- Ensuring an adequate flow of credit
- Creation of an efficient market for government securities

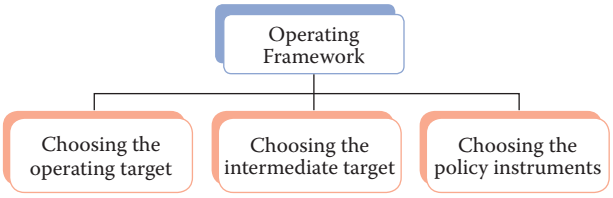


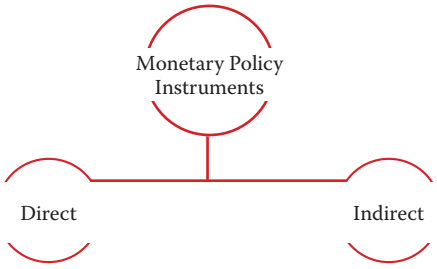
A contractionary monetary policy-induced increase in interest rates, increases the cost of capital and the real cost of borrowing for firms and households who respond by cutting back on their investment and purchase expenditures respectively.

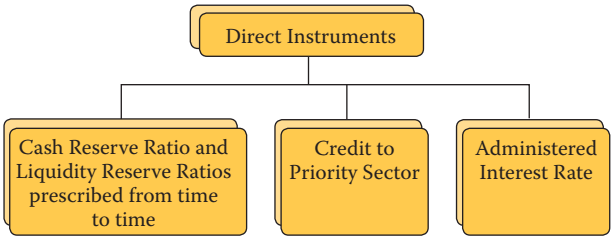
The exchange rate channel works through expenditure switching between domestic and foreign goods on account of appreciation/ depreciation of the domestic currency with its impact on net exports and consequently on domestic output and employment.

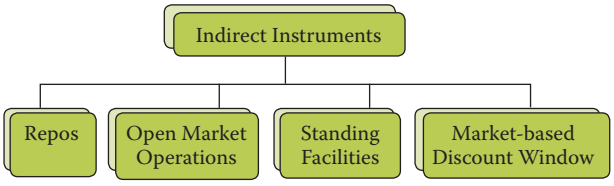
Two distinct credit channels - the bank lending channel and the balance sheet channel - operate by altering access of firm and household to bank credit and by the effect of monetary policy on the firm's balance sheet respectively.

Asset prices generate important wealth effects that impact, through spending, output and employment.



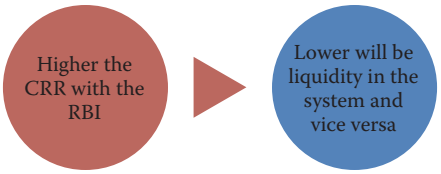






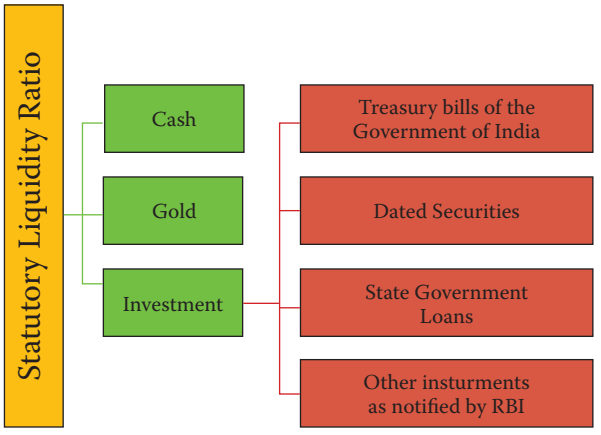
Cash Reserve Ratio

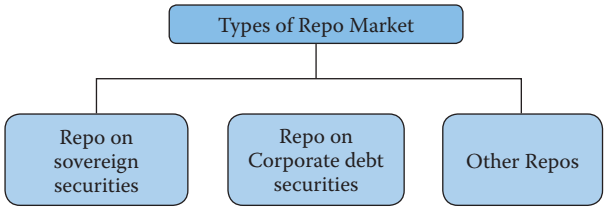
The Cash Reserve Ratio (CRR) refers to the fraction of the total net demand and time liabilities (NDTL) of a scheduled commercial bank in India, which it should maintain as cash deposit with the Reserve Bank irrespective of its size or financial position.



Statutory Liquidity Ratio

- The Statutory Liquidity Ratio (SLR) is what the scheduled commercial banks in India are required to maintain as a stipulated percentage of their total Demand and Time Liabilities (DTL) / Net DTL (NDTL) in Cash, Gold or approved investments in securities.
- The SLR is also a powerful tool for controlling liquidity in the domestic market by means of manipulating bank credit. Changes in the SLR chiefly influence the availability of resources in the banking system for lending.





The Liquidity Adjustment (LAF)

- The Liquidity Adjustment Facility (LAF) is a facility extended by the Reserve Bank of India to the scheduled commercial banks (excluding RRBs) and primary dealers to avail of liquidity in case of requirement (or park excess funds with the RBI in case of excess liquidity) on an overnight basis against the collateral of government securities including state government securities.

Policy Rate

- In India, the fixed repo rate quoted for sovereign securities in the overnight segment of Liquidity Adjustment Facility (LAF) is considered as the 'policy rate'.
- Repo or repurchase option is a collaterised lending because banks borrow money from Reserve bank of India to fulfill their short term monetary requirements by selling securities to RBI with an explicit agreement to repurchase the same at predetermined date and at a fixed rate. The rate charged by RBI for this transaction is called the 'repo rate'.
- Reverse Repo is defined as an instrument for lending funds by purchasing securities with an agreement to resell the securities on a mutually agreed future date at an agreed price which includes interest for the funds lent.

Monetary Policy Committee

- The Monetary Policy Committee (MPC) consisting of six members shall determine the policy rate to achieve the inflation target through debate and majority vote by a panel of experts.
- The Monetary Policy Framework Agreement is an agreement reached between the Government of India and the Reserve Bank of India (RBI) on the maximum tolerable inflation rate as 4 percent Consumer Price Index (CPI) inflation with a deviation of 2 percent.
- Choice of a monetary policy action is rather complicated in view of the surrounding uncertainties and the need for exercising complex judgment to balance growth and inflation concerns. Additional complexities arise in the case of an emerging market like India.

INTERNATIONAL TRADE

Theories of International Trade

International trade is the exchange of goods and services as well as resources between countries and involves greater complexity compared to internal trade

IMPORTANT THEORIES OF INTERNATIONAL THEORIES

The Mercantilists View of International Trade

- Mercantilism advocated maximising exports in order to bring in more precious metals and minimising imports through the state imposing very high tariffs on foreign goods.

The Theory of Absolute Advantage: Adam Smith

- According to Adam Smith's Absolute Cost Advantage theory, a country will specialise in the production and export of a commodity in which it has an absolute cost advantage.

The Theory of Comparative Advantage : Ricardo

- Ricardo's theory of comparative advantage states that a nation should specialise in the production and export of the commodity in which its absolute disadvantage is smaller (this is the commodity of its comparative advantage) and import the commodity in which its absolute disadvantage is greater (this is the commodity of its comparative disadvantage).

The Heckscher-Ohlin Theory of Trade

- The Heckscher-Ohlin theory of trade, also referred to as Factor-Endowment Theory of Trade or Modern Theory of Trade, states that comparative advantage in cost of production is explained exclusively by the differences in factor endowments.

Factor-Price Equalisation Theorem

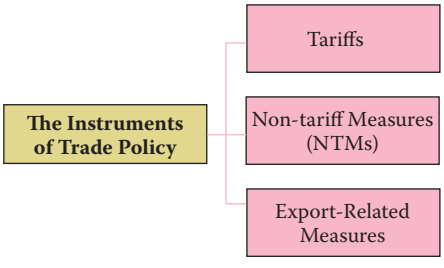
- The Factor-Price Equalisation Theorem states that international trade equalises the factor prices between the trading nations. Therefore, with free trade, wages and returns on capital will converge across the countries.

New Trade Theory

- New Trade Theory is the latest entrant to explain the rising proportion of world trade in the developed world and bigger developing economies (such as BRICS) which trade in similar products. These countries constitute more than 50% of world trade. Accoring to this theory, two key concepts
- Economies of Scale and Network effects, affects international trade in a major way.

THE INSTRUMENTS OF TRADE POLICY

Trade policy encompasses all instruments that governments may use to promote or restrict imports and exports



Tariff

- Tariff, also known as customs duty is defined as a financial charge in the form of a tax, imposed at the border on goods going from one customs territory to another. Tariffs are the most visible and universally used trade measures.

Forms of Import Tariffs

Specific Tariff

- A specific tariff is an import duty that assigns a fixed monetary tax per physical unit of the goods imported, whereas an ad valorem tariff is levied as a constant percentage of the monetary value of one unit of the imported good.

Ad volorem tariff

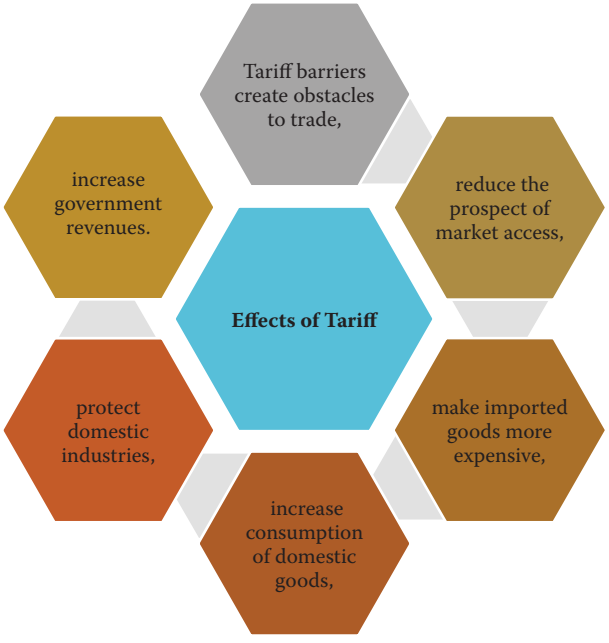
- An ad valorem tariff is levied as a constant percentage of the monetary value of one unit of the imported good.

Anti-dumping Duties

- Dumping occurs when manufacturers sell goods in a foreign country below the sales prices in their domestic market or below their full average cost of the product. It hurts domestic producers
- Anti-dumping measures are additional import duties so as to offset the foreign firm's unfair price advantage.

Countervailing Duties

- Countervailing duties are tariffs to offset the artificially low prices charged by exporters, who enjoy export subsidies and tax concessions offered by the governments in their home country.



Non-Tariff Measures

- Non-tariff measures (NTMs) are policy measures, other than ordinary customs tariffs, that can potentially have an economic effect on international trade in goods, changing quantities traded or prices or both

CATEGORY OF NON-TARIFF MEASURES

Technical Measures

- Sanitary and Phytosanitary (SPS) measures: applied to protect human, animal or plant life from risks, arising form addition, pests, contaminants, toxins or disease causing organisms.
- Technical Barriers to trade specifying details such as size, shape, design, labelling/marking, etc.

Non-Technical Measures

❖ Non-technical measures relate to trade requirements; for example; shipping requirements, custom formalities, trade rules, taxation policies, etc.

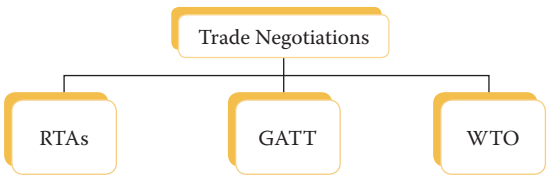
- Import Quotas: Restrictions on physical amount of imported goods
- Price Control Measures: Imposing taxes on charges
- Non Automatic Licensing and Prohibitions: Limiting or prohibiting certain types of import
- Financial Measures: Regulating access to and cost of foreign exchange.
- Government Procurement Policies: Govt. may lay down policies w.r.t procurements.
- Trade-Related Investment Measures: May include rules on local content requirements of production
- Embargos: Total ban on import or export of some commodition to a particular country or region for some or indefinite period.

Export Related Measures

- Ban of Export: Exports of certain items may be banned during shortages.
- Export Taxes: An export tax is a tax collected on exported goods and may be either specific or ad valorem and an export subsidy includes financial contribution to domestic producers in the form of grants, loans, equity infusions also usually provide etc., or give some form of income or price support. Both distort trade.
- Export subsidies and Incentives: Given by government to boost exports.
- Voluntary Export-Restraints: Voluntary Export Restraints (VERs) refer to a type of informal quota administered by an exporting country voluntarily restraining the quantity of goods that can be exported out of a country during a specified period of time, imposed based on negotiations to appease the importing country and to avoid the effects of possible trade restraints.

TRADE NEGOTIATIONS

International trade negotiations, especially the ones aimed at formulation of international trade rules, are complex interactive processes engaged in by countries having competing objectives.



Major Types of Agreements, in International Trade

- Unilateral trade agreements,
- Bilateral agreements,
- Regional preferential trade agreements,
- Trading bloc,
- Free-trade area,
- Customs union,
- Common market and economic and monetary union.

GATT

- The General Agreement on Tariffs and Trade (GATT) provided the rules for much of world trade for 47 years from 1948 to 1994.
- Eight multilateral negotiations known as trade rounds held under the GATT auspices.
- The 8th of the Uruguay Round of 1986-94 was last under GATT and culminated in the birth of WTO.

WTO

- The eighth of the Uruguay Round of 1986-94, was the last and most consequential of all rounds and culminated in the birth of WTO and a new set of agreements replacing the General Agreement on Tariffs and Trade (GATT).

The principal objective of the WTO

- To facilitate the flow of international trade smoothly, freely, fairly and predictably.

The WTO does its functions by acting as a forum for trade negotiations among member governments, administering trade agreements, reviewing national trade policies, cooperating with other international organisations and assisting developing countries in trade policy issues through technical assistance and training programmes.

The WTO Activities

- are supported by the Secretariat located in Geneva, headed by a Director General. It has a three-tier system of decision-making. The top level decision-making body is the Ministerial Conference, followed by councils namely, the General Council and the Goods Council, Services Council and Intellectual Property (TRIPS) Council.

Members

- The WTO currently has 164 members, of which 117 are developing countries or separate customs territories accounting for about 95% of world trade.

The major guiding principles of the WTO

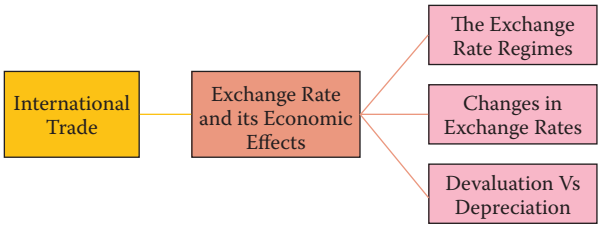
- Trade without discrimination, most-favoured-nation treatment (MFN)
- The national treatment principle (NTP)
- Free trade
- Predictability
- General prohibition of quantitative restrictions
- Greater competitiveness
- Tariffs as legitimate measures for protection
- Transparency in decision making
- Progressive liberalisation
- Market access and
- A transparent, effective, and verifiable dispute settlement mechanism.

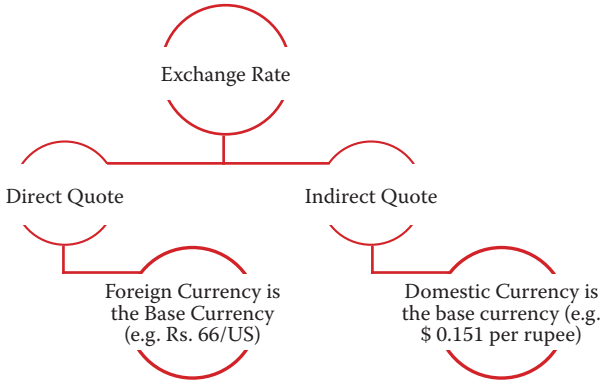
A Few WTO Concerns

- Slow progress of multilateral negotiations,
- Uncertainties resulting from regional trade agreements,
- Inadequate or negligible trade liberalisation,
- Those which are specific concerns to the developing countries,
- Protectionism and lack of willingness among developed countries to provide market access,
- Difficulties that they face in implementing the present agreements,
- Apparent north-south divide,
- Exceptionally high tariffs,
- Tariff escalation, erosion of preferences and difficulties with regard to adjustments.

EXCHANGE RATE AND ITS ECONOMIC EFFECTS

Exchange rate is the rate at which the currency of one country exchanges for the currency of another country.





Cross rate

- The rate between Y and Z which is derived from the given rates of another set of two pairs of currency (say, X and Y, and, X and Z) is called cross rate.

Exchange Rate Regime

- An exchange rate regime is the system by which a country manages its currency in respect to foreign currencies.

Floating Exchange Rate Regime

- The equilibrium value of the exchange rate of a country's currency is market determined i.e the demand for and supply of currency relative to other currencies, determines the exchange rate.
- A floating exchange rate allows a government to pursue its own independent monetary policy and there is no need of market intervention or maintenance of reserves. But, volatile exchange rates generate a lot of uncertainties in relation to international transactions, examples: Advanced economies like U.S.A, New Zealand, Sweden.

A fixed exchange rate

- Also referred to as pegged exchanged rate, is an exchange rate regime under which a country's government announces, or decrees, what its currency will be worth in terms of either another country's currency or a basket of currencies or another measure of value, such as gold.
- A central bank may implement soft peg policy under which the exchange rate is generally determined by the market, or a hard peg where the central bank sets a fixed and unchanging value for the exchange rate.
- A fixed exchange rate avoids currency fluctuations and eliminates exchange rate risks and transaction costs, enhances international trade and investment and lowers the levels of inflation. But, the central bank has to maintain an adequate amount of reserves and be always ready to intervene in the foreign exchange market.

Nominal Vs Real Exchange Rate

- Nominal Exchange Rate states how much of one currency can be traded for a unit of another currency.
- Real Exchange Rate: The 'Real Exchange Rate' incorporates changes in prices and describes 'how many' of a good or service in one country can be traded for 'one' of that good or service in a foreign country.
- Real Exchange Rate = Nominal Exchange Rate $\times \frac{\text{Domestic Price Index}}{\text{Foreign Price Index}}$
- Real Effective Exchange Rate (REER) is the nominal effective exchange rate (a measure of the value of a currency against a weighted average of several foreign currencies) divided by a price deflator or index of costs.

Usually, the supply of and demand for foreign exchange in the domestic foreign exchange market determine the external value of the domestic currency, or in other words, a country's exchange rate.

Changes in exchange rates
- portrays depreciation or appreciation of one currency.
- The terms, `currency appreciation' and 'currency depreciation' describe the movements of the exchange rate.

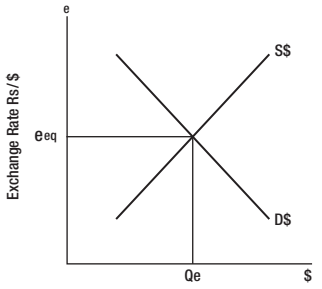
Appreciation and Depreciation of Currency
- when its value increases with respect to the value of another currency or a basket of other currencies. On the contrary, currency depreciates when its value falls with respect to the value of another currency or a basket of other currencies.

Devaluation
- is a deliberate downward adjustment in the value of a country's currency relative to another currency, group of currencies or standard.

Effect of Appreciation
- An appreciation of a country's currency changes in import and export prices, will lead to changes in import and export volumes, causing changes in import spending and export revenue
- adversely affect the competitiveness of domestic industry, cause larger deficits and can worsen the current account.

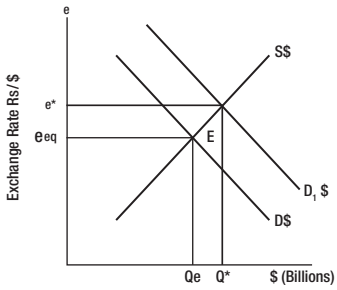
Effect of Depreciation of a Currency
- Exchange rate depreciation lowers the relative price of a country's exports, raises the relative price of its imports, increases demand both for domestic import-competing goods and for exports, leads to output expansion, encourages economic activity, increases the international competitiveness of domestic industries, increases the volume of exports and promotes trade balance.

DETERMINATION OF NOMINAL EXCHANGE RATE

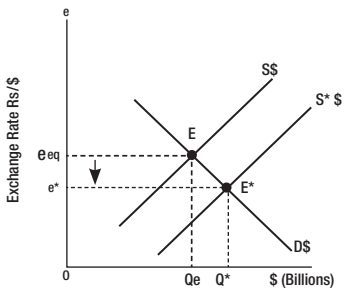


Changes in Exchange Rate

Home-Currency Depreciation under Floating Exchange Rates



Home-Currency Appreciation under Floating Exchange Rates



FOREIGN EXCHANGE MARKET

The wide-reaching collection of markets and institutions that handle the exchange of foreign currencies is known as the foreign exchange market.

Being an over-the-counter market, it is not a physical place; rather, it is an electronically linked network bringing buyers and sellers together and has only very narrow spreads

On account of arbitrage, regardless of physical location, at any given moment, all markets tend to have the same exchange rate for a given currency. Arbitrage refers to the practice of making risk-less profits by intelligently exploiting price differences of an asset at different dealing places.

Types of transactions in a forex market :

Spot Market

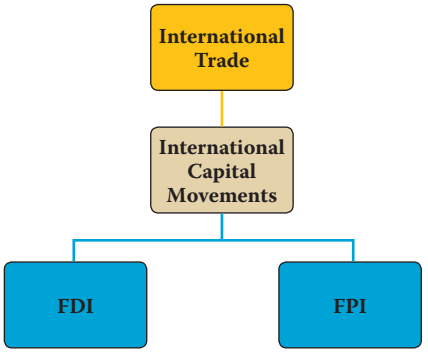
- Current transactions which are carried out in the spot market and exchange involves immediate delivery

Forward and /or Future Market

- Contracts buy or sell currencies for future delivery which are carried out in forward and/or future
- current transactions which are carried out in the spot market and contracts to buy or sell currencies for future delivery which are carried out in forward and futures markets

INTERNATIONAL CAPITAL MOVEMENTS

Foreign capital may flow into an economy in different ways, such as foreign aid, grants, borrowings, deposits from non resident Indians, investments in the form of foreign portfolio investment (FPI) and foreign direct investment (FDI)



Foreign direct investment is defined as a process whereby the resident of one country (i.e. home country) acquires ownership of an asset in another country (i.e. the host country) and such movement of capital involves ownership, control as well as management of the asset in the host country.

Direct investments are real investments in factories, assets, land, inventories, etc. and have three components, viz., equity capital, reinvested earnings and other direct capital in the form of intra-company loans. FDI may be categorised as horizontal, vertical or conglomerate. Two-way direct foreign investments reciprocal investments.

The main reasons for foreign direct investments are profits, higher rate of return, possible economies of large-scale in operation, risk diversification, retention of trade patents, capture of emerging markets, lower host country environmental and labour standards, bypassing of non-tariff and tariff barriers, cost–effective availability of needed inputs and tax and investment incentives.

Foreign portfolio investment is the flow of 'financial capital' with stake in a firm at below 10 percent and does not involve manufacture of goods or provision of services, ownership management or control of the asset on the part of the investor.

Foreign Direct Investment (FDI)	Foreign Portfolio Investment (FPI)
Investment involves creation of physical assets	Investment is only in financial assets
Has a long-term interest and therefore remains invested for long	Only short-term interest and generally remain invested for short periods
Relatively difficult to withdraw	Relatively easy to withdraw

Not inclined to be speculative	Speculative in nature
Often accompanied by technology transfer	Not accompanied by technology transfer
Direct impact on employment of labour and wages	No direct impact on employment of labour and wages
Enduring interest in management and control	No abiding interest in management and control
Securities are held with significant degree of influence by the investor on the management of the enterprise	Securities are held purely as a financial investment and no significant degree of influence on the management of the enterprise

Modes of FDI

- Opening of a subsidiary or associate company in a foreign country
- Equity injection into an overseas company
- Acquiring a controlling interest in an existing foreign company
- Mergers and acquisitions (M&A)
- Joint venture with a foreign company
- Green field investment
- Brownfield investments

(i) Green field investment (establishment of a new overseas affiliate for freshly starting production by a parent company).

(ii) Brownfield investments (a form of FDI which makes use of the existing infrastructure by merging, acquiring or leasing, instead of developing a completely new one. For e.g., in India 100% FDI under automatic route is allowed in Brownfield Airport projects.

In India, foreign investment is prohibited in the following sectors:

(i) Lottery business including Government/private lottery, online lotteries, etc.
(ii) Gambling and betting including casinos, etc.
(iii) Chitfunds
(iv) Nidhi company
(v) Trading in Transferable Development Rights
(vi) Real Estate Business or Construction of Farm Houses