Why I want to become a CA?

FINANCIAL MANAGEMENT CA - INTERMEDIATE

BY CA PRASHANT SARDA

B. COM., F.C.A.

PREFACE

To all readers,

I am proud to present this book along with Team Expert & Vsmart. I have spent time writing this with a student perspective in mind. Each chapter has broken down core concepts and expanded on them with diagrams and tables, as and when possible. It is my goal to help each and every holder of this book to be able to fight against the odds and win. Victory presents itself with the backing of knowledge, practice and expertise.

This book provides a valuable window on the subject and covers the necessary components chapter by chapter. The challenges in this subject are both difficult and interesting.

People are working on them with enthusiasm, tenacity, and dedication to develop new methods of analysis and provide new solutions to keep up with the ever – changing threats. In this new age of global interconnectivity and interdependence, it is necessary to stay relevant, for both professionals and students.

This book is a good step in that direction and would not have been possible without my team, my colleagues, my students and everyone that has supported me in my journey as a CA professional. For any feedback or questions based on the material covered within the book, please feel free to contact me via email.

CA. Prashant Sarda Email:

caprashantsarda@gmail.com

FINANCIAL MANAGEMENT

1

SCOPE AND OBJECTIVES OF FINANCIAL MANAGEMENT

I. MEANING OF FINANCIAL MANAGEMENT

Financial Management deals with procurement of funds and effective utilisation of funds in business.

Financial management is that managerial activity which is concerned with the planning and controlling of the firm's financial resources. It is an integrated decision making process concerned with acquiring, financing and managing assets to accomplish the overall goal of a business organisation. It can also be stated as the process of planning decisions in order to maximise the shareholder's wealth. Financial managers have a major role in cash management, acquisition of funds and in all aspects of raising and allocating capital. As far as business organisations are concerned, the objective of financial management is to maximise the value of business.

"Financial management comprises the forecasting, planning, organising, 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."

II. TWO MAIN ASPECTS OF THE FINANCE FUNCTION

The basic aspects of Financial Management are –

a. Procurement of funds.

b. Effective utilisation of funds to achieve business objectives.

❖ Procurement of funds:

1. Funds can be obtained from various sources like equity, preference capital, debentures, term loans etc.
2. Funds procured from various sources have different characteristics in terms of risk, cost and control.
3. The cost of funds should be _____.Hence, a proper _____of risk and control factors becomes essential.

4. Thus, Procurement of funds involves the following:
   - Identification of sources of finance.
   - Determination of finance mix.
   - Raising of funds
   - Division of profits between dividends and retention of profits i.e. internal fund generation.

❖ Effective utilisation of funds:

1. Funds are procured at a cost. Hence it is crucial to employ them properly and profitably.
2. The Finance Manager is responsible not only for procurement of funds but also for its effective utilisation.
3. He identifies the areas where funds remain idle and why they are not used properly.
4. He analyses the financial implications of each decision – to invest in fixed assets, the need for adequate working capital, etc.

III. CONSIDERATIONS / ASPECTS INVOLVED IN PROCUREMENT OF FUNDS

The considerations in procurement of funds are (a) Risk, (b) Cost and (c) Control. They differ with the type of fund. An analysis of the same is given below

Type of fund	Risk	Cost	Control
Own Funds (Equity)	Risk – no question of repayment of capital except when the company is under liquidation. Hence best from viewpoint of risk.	Expensive – dividend expectations of shareholders are higher than interest rates. Also, dividends are not tax- deductible.	Dilution of control – Since the capital base might be expanded and new shareholders / public are involved.
Loan Funds	Risk – capital should be repaid as per agreement; Interest should be paid irrespective of performance or profits.	Comparatively – prevailing interest rates are considered only to the extent of after tax impact.	No dilution of control

IV. FINANCE FUNCTIONSY FINANCE DECISIONS

The long term finance functions are divided into three major decisions, viz., investment, financing and dividend decisions. It is correct to say that these decisions are inter-related because the underlying objective of these three decisions is the same, i.e. maximisation of shareholders' wealth. Since investment, financing and dividend decisions are all interrelated, one has to consider the joint impact of these decisions on the market price of the company's shares and these decisions should also be solved jointly. The decision to invest in a new project needs the finance for the investment. The financing decision, in turn, is influenced by and influences dividend decision because retained earnings used in internal financing deprive shareholders of their dividends. An efficient financial management can ensure optimal joint decisions. This is possible by evaluating each decision in relation to its effect on the shareholders' wealth.

$$V = f(I, F, D)$$

The above three decisions are briefly examined below in the light of their interrelationship and to see how they can help in maximising the shareholders' wealth i.e. market price of the company's shares.

Investment decision: The investment of long term funds is made after a careful assessment of the various projects through capital budgeting and uncertainty analysis. However, only that investment proposal is to be accepted which is expected to yield at least so much return as is adequate to meet its cost of financing. This have an influence on the profitability of the company and ultimately on its wealth.

Financing decision: Funds can be raised from various sources. Each source of funds involves different issues. The finance manager has to maintain a proper balance between long-term and short- term funds. With the total volume of long-term funds, he has to ensure a proper mix of loan funds and owner's funds. The optimum financing mix will increase return to equity shareholders and thus maximise their wealth.

Dividend decision: The finance manager is also concerned with the decision to pay or declare dividend. He assists the top management in deciding as to what portion of the profit should be paid to the shareholders by way of dividends and what portion should be retained in the business. An optimal dividend pay-out ratio maximises shareholders' wealth.

The above discussion makes it clear that investment, financing and dividend decisions are interrelated and are to be taken jointly keeping in view their joint effect on the shareholders' wealth.

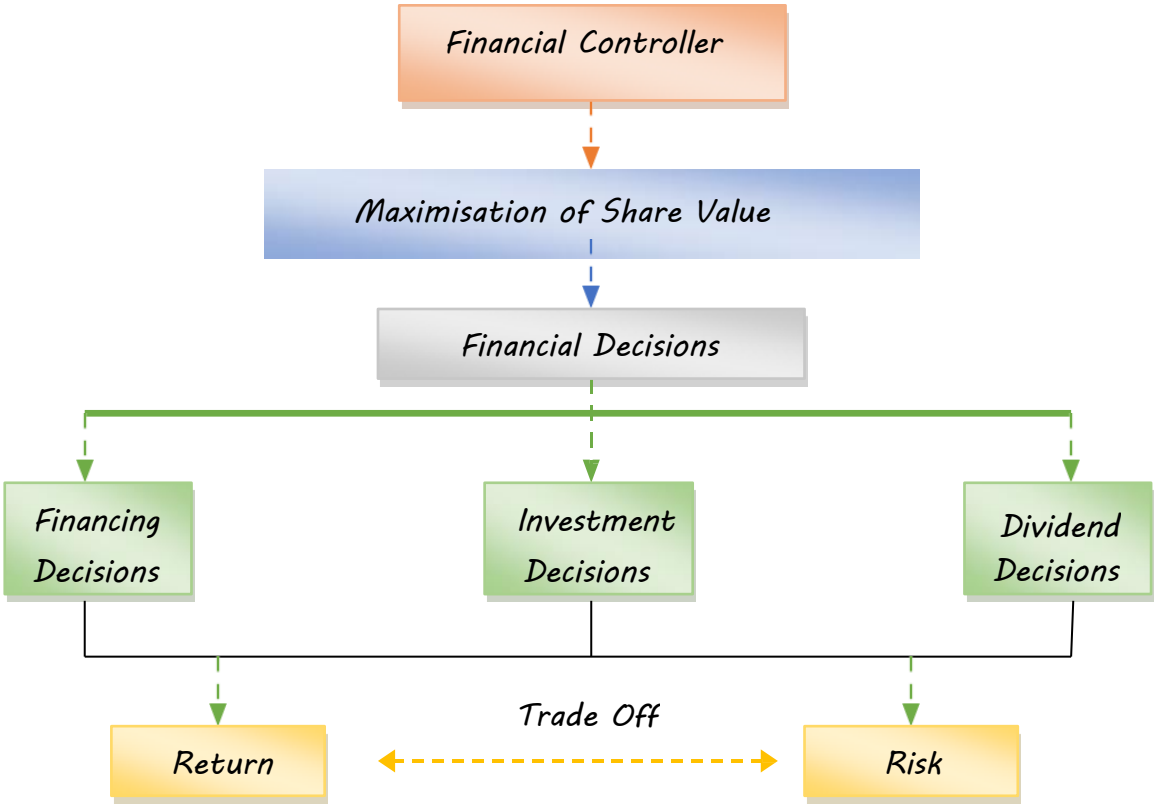
Generally, short term finance decisions include management of working capital i.e. management of current assets and current liabilities.

V. SCOPE AND SIGNIFICANCE OF FINANCIAL MANAGEMENT

The scope of financial management has undergone changes over the years. Until the middle of this century, its scope was limited to procurement of funds under major events in the life of the enterprise such as promotion, expansion, merger etc. In the modern time, the financial management includes besides procurements of funds, the three different kind of decision as well namely investment, financing and dividend. All the three types of decisions would be dealt in detail during the course of this chapter.

The given figure depicts the overview of the scope and functions of financial management. It also gives the interrelation between market value, financial decisions and risk return trade off. The finance manager, in a bid to maximize shareholders wealth, should strive to maximize return in relation to the given risk; he should seek courses of action that avoid unnecessary risks. To ensure maximum return, funds flowing in and out of the firm should be constantly monitored to assure that they are safeguarded and properly utilized.

An Overview of Financial Management



VI. OBJECTIVES OF FINANCIAL MANAGEMENT

The two objectives of Financial Management are:

a. Profit Maximisation (short term) (b) Wealth Maximisation (long term).

❖ Profit Maximisation: The finance manager has to make his decisions to maximise the profits of the concern.

Profit Maximisation is viewed as a limited objective, i.e. essential but not sufficient. It has traditionally been argued that the primary objective of a company is to earn profit; hence the objective of financial management is also profit maximisation. This implies that the finance manager has to make his decisions in a manner so that the profits of the concern are maximised. Each alternative, therefore, is to be seen as to whether or not it gives maximum profit.

However, profit maximisation cannot be the sole objective of a company. It is at best a limited objective. If profit is given undue importance, a number of problems can arise. Some of these have been discussed below:

(i) The term profit is vague. It does not clarify what exactly it means. It conveys a different meaning to different people. For example, profit may be in short term or long term period; it may be total profit or rate of profit etc.

(ii) Profit maximisation has to be attempted with a realisation of risks involved. There is a direct relationship between risk and profit. Many risky propositions yield high profit. Higher the risk, higher is the possibility of profits. If profit maximisation is the only goal, then risk factor is altogether ignored. This implies that finance manager will accept highly risky proposals also, if they give high profits. In practice, however, risk is very important consideration and has to be balanced with the profit objective.

(iii) Profit maximisation as an objective does not take into account the time pattern of returns. Proposal A may give a higher amount of profits as compared to proposal B, yet if the returns of proposal A begin to flow say 10 years later, proposal B may be preferred which may have lower overall profit but the returns flow is more early and quick.

(iv) Profit maximisation as an objective is too narrow. It fails to take into account the social considerations as also the obligations to various interests of workers, consumers, society, as well as ethical trade practices. If these factors are ignored, a company cannot survive for long. Profit maximization at the cost of social and moral obligations is a short sighted policy.

❖ Wealth Maximisation: Shareholders wealth are the result of cost benefit analysis adjusted with their timing and risk i.e. time value of money. The objective of a firm should be to maximise its value or wealth.

Wealth = Present value of benefits – Present Value of Costs

It is important that benefits measured by the finance manager are in terms of cash flow. Finance manager should emphasis on Cash flow for investment or financing decisions not on Accounting profit. The shareholder value maximization model holds that the primary goal of the firm is to maximize its market value and implies that business decisions should seek to increase the net present value of the economic profits of the firm. So, for measuring and maximising shareholders wealth finance manager should follow:

- Cash Flow approach not Accounting Profit
- Cost benefit analysis
- Application of time value of money

How do we measure the valueYwealth of a firm?

According to Van Horne, "Value of a firm is represented by the market price of the company's common stock. The market price of a firm's stock represents the focal judgment of all market participants as to what the value of the particular firm is. It takes into account present and prospective future earnings per share, the timing and risk of these earnings, the dividend policy of the firm and many other factors that bear upon the market price of the stock. The market price serves as a performance index or report card of the firm's progress. It indicates how well management is doing on behalf of stockholders."

VII. ADVANTAGES AND DISADVANTAGES OF BOTH OBJECTIVES

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.

Changing Role of the Finance Executive

"Today's CFO team is expected to add value well beyond the traditional roles of cost management, controls and acting as the conscience of the organisation. These roles are challenging enough, but today's CFO is expected to work in collaboration, by serving as the integration hub for key business processes, as a catalyst for change including business transformation, and as a consultant or trusted business advisor in helping to create sustainable growth." Jeff Thomson, IMA President and CEO

To sum it up, the finance executive of an organisation plays an important role in the company's goals, policies, and financial success. His responsibilities include:

(a) Financial analysis and planning: Determining the proper amount of funds to employ in the firm, i.e. designating the size of the firm and its rate of growth.

(b) Investment decisions: The efficient allocation of funds to specific assets.

(c) Financing and capital structure decisions: Raising funds on favourable terms as possible i.e. determining the composition of liabilities.

(d) Management of financial resources (such as working capital).

(e) Risk management: Protecting assets.

VIII. FINANCIAL DISTRESS AND INSOLVENCY

There are various factors like price of the productY service, demand, price of inputs e.g. raw material, labour etc., which is to be managed by an organisation on a continuous basis likewise, the proportion of debt also need to be managed by an organisation very carefully.

Higher debt requires higher interest and if the cash inflow is not sufficient then it will put lot of pressure to the organisation. Both short term and long term creditors will put stress to the firm. If all the above factors are not well managed by the firm, it can create situation known as "distress", so financial distress is a position where cash inflows of a firm are inadequate to meet all its current obligations.

If distress continues for a long period of time, firm may have to sell its asset, even many times at a price lower than market price.

Further when revenue is inadequate to revive the situation, firm will not be able to meet its obligations and may become insolvent. So, insolvency basically means inability of a firm to repay various debts and is a result of continuous financial distress.

IX. DIFFERENTIATE BETWEEN FINANCIAL ACCOUNTING AND FINANCIAL MANAGEMENT

Sr. No.	Financial Accounting	Financial Management
1	Financial Accounting generate information related to operation of the Entity.	Financial Management seeks to use the information generated by the accounting function, for decision-making
2	Financial Accounting is past oriented in the since that transactionY events which happen are recorded.	Financial Management is future -oriented i.e. to guide the Entity in future course of action.
3	Measurement, Recognition and Disclosure are the dominant aspects considered in accounting.	Procurement of funds and their Effective Utilization are the dominant aspects of Financial Management
4	Measurement of funds (i.e Revenue, Expenses, etc) is largely based on the accrual concept.	Decision making requires the analysis of funds in term of cash Inflows and Cash Outflows.
5	Accounting is guided by principles, standard, legal requirement etc.	Financial Management is guided by tools and techniques for decision-making.

X. AGENCY PROBLEM AND AGENCY COST

Incorporates structure, owners are not active in management so, there is a separation between ownerY shareholders and managers. In theory managers should act in the best interest of shareholders, however in reality, managers may try to maximise their individual goal like salary, perks etc. So there is a principal agent relationship between managers and owners, which is known as Agency Problem.

In other words, Agency Problem is the chances that managers may place personal goals ahead of the goal of owners. Agency Problem leads to Agency Cost.

Agency cost is the additional cost borne by the shareholders to monitor the manager and control their behaviour so as to maximise shareholders wealth. Generally, Agency Costs are of four types

(i) Monitoring (ii) Bonding (iii) Opportunity (iv) Structuring

Solution to the agency problem:

The agency problem arises if manager's interests are not aligned to the interests of the debt lender and equity investors. The agency problem of debt lender would be addressed by imposing negative covenants i.e. the managers cannot borrow beyond a

point. This is one of the most important concepts of modern day finance and the application of this would be applied in the Credit Risk Management of Bank, Fund Raising, Valuing distressed companies.

Agency problem between the managers and shareholders can be addressed if the interests of the managers are aligned to the interests of the share- holders. It is easier said than done.

However, following efforts have been made to address these issues:

- ✓ Managerial compensation is linked to profit of the company to some extent and also with the long term objectives of the company.
- ✓ Employee is also designed to address the issue with the underlying assumption that maximisation of the stock price is the objective of the investors.
- ✓ Effective monitoring can be done.

XI. TIME VALUE OF MONEY

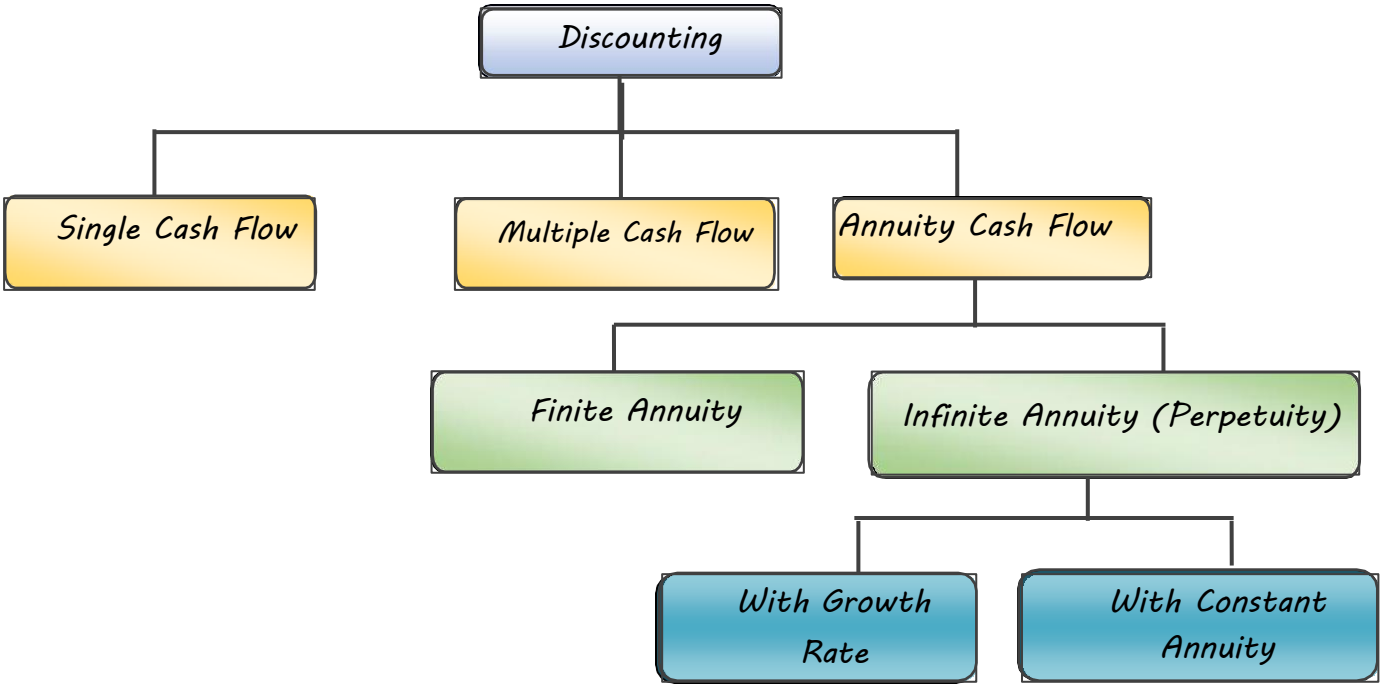
- ❖ Meaning: Time value of money means that, (also refer Capital Budgeting Chapter) "worth of a rupee received today is different from the worth of a rupee to be received in future". The preference for money now, as compared to future money, is known as time preference of money.

- ❖ Reasons for time preference of money : (Relevance of time value of money)
  - Risk: There is uncertainty about the receipt of money in future. Hence present money is preferred.
  - Preference for present consumption: Most persons / companies prefer present consumption than future consumption e.g. due to urgency of need (say, consumer durable) or otherwise.
  - Investment opportunities: Present Money is preferred due to availability of investment opportunities for earning additional cash flows e.g. ₹ 1000 in hand earns interest at the bank rate.
  - Inflation: Due to inflation there is general rise in price therefore future money has less purchasing power. Hence present money is preferred.

- ❖ Methods of analysis: The concept of time value of money helps in arriving at the comparable value of the different rupee amount arising at different points of time into equivalent values of a particular point of time (Present or future). This can be done by either:

- Compounding the present money to a future date i.e. finding out future value of present money; or
- Discounting future money to the present data i.e. finding out present value of future money.

I. GRAPHS AND FORMULAE



PROBLEMS

1. *You want to endow a prize that would pay ₹ 100,000 per annum. You want to make a one-time payment because you are not sure where you would be during subsequent years. If the time value is 10%, how much will you have to invest today? If you want the prize to increase by 4% each year, how much will you have to invest today?*

2. *Find out the present value of a 4 years annuity of ₹ 20,000 discounted at 10 percent.*

3. *What is the present value of an income stream which provides ₹ 1,000 at the end of year one, ₹ 2,500 at the end of year two and ₹ 5,000 during each of the year 3 through 10, if the discount rate is 12 percent.*

4. *What is the present value of an income stream which provides ₹ 2,000 a year for the first five years, and ₹ 3,000 a year forever thereafter, if the discount rate is 10 percent?*

5. *A finance company makes an offer to deposit a sum of ₹ 1,100 and then receive a return of ₹ 80 p.a. perpetually. Should this offer be accepted if the rate of interest is 8%? Will the decision change if the rate of interest is 5%?*

6. *Assume that a deposit is to be made at year zero into an account that will earn 8% compounded annually. It is desired to withdraw ₹ 5,000 three years from now and ₹ 7,000 six years from now. What is the size of the year zero deposit that will produce these future payments.*

7. *Assume that a ₹ 20,00,000 plant expansion is to be financed as follows: The firm makes a 15% down payment and borrows the remainder at 9% interest rate. The loan is to be repaid in 8 equal annual instalments beginning 4 years from now. What is the size of the required annual loan payments.*

8. *Raj has invested ₹ 1,00,000 in computer system and wishes to give on lease. Life of the computer system is 5 years without any scrap value. What should be the annual lease rent, if lessor's opportunity rate of interest is 20% p.a.*

2 LEVERAGES

- There are three commonly used measures of leverage in financial analysis. These are:
  1. Operating Leverage 2. Financial Leverage 3. Combined Leverage

II. MEANING AND SIGNIFICANCE OF OPERATING LEVERAGE.

(a) Definition: Operating leverage is defined as the "firm's ability to use fixed operating costs to magnify effects of changes in sales on its earnings before interest and taxes."

(b) Explanation: A change in sales will lead to a change in Profit i.e. Earnings before Interest and Taxes (EBIT). The effect of change in sales on EBIT is measured by operating leverage. Since fixed costs remain the same irrespective of level of output, percentage increase in EBIT will be higher than increase in Sales.

(c) Measurement: The degree of Operating Leverage (DOL) is measured by: (expressed in times)

$$\frac{\%\text{ Change in EBIT}}{\%\text{ Change in Sales}} \quad \text{or} \quad \frac{\text{Contribution}}{\text{EBIT}}$$

(d) Significance:

- Effect on EBIT: DOL measures the impact of change in sales on operating income. Suppose DOL of a firm is 1.67 times, it implies that 1 % change in sales will lead to 1.67% change in EBIT. Hence, if sales increase by 20%, EBIT increases by 20% X 1.67 = 33%. Also, if sales decrease by say 40%, EBIT falls by 67%.
- Impact of Fixed Costs: DOL depends on fixed costs. If fixed costs are higher, DOL is higher and vice-versa.
- Effect of High DOL: If DOL is high, it implies that fixed costs are high. Hence the Break even point (no profit- no loss situation) would be reached at a higher level of sales. Due to the high Break Even Point, the Margin of Safety and profits would bellow. This means that the operating risks are higher. Hence, a low DOL is preferred.

- A high DOL means that profits (EBIT) may be wiped off, even for a marginal reduction in sales. Hence, it is preferred to operate sufficiently above break-even point to avoid the danger of fluctuations in sales and profits.

$$\text{Operating Breakeven Point} = \frac{\text{Fixed Cost}}{\text{Contribution per unit}} \quad \text{OR} \quad \frac{\text{Fixed cost}}{\text{PV Ratio}}$$

Analysis and interpretation of operating leverages:

Sr. No.	Situation	Result
1	No fixed cost	No operating leverages
2	Higher fixed cost	Higher break-even point
3	Higher than break-even level	Positive operating leverage
4	Lower than break -even level	Negative operating leverages

III. MEANING AND SIGNIFICANCE OF FINANCIAL LEVERAGE

(a) Meaning: Financial Leverage is defined as the ability of a firm to use fixed financial charges (interest) to magnify the effects of changes in EBIT /Operating profits, on the firm's Earning per Share (EPS).

(b) Explanation: Financial Leverage occurs when a Company has debt content in its capital structure and fixed financial charges e.g. interest on debentures. These fixed financial charges do not vary with the EBIT. They are fixed and are to be paid irrespective of level of EBIT. Hence an increase in EBIT will lead to a higher percentage increase in Earnings per Share (EPS). This is measured by the Financial Leverage.

(c) Measurement: The degree of Financial Leverage (DFL) is measured by : (expressed in times)

$$\frac{\%\text{ Change in EPS}}{\%\text{ Change in EBIT}} \quad \text{OR} \quad \frac{\text{EBIT}}{\text{EBT}}$$

(d) Significance:

- Effect on EPS: DFL measures the impact of change in EBIT (Operating Income) on EPS (earnings per share). Suppose DFL of a firm is 4 times, it implies that 1 % change in EBIT will lead to 4% change in EPS. Hence, if EBIT increases by 10%, EPS increases by 10% X 4 = 40%. Also, if EBIT decreases by say 5%, EPS fall by 20%

(e) Impact of fixed financial charges: DFL depends on the magnitude of interest fixed financial charges. If these costs are higher, DFL is higher and vice versa.

- Effect of High DFL: If DFL is high, it implies that fixed interest charges are high. This means that the financial risks are higher. The DFL is considered to be favourable or advantageous to the firm, when it earns more on its total investment that what it pays towards debt capital. In other words, DFL is advantageous only if Return on Capital Employed (ROCE) is greater than Rate of Interest on Debt.

$$\text{Financial Break Even Point} = I + \frac{PD}{1\text{-tax rate}}$$

Where, I = Interest,

PD = Preference Dividend

Analysis and Interpretation of Financial Leverages

Sr. No.	Situation	Result
1	No fixed Financial Cost	No Financial Leverages
2	Higher Fixed Financial Cost	Higher Financial Leverages
3	When EBIT is higher than Financial Break-even Point	Positive Financial Leverages
4	When EBIT is lesser than Financial Break-even point	Negative Financial Leverages

IV. WHEN IS A FIRM SAID TO BE FINANCIALLY FAVOURABLY LEVERAGED

To determine whether the degree of Financial Leverage is favourable or not, the Return on Capital Employed (ROCE) should be compared with Rate of Interest on Debt.

1. When ROCE greater than Interest rate:

DFL is considered to be favourable or advantageous to the firm, when it earns more on its total investment than what is pays towards debt capital. In other words, DFL is advantageous only if Return on Capital Employed (ROCE) is greater than Rate of Interest on Debt.

This is because shareholders gain in a situation where the company earns a high rate of return and pays a lower rate of return to the supplier of long term debt funds. Financial Leverage in such cases is therefore also called 'Trading on Equity'.

The difference, between the return (EBIT) and the cost of debt funds would enhance the earnings of shareholders. Further, in case of debt funds the interest cost is also tax deductible. Hence. gain from DFL arises due to :

- Excess of return on investment over effective cost (cost after considering taxation effect) of debt funds.

- Reduction in the number of shares issued due to the use of debt funds.

2. When ROCE is less than Interest rate:

Where the rate of return on investment falls below the rate of interest, the share-holders suffer, because their earnings fall more sharply than the fall in the return on investment. This is because fixed interest costs have to be met, irrespective of the level of EBIT. In such cases, a high DFL is disadvantageous. In fact, the use of debt funds involving fixed commitment of interest payment and principal repayment, is not justified.

3. Conclusion: DFL should be high when Return on Capital Employed (ROCE) is greater than Interest Rate on Debt. If ROCE is less than Interest Rate on Debt, DFL should be maintained low.

V. MEANING AND SIGNIFICANCE OF COMBINED LEVERAGE

(a) Meaning: Combined Leverage is used to measure the total risk of a firm i.e. Operating Risk and Financial Risk.

(b) Explanation: Effect of Fixed Operating Costs (i.e. Operating Risks) is measured by Operating Leverage (DOL). Effect of Fixed Interest Charges (i.e. Financial Risks) is measured by Financial Leverage (DFL). The combined effect of these is measured by Combined Leverage (DCL).

(c) Measurement: The degree of Combined Leverage (DCL) is measured as DOL X DFL.

$$\text{Therefore, DCL} = \frac{\text{Contribution}}{\text{EBT}}$$

(d) Significance: DOL measures impact of change in Sales on EBIT. DFL measures the impact of change in EBIT on EPS. DCL measures the combined impact, i.e. effect of change in Sales on EPS. If DCL is 2 times, it implies that a 10% increase in Sales will lead to 20% increase in EPS.

Analysis and interpretation of combined leverage

Sr. No.	Situation	Result
1	No fixed cost and fixed financial cost	No combined leverages
2	Higher fixed cost & fixed financial cost	Higher combined leverage
3	Sales level higher than break-even level	Positive combined leverage
4	Sales level lower than break-even level	Negative combined leverage

VI. DIFFERENTIATE BETWEEN BUSINESS RISK AND FINANCIAL OR WHAT DO YOU UNDERSTAND BY BUSINESS RISK AND FINANCIAL RISK

Sr. No.	Basis	Business Risk	Financial Risk
1	Meaning	It refers to the risk associated with the firms operations. It is uncertainty about the future operating income. That is how well can operating income be predicted?	It refers to the additional risk placed on firms shareholders as a result of debt used in financing. Companies that issue more debt instrument would have higher financial risk than companies financed mostly by equity.
2	Measured by	It can be measured by standard deviation of basic earning power ratio.	Financial risk can be measured by ratio such as firm's financial leverage multiplier, total debt to assets ratio etc

VII. IDEAL COMBINATION FOR COMBINED LEVERAGE

Combined Leverage is analysed by reference to the combination of DOL and DFL, as under.

DOL	DFL	Effect	Reason and Significance
High	High	RISKY	High DOL => High Operating Risk => High Fixed Cost & BEP High DFL => Small fall in EBIT to greater fall EBT
High	Low	CAREFUL	High DOL's impact is sought to be set off with Low Financial Risk. Hence Equity Shareholders interest is safeguarded.
Low	Low	CAUTIOUS & CONSERVATIVE	Low DOL => Low Operating Risks => Low Fixed Costs & BEP But Equity Shareholders' gains are not maximised since DFL is low.
Low	High	PREFERABLE	Low DOL => Low Operating Risks => Low Fixed Costs & BEP Due to high DFL, small rise in EBIT leads to greater rise in EBT and EPS. Hence Equity Shareholders' gains are maximised.

PROBLEMS

1. *The capital structure of Vadilal Ltd. consists of an ordinary share capital of ₹ 10,00,000 (shares of ₹ 100/- each) and ₹ 10,00,000 of 10% Debentures. Sales increased by 20% from 1,00,000 units to 1,20,000 units, the selling price is ₹ 10 per unit, variable cost amounts to ₹ 6 per unit and fixed expenses amount to ₹ 2,00,000. The income tax rate is assumed to be 35 per cent. You are required to calculate the following –*
   - *i. The percentage increase in earnings per share.*
   - *ii. The degree of financial leverage at 1,00,000 units and 1,20,000 units.*
   - *iii. The degree of operating leverage at 1,00,000 units and 1,20,000 units.*
   - *iv. Comment on the behaviour of operating and financial leverage in relation to increase in production from 1,00,000 units to 1,20,000 units.*

Particulars	***1,00,000 Units***	***1,20,000 Units***

2. *The selected financial data for P, Q, and R companies for the year ended 31st March 2023*

	P Ltd.	Q Ltd.	R Ltd.
Variable expenses as a percentages of sales	*66 2/3*	*75*	*50*
Interest expenses	*₹ 200*	*₹ 300*	*₹ 1,000*
Degree of operating leverage	*5:1*	*6:1*	*2:1*
Degree of financial leverage	*3:1*	*4:1*	*2:1*
Income tax rate	*0.35*	*0.35*	*0.35*

a. *Prepare income statements for P, Q, and R Companies.*
b. *Comment on the financial position and structure of these companies.*

Particulars	P Ltd	Q Ltd	R Ltd

Particulars	P Ltd	Q Ltd	R Ltd

Comment:-

_____

_____

_____

_____

_____

_____

3. *Calculate the Degree of Operating Leverage, Degree of Financial Leverage and Degree of Combined Leverage for the following firms and interpret the results –*

	A Ltd	B Ltd	C Ltd
Output (Units)	3,00,000	75,000	5,00,000
Fixed Costs (₹)	3,50,000	7,00,000	75,000
Unit variable cost (₹)	1.00	7.50	0.10
Interest Expenses (₹)	25,000	40,000	Nil
Unit selling price (₹)	3.00	25.00	0.50

Particulars	A Ltd	B Ltd	C Ltd

Comment:-

4. *An analytical statement of Ash Ltd. is shown below: It is based on an output (Sales) level of 80,000 units;*

	₹
Sales	*9,60,000*
Variable cost	*5,60,000*
Revenue before fixed costs	*4,00,000*
Fixed costs	*2,40,000*
	1,60,000
Interest	*60,000*
Earning before tax	*1,00,000*
Tax	*35,000*
Net income	*65,000*

Calculate the degree of (i) Operating leverage, (ii) Financial leverage and (iii) The combined Leverage from the above data.

5. *A firm has sales of ₹ 10,00,000, variable cost of ₹ 7,00,000 and fixed costs of ₹ 2,00,000 and debt of ₹ 5,00,000 at 10% rate of interest. What are the operating, financial and combined leverage? If the firm wants to double its Earnings Before Interest and Tax (EBIT), how much of a rise in sales would be needed on a percentage basis?*

Particulars	***Amount(₹)***

6. *Aarya Ltd. has estimated that for a new product its break-even point is 2,000 units, if the item is sold for ₹ 14 per unit; the cost accounting department has currently identified variable cost of ₹ 9 per unit. Calculate the degree of operating leverage for sales volume of 2,500 units and 3,000 units. What do you infer from the degree of operating leverage at the sales volume of 2500 units and 3,000 units and their difference, if any?*

7.

(i) *Find the operating leverage from the following data:*

	₹
Sales	*50,000*
Variable Cost	*60 %*
Fixed Cost	*12,000*

(ii) *Find the financial leverage from the following data:*

	₹
Net worth	*25,00,000*
Debt / Equity	*3 / 1*
Interest Rate	*12 %*
Operating Profit	*20,00,000*

8. *Calculate the operating leverage, financial leverage and combined leverage from the following data under situation I and II and Financial Plan A and B.*

Installed Capacity	*4,000 units*
Actual Production and Sales	*75 % of the capacity*
Selling Price	*₹ 30 Per Unit*
Variable Cost Fixed Cost :	*₹ 15 Per Unit*
Under Situation I	*₹ 15,000*
Under Situation II	*₹ 20,000*

Capital structure :	Financial Plan	
	A ₹	**B** ₹
Equity	10,000	15,000
Debt (Rate of Interest at 20%)	10,000	5,000

9. A firm has sales of ₹ 75,00,000 variable cost of ₹ 42,00,000 and fixed cost of ₹ 6,00,000. It has a debt of ₹ 45,00,000 at 9% and equity of ₹ 55,00,000.
   i. What is the firm's ROI?
   ii. Does it have favourable financial leverage?
   iii. If the firm belongs to an industry whose asset turnover is 3, does it have a high or low asset leverage?
   iv. What are the operating, financial and combined leverage of the firm?
   v. If the sales drop to ₹ 50,00,000, what will be the new EBIT?
   vi. At what level of sales, the EBT of the firm will be equal to zero?

Presence of Preference dividend:

10. *The operating and total leverages of K Ltd. are 2 and 5 respectively. Total variable costs at the existing level of operations amount to ₹ 6,50,000. Interest expense and dividend on preference shares are ₹ 75,000 and ₹ 36,000 respectively. Corporate income tax rate is 60%. What is the sales revenue of the company?*

11. *The DFL of Leena Ltd. is 2. The company pays an annual interest of ₹ 100,000 and a preference dividend of ₹ 15,000. The tax rate for the company is 50%. By what percentage will there be a fall in the EPS if EBIT drops to ₹ 130,000?*

12. *The DTL and DFL of a company are 3 and 2 respectively. The company pays an annual interest of ₹ 60,000 and preference share dividend of ₹ 16,000. The total variable costs of the company are ₹ 2,00,000 and the applicable income tax rate is 60%. What are the amounts of sales revenue and fixed operating costs?*

13. *Katrina Ltd. manufactures and sells a typical electronic toy. The selling price and variable cost per toy are ₹ 20 and ₹ 10 respectively. Operating fixed costs amount to ₹ 5 lakhs. The interest expense is ₹ 2.5 lakhs and DFL is 2. What are its DOL and Sales Volume respectively?*

14. *Salman Ltd.'s operating and total leverage are 2 and 3 respectively at the present sales level of 10,000 units. The selling price per unit of output is ₹ 12 while its variable cost is ₹ 6. The Company has no preference share capital. Applicable corporate income tax rate is 50%. The rate of interest on the company's debt is 16% p.a. What is the amount of debt in the capital structure of the company?*

Concept of Beta:

15. *The following summaries the percentage changes in operating income, percentage changes in revenues, and betas for four pharmaceutical firms.*

Firm	Change in revenue	Change in operating income	Beta
Aishwarya Ltd.	27%	25%	1.00
Shilpa Ltd.	25%	32%	1.15
Madhuri Ltd.	23%	36%	1.30
Kareena Ltd.	21%	40%	1.40

Required :

a. *Calculate the degree of operating leverage for each of these firms. Comment also.*

b. *Use the operating leverage to explain why these firms have different beta.*

16. *Calculate degree of operating leverage, degree of financial leverage and combined leverage from the following data-*
Sales 1,00,000 units @ ₹ 2 per unit = ₹ 2,00,000
Variable cost per unit @ ₹ 0.70, Fixed costs ₹ 1,00,000 & Interest charge : ₹ 3,668

17. *Calculate operating leverage and financial leverage under situation A,B and C Financial Plans I,II and III respectively from the following information relating to the operating structure of Lata Ltd. Also find out the combination of operating and financial leverage which give the highest value and least value. How are these calculations useful to financial manager in a company?*

Installed Capacity		*1,200 units*
Actual Production and sales		*800 units*
Selling price per unit		*₹ 15*
Variable cost per unit		*₹ 10*
Fixed cost :	*Situation A*	*₹ 1,000*
	Situation B	*₹ 2,000*
	Situation C	*₹ 3,000*

	Financial Plans		
Capital structure :	***I***	***II***	***III***
Equity	*₹ 5,000*	*₹ 7,500*	*₹ 2,500*
Debt (Cost of debt 12%)	*₹ 5,000*	*₹ 2,500*	*₹ 7,500*