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FULL BOOK MASTER ONE-PAGER

CHAPTERS 1–13

Exam-focused revision map • ICAP CAF-7 Study Text

CH 1 — PESTEL (I): Political, Economic

- Political: government policy, taxation, trade, stability and public-sector priorities.
- Economic: GDP, inflation, interest rates, exchange rates, unemployment and business cycle.
- Social: demographics, culture, education, lifestyle and consumer attitudes.
- Exam approach: identify external factor → explain business impact → classify opportunity/threat.

CH 2 — PESTEL (II): Technology, Ecolo

- Technology: digital disruption, automation, AI, blockchain, e-commerce and innovation.
- Ecology: pollution, climate change, resource scarcity, waste and environmental pressure.
- Legal: laws, regulations, data/privacy, consumer and employment obligations.
- Classify by the nature of the factor—not merely because government or technology is involved.

CH 3 — PESTEL CASE STUDIES

- Use only external macro-environmental matters; company facts alone are not PESTEL factors.
- Write: Factor → evidence from scenario → effect on entity → opportunity/threat.
- Avoid generic definitions when the requirement asks for application.
- Prioritise the most significant scenario-specific factors.

CH 4 — COMPETITIVE FORCES

- Porter: new entrants, buyer power, supplier power, substitutes and rivalry.
- High fixed costs, excess capacity and low differentiation usually intensify rivalry.
- BCG: Star, Question Mark, Cash Cow, Dog using market growth + relative share.
- Strategic groups/spaces help identify close rivals and unoccupied competitive positions.

CH 5 — INTERNAL ANALYSIS

- Threshold vs unique resources; threshold vs core competences; dynamic capabilities.
- VIRO: Valuable, Inimitable, Rare and Organised → potential sustained advantage.
- Value chain: inbound, operations, outbound, marketing & sales, service + support activities.
- SWOT, benchmarking, CSFs and KPIs convert internal analysis into strategic action.

CH 6 — ETHICAL DECISION-MAKING M

- Tucker 5 Questions: profitable? legal? fair? right? sustainable?
- AAA model: facts → ethical issue → norms/values → alternatives → consequences → decision.
- Give a reasoned conclusion; do not stop at naming the model.
- Short-term profit does not override legality, fairness or long-term consequences.

CH 7 — INTRODUCTION TO SUSTAINAB

- Balance economic prosperity, environmental protection and social equity.
- ESG: Environmental, Social and Governance; TBL: People, Planet, Profit.
- Greenwashing = sustainability claims not supported by underlying practices.
- Green finance, reporting, assurance and transparent supply-chain practices support sustainability.

CH 8 — SOURCES OF FINANCE

- Equity: long-term, no mandatory repayment, but control dilution and high required return.
- Debt: fixed obligations and financial risk, but possible tax benefit and no voting dilution.
- Other sources: leases, venture capital, business angels, private equity, securitisation.
- Islamic finance: Murabaha, Ijarah, Musharakah and Mudarabah—match structure to need.

CH 9 — COST OF FINANCE

- DGM: $Ke = D1/P0 + g$. CAPM: $Ke = Rf + \beta(Rm - Rf)$.
- Preference shares: Kp = dividend / market price. Debt uses after-tax cost in WACC.
- WACC uses MARKET VALUES as weights; use ex-dividend price where relevant.
- Convertible debt: compare conversion value with redemption value; use expected investor settlement.

CH 10 — FINANCIAL RISK MANAGEMEN

- ISO 31000: communicate → scope/context → identify/analyse/evaluate → treat → monitor/review.
- FX exposure: forwards, money-market hedge, futures and options; choose correct buy/sell side.
- Interest-rate risk: FRA, futures/options, swaps; understand borrower vs depositor position.
- Also manage credit, liquidity and market risk; VaR expresses potential loss at a confidence level.

CH 11 — BUDGETING

- Flow: Sales → Production → Materials/Labour/OH → Cash → Budgeted statements.
- Production = Sales + Closing FG − Opening FG.
- Material purchases = Usage + Closing RM − Opening RM.
- Know fixed/flexible/rolling/zero-based budgets, behavioural issues and budgetary slack.

CH 12 — WORKING CAPITAL MANAGEN

- Working capital = Current Assets − Current Liabilities; balance liquidity with profitability.
- Cash cycle = Inventory days + Receivable days − Payable days.
- Ratios: current, quick, inventory turnover, receivables turnover and payables turnover.
- Policies: conservative, moderate and aggressive; manage inventory, receivables, payables and cash.

CH 13 — INTRODUCTION TO PROJECT APPRAISAL

- Relevant CFs: incremental, opportunity cost, working capital, residual value; exclude sunk costs.
- Payback/discounted payback = recovery time. NPV > 0 accept; mutually exclusive → highest NPV.
- IRR = rate where NPV = 0; PI = NPV ÷ initial investment for single-period capital rationing.
- Tax, inflation, sensitivity/scenario analysis and capital rationing must follow timing and cash-flow rules.

NPV = PV of benefits − PV of costs

IRR: NPV = 0

PI = NPV ÷ Initial investment

Fisher: $(1+m) = (1+r)(1+i)$

FINAL EXAM ATTEMPT MAP

- Read the requirement first; underline the verb: identify / explain / calculate / recommend.
- For theory: heading + scenario fact + business impact.
- For numericals: label workings and show units/timing clearly.
- Do not leave any requirement blank; partial workings can earn marks.
- End recommendations with a clear reason linked to the calculated or strategic result.

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CAF 7: BUSINESS INSIGHTS AND ANALYSIS

COST OF FINANCE

ONE PAGE SUMMARY

CHAPTER 9
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1. INTRODUCTION

- Cost of finance is the return required by providers of different sources of finance.
- It is the opportunity cost of funds.
- The overall cost is measured by Weighted Average Cost of Capital (WACC).
- Lower cost of finance increases firm value.

2. COST OF EQUITY CAPITAL

(A) Dividend Growth Model (Gordon's Model)

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

Where:

D_1 = Dividend next period
P_0 = Current ex-dividend price
g = Growth rate of dividend

(B) Capital Asset Pricing Model (CAPM)

$$K_e = R_f + \beta\,(R_m - R_f)$$

Where:

R_f = Risk-free rate
R_m = Expected market return
β = Equity beta of the firm

3. COST OF PREFERENCE SHARE CAPITAL

- Preference dividends are fixed and paid from profits.
- **Irredeemable Preference Shares:**

$$K_p = \frac{D_p}{P_p}$$

Where:

D_p = Annual preference dividend
P_p = Current market price per share

- Preference dividends are not tax-deductible.

4. COST OF DEBT CAPITAL

(A) Perpetual Debt

$$K_d = \frac{I(1-T)}{P}$$

Where:
I = Annual interest
T = Tax rate
P = Market price of bond

(B) Redeemable Debt (IRR Method)

- Cash flows: Year 0 → -(Market Price)
  Years 1 to-n-1 → Interest (1-T)
  Year n → Interest (1-T) + Redemption Value
- Cost of debt = IRR of above cash flows.

(C) Zero Coupon Bonds

- No periodic interest.
- Issued at discount and redeemed at face value.

$$K_d = \left(\frac{F}{P}\right)^{\frac{1}{n}} - 1$$

Where:

F = Face (Redemption) value
P = Current market price
n = Number of years

5. AFTER-TAX COST OF DEBT

Interest on debt is tax-deductible.
After-tax cost of debt:

$$K_{d(AT)} = K_d \times (1-T)$$

Where:

T = Corporate tax rate

Remember: Preference dividends are **NOT** tax-deductible.

6. WEIGHTED AVERAGE COST OF CAPITAL (WACC)

Formula:

$$WACC = \frac{E}{V}K_e + \frac{P}{V}K_p + \frac{D}{V}K_{d(AT)}$$

Where:

E = Market value of equity
P = Market value of preference shares
D = Market value of debt
V = Total market value (E + P + D)

Market values should be used as weights.

7. FEATURES OF IMPORTANT SECURITIES

Security	Key Features
Ordinary Shares	Variable returns, voting rights, residual claim, highest risk.
Preference Shares	Fixed dividend, no voting (usually), priority over ordinary shares.
Debentures/Bonds	Fixed interest, no voting, claim on assets in liquidation.
Convertible Bonds	Can be converted into equity shares.
Zero Coupon Bonds	No periodic interest, return through capital appreciation.
Perpetual Bonds	No maturity date, interest paid perpetually.

8. FACTORS AFFECTING COST OF FINANCE

- Risk of the source of finance (High risk → High cost)
- Expected rate of return in the market
- Firm's capital structure (Gearing)
- Liquidity of securities
- Tax regulations
- Inflation expectations
- Control and flexibility associated with the source

9. COMPARISON OF SOURCES

Source	Cost	Control	Tax Benefit
Ordinary Shares	High	Full	No
Preference Shares	Medium	Usually Full	No
Debt (Loans/Bonds)	Low to Medium	Full	Yes (Interest is tax deductible)
Retained Earnings	Low	Full	No

10. COST OF RETAINED EARNINGS

Retained earnings have no explicit cost but have an opportunity cost.

$$K_{re} = K_e$$

i.e. Cost of retained earnings = Cost of equity

11. GEARING AND COST OF EQUITY

- As gearing increases → Financial risk to shareholders increases.
- Higher financial risk → Higher cost of equity.
- Up to an optimal point, WACC decreases; beyond that, it increases.



12. KEY POINTS TO REMEMBER

- ★ Use ex-dividend price in cost of equity calculations.
- ★ Use post-tax cost of debt while calculating WACC.
- ★ Always use market values for weights in WACC.
- ★ Choose higher of redemption or conversion value for convertible bonds.
- ★ Preference dividends are not tax-deductible.

13. TIPS TO SCORE HIGH

- ✓ Learn and understand all formulas.
- ✓ Always identify the type of security first.
- ✓ Draw timeline for bond related questions.
- ✓ Show all workings clearly.
- ✓ Use correct terms and proper presentation.
- ✓ Practice past papers and test yourself.

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14. EXAM REMINDER

- ✓ Manage your time.
- ✓ Attempt full paper in one sitting.
- ✓ Read question carefully.
- ✓ Show all workings.
- ✓ Stay calm and confident.
- ✓ Practice is the key to success!

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CAF 7: BUSINESS INSIGHTS AND ANALYSIS

FINANCIAL RISK MANAGEMENT

ONE PAGE SUMMARY

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1. INTRODUCTION

- Financial risk arises from changes in financial variables that affect the value of cash flows.
- Finance managers should identify, measure, monitor and manage financial risks.
- **Goal:** Reduce the uncertainty of cash flows and earnings, not eliminate risk completely.
- Risk management adds value by protecting the firm and improving decision making.

2. TYPES OF FINANCIAL RISKS

Risk Type	Definition	Example
Foreign Currency Risk	Exposure to adverse changes in exchange rates.	USD receivables, EUR payables.
Interest Rate Risk	Exposure to adverse changes in interest rates.	Floating rate loan, bond prices.
Liquidity Risk	Inability to meet short-term obligations.	Cash shortage, loan repayment.
Credit Risk	Counterparty fails to meet obligations.	Customer default, debtor default.

3. FOREIGN CURRENCY RISK

Types of Exposure

- **Transaction Exposure:** Arises from contracted cash flows (e.g., imports, exports, loans).
- **Translation Exposure:** Arises when financial statements of foreign operations are converted.
- **Economic (Operating) Exposure:** Impact on future cash flows and firm value due to currency changes.

Measurement

- Sensitivity Analysis, Scenario Analysis.

Management Techniques

- Hedging (Forward, Futures, Options, Swap)
- Leading/Lagging, Invoicing in local currency.

4. INTEREST RATE RISK

Types

- **Reinvestment Risk:** Returns on reinvested funds may fall.
- **Price Risk:** Market value of fixed income securities changes with interest rates.
- **Funding (Cash Flow) Risk:** Cash flows affected by changes in interest rates.

Measurement

- Gap Analysis, Duration Analysis, Value at Risk (VaR).

Management Techniques

- Asset–Liability Management (ALM)
- Hedging (Interest rate swaps, Futures, Options)
- Adjusting mix of fixed and floating rate instruments.

5. HEDGING TECHNIQUES OVERVIEW

Hedging Instrument	Used For	Key Feature
Forward Contracts	Lock in future exchange rate or interest rate.	Customized agreement, no upfront payment.
Futures Contracts	Standardized contracts traded on exchange.	Daily settlement, less counterparty risk.
Options	Right, not obligation, to buy or sell.	Flexibility with limited downside risk.
Swaps	Exchange of cash flows.	Useful for long-term exposures.

6. RISK MANAGEMENT PROCESS

1. Identify Risks
2. Measure / Assess Risks
3. Decide on Risk Response (Avoid / Reduce / Transfer / Accept)
4. Implement Hedging Strategy
5. Monitor and Review

7. KEY RATIOS AND ANALYSIS

Ratio / Measure	Formula	Purpose
Interest Coverage Ratio	EBIT / Interest Expense	Ability to pay interest.
Debt to Equity Ratio	Total Debt / Shareholders' Equity	Capital structure leverage.
Current Ratio	Current Assets / Current Liabilities	Short-term liquidity.
Duration	Weighted average time of cash flows (years)	Interest rate sensitivity of bonds.
VaR	Estimated maximum loss over a period.	Overall market risk measurement.

8. STRATEGIES FOR MANAGING RISKS

Risk Type	Strategies
Foreign Currency Risk	• Hedge using forwards, futures, options, swaps • Match currency inflows with outflows • Use currency clauses in contracts
Interest Rate Risk	• Match assets and liabilities (ALM) • Interest rate swaps, futures, options • Mix of fixed and floating rate
Liquidity Risk	• Maintain adequate cash and liquid assets • Arrange credit lines • Prepare cash budgets and forecasts
Credit Risk	• Credit analysis and limits • Collateral, guarantees • Diversification of customers

9. EFFECT OF RISK MANAGEMENT

With Effective Risk Management	Without Effective Risk Management
• Stable cash flows	• Uncertain cash flows
• Lower volatility	• High volatility
• Better planning	• Poor planning
• Protects firm value	• Loss of firm value
• Improves lending and credit rating	• Higher cost of borrowing

10. IMPORTANT FORMULAS SUMMARY

- **Forward Rate (F) = Spot Rate (S) × $(1 + i_{domestic})^{\wedge t}$ / $(1 + i_{foreign})^{\wedge t}$**
- **Interest Rate Swap Net Payment = Fixed Rate Payment – Floating Rate Payment**
- **Gap = Interest Sensitive Assets – Interest Sensitive Liabilities**
- **Duration = Σ [t × PV(CF_t)] / Price of Bond**
- **VaR (Variance-Covariance Method) = Z × σ × $\sqrt{t}$ × V**

Where: Z = confidence level factor, σ = standard deviation, t = time, V = portfolio value

DO's & DON'Ts

DO's

- ✓ Understand nature of risk clearly
- ✓ Measure risk before taking action
- ✓ Use appropriate hedging instrument
- ✓ Monitor exposures regularly
- ✓ Keep proper documentation
- ✓ Align strategy with business goals

DON'Ts

- ✗ Do not ignore small exposures
- ✗ Do not hedge without analysis
- ✗ Do not over-hedge
- ✗ Do not rely only on one method
- ✗ Do not take speculative positions

TIPS TO SCORE HIGH

- ✓ Understand concepts with examples
- ✓ Learn definitions and techniques
- ✓ Practice numerical questions regularly
- ✓ Use structured headings in answers
- ✓ Analyse scenarios and recommend solutions

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CAF 7: BUSINESS INSIGHTS AND ANALYSIS

BUDGETING

ONE PAGE SUMMARY

CHAPTER 11
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1. INTRODUCTION

- Budgeting is a detailed plan of action expressed in financial terms for a specified future period.
- It helps in planning, coordination, communication and control.
- It is a continuous process and covers the whole organisation.

Goal: Achieve objectives by effective use of resources.

2. IMPORTANCE / OBJECTIVES

- Provides direction and focus
- Coordinates activities
- Communicates plans and targets
- Ensures efficient use of resources
- Controls performance
- Evaluates results
- Facilitates decision making
- Reduces uncertainty
- Promotes responsibility
- Enhances shareholder value

BUDGET vs PLAN

BUDGET
Expressed in financial terms.

PLAN
Expressed in physical terms.

3. TYPES OF BUDGETS

- **On the basis of Function:** Sales, Production, Material, Labour, Overheads, Cash, Capital Expenditure
- **On the basis of Flexibility:** Fixed Budget, Flexible Budget
- **On the basis of Time:** Short-term (up to 1 year), Long-term (more than 1 year)
- **On the basis of Continuous vs One-time:** Continuous Budget, Specific (One-time) Budget



4. BUDGETING PROCESS (FLOW)

1. Set Objectives
2. Prepare Plan / Budgets
3. Co-ordinate & Communicate
4. Implement
5. Monitor Performance
6. Compare & Take Corrective Action

Successful budgeting requires team work, commitment and good communication.



5. MASTER BUDGET – TYPICAL SEQUENCE

Sales Budget
(Units × Selling Price)

↓

Production Budget
(Sales + Closing Stock – Opening Stock)

↓

Direct Material Purchase Budget | Direct Labour Budget | Factory Overhead Budget

↓

Cash Budget

↓

Budgeted Financial Statements
(Profit or Loss, Balance Sheet)

6. FLEXIBLE BUDGETING

- Adjusts costs and expenses for different levels of activity.
- Contains:
  - Fixed Costs (remain constant in relevant range)
  - Variable Costs (change with activity)
  - Semi-variable Costs (both fixed & variable)
- Helps in performance evaluation by comparing actual results with budget at actual activity level.

7. BUDGETARY CONTROL

- Compare Actual Results with Budgeted Results.
- Analyse Variances:
  - Sales Variance
  - Production Volume Variance
  - Material Price / Quantity Variance
  - Labour Rate / Efficiency Variance
  - Overhead Variance
- Take corrective action.



8. SALES BUDGET – KEY POINTS

- Based on sales forecast (units and price).
- **Consider:** Past sales, market trends, capacity, competition, marketing plans.
- **Credit sales** → consider collection pattern.
- Usually prepared first in the master budget.



9. PRODUCTION BUDGET – KEY POINTS

- **Formula:** Production = Sales + Closing Stock – Opening Stock
- **Opening Stock:** Given or previous closing stock.
- **Closing Stock:** As per policy / management decision.
- Must consider production capacity.



10. CASH BUDGET – KEY POINTS

- Forecasts cash inflows and outflows.
- **Inflows:** Cash sales, Collections, Sale of assets, Loans, Capital, etc.
- **Outflows:** Purchases, Wages, Expenses, Taxes, Dividends, Capital expenditure, etc.
- Shows Opening Cash, Net Cash Flow & Closing Cash.



11. IMPORTANT CONCEPTS & FORMULAS

Production Quantity	= Sales + Closing Stock – Opening Stock
Material Purchase	= Material for Production + Closing Stock – Opening Stock
Material Required	= Production Quantity × Material per unit
Labour Cost	= Production Quantity × Labour hours per unit × Labour rate
Factory Overhead	= (Fixed OH + Variable OH per unit) × Production units
Cash Collection	= Credit Sales × Collection % (based on past pattern)
Variance	= Actual Result – Budgeted Result (Favourable if decrease in cost / increase in revenue)

12. DO's & DON'Ts

DO's

- Understand objectives clearly
- Follow the sequence of budgets
- Use correct assumptions
- Show all workings clearly
- Label each figure & unit
- Check arithmetical accuracy
- Present neatly & logically

DON'Ts

- Don't skip the budget sequence
- Don't ignore adjustments
- Don't mix units & rupees
- Don't show results without workings
- Don't assume unnecessary figures
- Don't forget closing stock
- Don't ignore cash timing

TIPS TO SCORE HIGH

- ★ Read question carefully & underline key data.
- ★ Prepare budgets in proper sequence.
- ★ Assume nothing – use only given information.
- ★ Show all workings – marks are in workings.
- ★ Check your final answer & units.

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CAF 7: BUSINESS INSIGHTS AND ANALYSIS

CHAPTER 12
WORKING CAPITAL MANAGEMENT

ONE PAGE SUMMARY

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1. INTRODUCTION

- Working capital (WC) is the investment in current assets needed to carry out day-to-day operations.
- Efficient WC management ensures liquidity, profitability and financial stability.
- Goal: Maintain optimal level of current assets and current liabilities to maximize shareholder wealth.



2. COMPONENTS OF WORKING CAPITAL

CURRENT ASSETS

- Cash and Bank
- Marketable Securities
- Accounts Receivable (Debtors)
- Inventories (Stock)
- Prepayments
- Other Current Assets

CURRENT LIABILITIES

- Accounts Payable (Creditors)
- Short-term Borrowings
- Accrued Expenses
- Unearned Income
- Other Current Liabilities

3. CONCEPTS OF WORKING CAPITAL

Gross Working Capital (GWC)
Total Current — GWC = CA

Net Working Capital (NWC)
Current Assets – Current Liabilities
NWC = CA – CL

Operating Working Capital (OWC)
Current Assets – Spontaneous Current Liabilities (Excludes short-term borrowings)

Higher WC → Higher Liquidity but lower Profitability
Lower WC → Higher Profitability but higher Risk

4. WORKING CAPITAL POLICIES

Policy	Level of Investment	Risk	Liquidity	Profitability	Suitable For
Conservative Policy	High	Low	High	Low	Stable Environment
Moderate (Normal) Policy	Moderate	Moderate	Moderate	Moderate	Normal Environment
Aggressive Policy	Low	High	Low	High	Competitive Environment

★ Conservative = Safe but less profitable; Aggressive = Risky but more profitable; Moderate = Balance between risk and return.

5. WORKING CAPITAL CYCLE

Cash → Inventory (Purchase to Sale) → Receivables (Sale to Collection) → Payables (Purchase to Payment) → Cash

Cash is tied up in Inventory → Converted into Receivables → Converted into Cash → Payables provide short-term financing.

Working Capital Cycle = Inventory Days + Receivable Days – Payable Days

6. RECEIVABLES MANAGEMENT

Objectives

- Accelerate collections from debtors.
- Maintain good customer relations.
- Reduce bad debts.
- Optimize investment in receivables.

Key Decisions

- ✓ Credit Policy (Who to sell?)
- ✓ Credit Terms (2/10, n/30 etc.)
- ✓ Collection Policy
- ✓ Monitoring & Follow-up

Average Collection Period (Days)
= (Average Accounts Receivable / Credit Sales) × 365

7. INVENTORY MANAGEMENT

Objectives

- Ensure uninterrupted production & sales.
- Minimize holding cost.
- Avoid stock-outs/ overstocking.
- Maintain optimum inventory level.

Inventory Costs

- ✓ Ordering Cost
- ✓ Carrying/Holding Cost
- ✓ Shortage/Stock-out Cost

Inventory Turnover Ratio = Cost of Goods Sold / Average Inventory
Inventory Holding Period (Days) = 365 / Inventory Turnover Ratio

8. PAYABLES MANAGEMENT

Objectives

- Obtain maximum credit period.
- Maintain good supplier relations.
- Take advantage of cash discounts.

Key Decisions

- ✓ Credit Period from Suppliers
- ✓ Cash Discount Policy
- ✓ Payment Policy

Average Payment Period (Days)
= (Average Accounts Payable / Credit Purchases) × 365

9. KEY WORKING CAPITAL RATIOS

Ratio	Formula	Purpose / Interpretation
Current Ratio	Current Assets / Current Liabilities	Measures short-term solvency. Ideal > 1.5 : 1
Quick Ratio	(CA – Inventories) / CL	Stricter test of liquidity. Ideal > 1 : 1
Inventory Turnover	COGS / Average Inventory	Measures efficiency in inventory use. Higher is better.
Receivables Turnover	Credit Sales / Average Receivables	Measures efficiency in collections. Higher is better.
Payables Turnover	Credit Purchases / Average Payables	Measures speed of payments. Higher means faster payments.

10. KEY POINTS TO REMEMBER

- Working capital is needed for smooth operations.
- Balance liquidity & profitability.
- Too much WC → Idle funds & lower profitability.
- Too little WC → Risk of insolvency.
- Continuous monitoring of WC cycle is essential.
- Efficient WC management improves cash flow and firm value.



CHAPTER 13
PAYBACK PERIOD & DISCOUNTED PAYBACK PERIOD

ONE PAGE SUMMARY

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1. INTRODUCTION

- Payback Period (PBP) is a simple technique used to measure the time taken to recover the initial investment from cash inflows.
- It focuses on liquidity and risk.
- It does not consider cash flows after the payback period.
- Discounted Payback Period (DPBP) considers the time value of money.



2. PAYBACK PERIOD (PBP)

PBP is the length of time required to recover the initial investment from cumulative (undiscounted) cash inflows.

Formula

$$PBP = n + \frac{\text{Unrecovered amount at end of year } n}{\text{Cash inflow during year } (n+1)} \times 1 \text{ year}$$

Where:

- n = last year in which cumulative cash inflows do not recover the initial investment.
- Unrecovered amount = Initial investment − Cumulative cash inflows up to year n.



✓ Choose projects with shorter payback period.

3. DISCOUNTED PAYBACK PERIOD (DPBP)

DPBP is the length of time required to recover the initial investment from cumulative discounted cash inflows.

Formula

$$DPBP = n + \frac{\text{Unrecovered amount at end of year } n}{\text{Discounted cash inflow during year } (n+1)} \times 1 \text{ year}$$

Where:

- n = last year in which cumulative discounted cash inflows do not recover the initial investment.
- Unrecovered amount = Initial investment − Cumulative discounted cash inflows up to year n.



✓ Considers time value of money; more realistic than PBP.

4. CALCULATION STEPS

Step	Payback Period (PBP)	Discounted Payback Period (DPBP)
1	Prepare cash flow table (undiscounted).	Prepare cash flow table and calculate discounted cash inflows.
2	Compute cumulative (undiscounted) cash inflows year by year.	Compute cumulative discounted cash inflows year by year.
3	Find the year when cumulative inflows first exceed the initial investment.	Find the year when cumulative discounted inflows first exceed the initial investment.
4	Use formula to calculate exact payback period.	Use formula to calculate exact discounted payback period.

5. EXAMPLE

Initial Investment = Rs. 1,000,000

Cash Inflows (Rs.)

Year	Cash Inflow	Cumulative Cash Inflow
1	300,000	300,000
2	400,000	700,000
3	500,000	1,200,000
4	400,000	1,600,000

Payback Period (PBP)

- Initial investment is recovered during Year 3.
- Unrecovered amount at end of Year 2 = 1,000,000 − 700,000 = 300,000
- Cash inflow in Year 3 = 500,000

PBP = 2 + (300,000 / 500,000) = 2.6 years

Assume discount rate = 10%

Year	Cash Inflow	Discount Factor @10%	Discounted Cash Inflow	Cumulative Discounted Inflow
1	300,000	0.909	272,700	272,700
2	400,000	0.826	330,400	603,100
3	500,000	0.751	375,500	978,600
4	400,000	0.683	273,200	1,251,800

Discounted Payback Period (DPBP)

- Initial investment is recovered during Year 4.
- Unrecovered amount at end of Year 3 = 1,000,000 − 978,600 = 21,400
- Discounted cash inflow in Year 4 = 273,200

DPBP = 3 + (21,400 / 273,200) = 3.08 years

6. ADVANTAGES & LIMITATIONS



Advantages	Limitations
✓ Simple and easy to understand.	✗ Ignores cash flows after payback period.
✓ Focuses on liquidity and risk recovery.	✗ Does not consider time value of money (in PBP).
✓ Useful for short-term projects.	✗ May lead to wrong decisions in long-term projects.
✓ Helps in screening of projects when time is critical.	✗ Arbitrary cut-off period.
	✗ Does not measure profitability.

★ Use PBP and DPBP along with NPV and IRR for better decision making.

7. COMPARISON: PBP vs DPBP

Basis	Payback Period (PBP)	Discounted Payback Period (DPBP)
Cash Flows	Uses undiscounted cash flows.	Uses discounted cash flows.
Time Value of Money	Not considered.	Considered.
Accuracy	Less accurate.	More accurate.
Usefulness	Good for liquidity and risk assessment.	Better for comparing long-term projects.
Decision	Shorter PBP is preferred.	Shorter DPBP is preferred.



8. KEY POINTS TO REMEMBER

- ✓ Payback period ignores time value of money.
- ✓ Discounted payback period is more realistic.
- ✓ Both are liquidity measures, not profitability measures.
- ✓ Use these methods as secondary tools, not primary decision criteria.
- ✓ Complement with NPV and IRR for final decision.



9. EXAM FOCUS POINTS

- Build correct cash flow table.
- Compute cumulative inflows correctly.
- Apply discount factor accurately (for DPBP).
- Identify payback year and apply formula.
- State advantages and limitations.
- Give final recommendation with reasons.

EXAM TIP: Always show cumulative cash flows year by year. Highlight the payback year and use formula correctly. Write conclusion with reasons based on both methods and other factors.

CHAPTER 13
NET PRESENT VALUE (NPV)
ONE PAGE SUMMARY

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1. INTRODUCTION

- Net Present Value (NPV) is the most widely used and reliable method for evaluating investment projects.
- NPV measures the increase (or decrease) in shareholder wealth resulting from a proposed project.
- It is the difference between the present value of cash inflows and the present value of cash outflows.



2. NPV FORMULA

$$NPV = \sum_{t=0}^{n} \frac{CF_t}{(1+r)^t}$$

Where:

CF_t = Net cash flow at time t
r = Discount rate (cost of capital)
t = Time period (0, 1, 2, …, n)
n = Project life in years

★ At $t = 0$, cash flow is usually the initial investment (a negative outflow).

3. INTERPRETATION OF NPV

NPV	Meaning	Decision
NPV > 0	Project is expected to add value to the firm.	Accept the project
NPV = 0	Project is expected to earn exactly the cost of capital.	Indifferent (Accept or Reject)
NPV < 0	Project is expected to reduce the value of the firm.	Reject the project

★ A higher positive NPV indicates a better project (for mutually exclusive projects, choose the one with higher NPV).

4. STEPS TO CALCULATE NPV

1. Estimate all relevant cash inflows and outflows over the project life.
2. Determine the appropriate discount rate (cost of capital).
3. Discount each future cash flow to its present value.
4. Sum up the present values of all cash flows.
5. Subtract initial investment (cash outflow at time 0).
6. The result is the Net Present Value (NPV).



5. NPV CALCULATION EXAMPLE

A project requires an initial investment of Rs. 1,000,000.
Expected cash inflows are as follows. Cost of capital = 12%

Year (t)	Cash Inflow (Rs.)	Discount Factor @ 12%	PV of Cash Inflow (Rs.)
0	(1,000,000)	1.000	(1,000,000)
1	400,000	0.893	357,200
2	500,000	0.797	398,500
3	600,000	0.712	427,200
4	500,000	0.636	318,000
		Total PV of Inflows	1,500,900

NPV = Total PV of Inflows – Initial Investment
= 1,500,900 – 1,000,000 = Rs. 500,900

NPV > 0
Accept the project

6. IMPORTANT POINTS

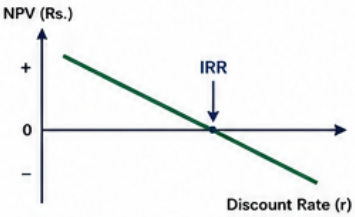
- NPV considers the time value of money.
- NPV considers all cash flows (inflows and outflows) throughout the project life.
- NPV is expressed in monetary terms, making it easy to understand.
- NPV automatically considers profitability and risk (through discount rate).
- It is an absolute measure, not a relative measure.
- The project should be independent (not mutually exclusive) for simple acceptance using NPV.



★ NPV is the best single criterion for project evaluation because it maximizes shareholder wealth.

7. NPV PROFILE

NPV profile shows how NPV changes with different discount rates.



At discount rate = IRR
NPV = 0

If r < IRR, NPV > 0
If r > IRR, NPV < 0

8. NPV vs OTHER METHODS

Method	Considers Time Value of Money	Considers All Cash Flows	Measures in Monetary Terms	Indicates Value Added
NPV	✓	✓	✓	✓
IRR	✓	✓	✗	✓
Payback Period	✗	✗	✗	✗
Accounting Rate of Return	✗	✗	✗	✗

★ NPV is superior because it gives direct value addition in rupees.

9. ASSUMPTIONS & LIMITATIONS

Assumptions	Limitations
✓ Cash flows can be estimated reliably.	✗ Difficult when cash flows are uncertain.
✓ Discount rate remains constant.	✗ Does not consider strategic factors.
✓ Cash flows are reinvested at cost of capital.	✗ Requires correct discount rate.
✓ Project life is finite.	✗ Not suitable for ranking mutually exclusive projects (use NPV amount).

10. KEY TAKEAWAYS

- ✓ Always compute NPV using after-tax cash flows.
- ✓ Use cost of capital as the discount rate.
- ✓ A positive NPV means the project adds value.
- ✓ Compare NPVs in rupees for mutually exclusive projects.
- ✓ NPV and IRR together give stronger decision support.



EXAM TIP: Always prepare a complete cash flow timeline first. Be consistent with discount rate and cash flows (nominal/real, pre-tax/after-tax). Show all workings clearly and provide final decision with reasons.

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CAF 7: BUSINESS INSIGHTS AND ANALYSIS

CHAPTER 13
INTERNAL RATE OF RETURN (IRR)

ONE PAGE SUMMARY

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1. INTRODUCTION TO IRR

- IRR is the discount rate that makes the Net Present Value (NPV) of all cash flows of a project equal to zero.
- It represents the expected rate of return of the project.
- Accept the project if IRR is greater than the required rate of return (cost of capital).
- IRR is independent of project size.



IRR is a rate, while NPV is an amount.

2. CALCULATION OF IRR

IRR cannot be calculated directly; it is found by trial and error or interpolation.

Steps:

1. Select two discount rates: one that gives a positive NPV and another that gives a negative NPV.
2. Use interpolation formula to find IRR.
3. If more accuracy is required, repeat the process with closer rates.
4. Compare IRR with cost of capital for decision.

Interpolation Formula

$$IRR = LDR + \frac{NPV_1}{NPV_1 - NPV_2} \times (HDR - LDR)$$

Where:
LDR = Lower Discount Rate ($NPV_1 > 0$)
HDR = Higher Discount Rate ($NPV_2 < 0$)
NPV_1 = NPV at LDR
NPV_2 = NPV at HDR

3. EXAMPLE – CALCULATION OF IRR



A project has the following NPVs:

Discount Rate	NPV (Rs.)	Remark
10%	+ 150,000	Positive
20%	– 80,000	Negative

Calculate IRR.

Solution:
Using interpolation formula:

$$IRR = 10\% + \frac{150{,}000}{150{,}000 - (-80{,}000)} \times (20\% - 10\%)$$

$$IRR = 10\% + \frac{150{,}000}{230{,}000} \times 10\% = 10\% + 6.52\% = 16.52\%$$

4. MERITS OF IRR

- Easy to understand and communicate.
- Considers time value of money.
- Provides a rate of return.
- Useful in ranking projects (independent of size).
- Consistent with NPV method – both give same accept/reject decision in normal cases.

5. LIMITATIONS OF IRR

- May give multiple IRRs for non-conventional cash flows.
- Assumes cash flows are reinvested at IRR, which may be unrealistic.
- Does not show the actual value created (unlike NPV).
- Conflicting rankings with NPV in case of mutually exclusive projects.
- Difficult to interpret when cash flows have different patterns.

6. MULTIPLE IRR PROBLEM

Non-conventional cash flow pattern (more than one sign change) may result in multiple IRRs.

Example of non-conventional cash flow:

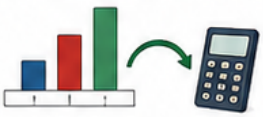
Time (Years)	0	1	2	3
Cash Flow (Rs.)	-100,000	150,000	-60,000	80,000

How to Deal?

- Use NPV method for decision.
- Examine cash flow pattern carefully.
- Use Modified IRR (MIRR) as an alternative.

Modified IRR (MIRR)

MIRR assumes reinvestment at cost of capital and gives a single meaningful rate.



MIRR Formula

$$MIRR = \sqrt[n]{\frac{TV \text{ of positive cash flows at } k}{PV \text{ of negative cash flows at } k}} - 1$$

Where:
n = Project life in years
k = Cost of capital (reinvestment rate)
PV = Present Value
TV = Terminal Value

7. IRR vs NPV

Basis	IRR	NPV
Measure	Rate of return	Value in rupees
Decision Rule	Accept if IRR > Cost of capital	Accept if NPV > 0
Scale	Independent of size	Considers project size
Reinvestment Assumption	At IRR (may be unrealistic)	At cost of capital (realistic)
Conflicting Rankings	Possible	Not possible

8. WHEN TO USE IRR?

- When the objective is to earn a certain rate of return.
- When comparing projects of similar size.
- When communication with non-financial managers is needed.
- Along with NPV for confirmation.



9. KEY POINTS TO REMEMBER

- IRR makes NPV = 0.
- Accept if IRR > Cost of capital.
- Use interpolation for calculation.
- Watch out for multiple IRRs.
- Use MIRR or NPV in such cases.
- IRR complements NPV; NPV is the best criterion.



10. EXAM FOCUS POINTS

- Understand the concept and decision rule.
- Calculate IRR using interpolation accurately.
- Identify non-conventional cash flows and multiple IRR situations.
- Apply MIRR when multiple IRRs occur.
- Compare projects using NPV and IRR.
- Give justified conclusion with reasons.

EXAM TIP: Always show your trial rates clearly, apply interpolation formula step by step and state the final decision with reasons. If cash flows are non-conventional, mention the limitation and use NPV or MIRR.

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CHAPTER 13 — DCF & T N

ONE-PAGE SUMMARY

1. CORE TAX PRINCIPLE

- Tax cash flows must be included in DCF analysis.
- Higher project cash profits create higher tax payments.
- Lower profits / extra spending can create tax savings.
- Working capital flows are not subject to tax.
- Use after-tax project cash flows with a post-tax discount rate.

2. INCLUDE / EXCLUDE

- Include incremental operating cash flows and their tax effects.
- Accounting depreciation is non-cash and not tax allowable: ignore it, or add it back if already deducted.
- Do not include interest cash flows in DCF; financing cost is reflected in the discount rate.
- Use the tax timing stated in the question.

3. TAX TIMING

- Tax may be paid in the same year as the related profit.
- Or tax may be paid one year in arrears.
- Either treatment can be correct if it follows the question.
- Wrong tax timing can change the NPV even when the tax amount is correct.

4. TAX-ALLOWABLE DEPRECIATION (TAD)

- Tax rules provide tax-allowable depreciation instead of accounting depreciation.
- The relevant DCF cash flow is the TAX SAVING from TAD — not the TAD amount itself.
- Study Text: initial allowance is 25% in the year the asset is brought into use.
- Normal depreciation is then applied to tax written-down value on a reducing-balance basis; use the rate stated in the exam question.
- On disposal, consider any balancing charge or balancing allowance if required.

Tax saving from TAD = TAD × Tax rate

5. BUILD THE AFTER-TAX CASH FLOW

- Start with incremental cash operating profit.
- Deduct tax on taxable profit using the stated timing.
- Add back accounting depreciation if it was deducted.
- Add the tax saving created by TAD.
- Add / deduct capital expenditure, disposal proceeds and working-capital movements at the correct times.
- Discount the final after-tax cash flows at the post-tax cost of capital.

Quick formula
After-tax OCF ≈ Cash profit × (1−T) + TAD × T

6. COMMON EXAM TRAPS

- Taxing working-capital investment or recovery.
- Including accounting depreciation as a cash outflow.
- Including loan interest in project cash flows.
- Using TAD instead of its tax effect.
- Ignoring one-year tax arrears when stated.
- Forgetting tax savings from lower profits / higher spending.

7. STUDY-TEXT MINI EXAMPLE

Cash profit = Rs. 10,000

Tax rate = 32%

Tax payment = Rs. 3,200

Post-tax cash inflow

= Rs. 6,800

If project spending reduces profits, the resulting reduction in tax is a cash benefit.

8. ATTEMPT & DECISION TIPS

- Prepare a year-wise cash-flow timeline first.
- Separate operating, tax, TAD and working-capital workings.
- Label tax timing clearly.
- Use the stated post-tax cost of capital.
- NPV > 0: accept. NPV < 0: reject.
- Show all workings for method marks.

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CHAPTER 13 — DCF & INI

ONE-PAGE SUMMARY

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1. REAL vs MONEY CASH FLOW

- Real cash flows are measured at a constant price level and exclude expected inflation.
- Money (nominal) cash flows include expected inflation and are the actual future cash amounts.
- Convert real cash flows to money cash flows by applying the inflation rate relevant to each cash flow.

2. REAL vs MONEY COST OF CA

- Real cost of capital excludes expected inflation.
- Money cost of capital includes expected inflation.
- Cash flows and discount rate must be expressed on a consistent basis.

FISHER EQUATION

$$1 + m = (1 + r) \times (1 + i)$$

3. TWO VALID DCF APPROACHE

- Discount real cash flows at the real cost of capital.
- OR inflate the cash flows to money terms and discount at the money cost of capital.
- Both approaches should give the same NPV if applied correctly.
- The Study Text notes that inflating cash flows and using the money cost of capital is the common practical approach.

4. INFLATING CASH FLOWS

- When using the money approach, restate all future cash flows at their inflated amounts.
- Cash flows are assumed to occur at year-end, so apply inflation for the full year.
- Use the inflation rate specific to the cash flow when different rates are given.

Future Money Cash Flow

= Current-price CF × (1 + inflation)^n

ICAP exam point: inflate sales, material, labour and other cash flows sep

5. FISHER EQUATION — EXAM USE

- Use Fisher when converting between a real cost of capital and a money cost of capital.
- m = money rate; r = real rate; i = general inflation rate.
- Study Text example: money cost = 12%, inflation = 5%.
- Do not mix a real cash-flow basis with a money discount rate, or vice versa.
- Use the general inflation rate in the Fisher equation unless the question states otherwise.

$$1.12 = (1 + r)(1.05)$$

$$r = 6.67\%$$

6. STUDY-TEXT EXAMPLE

Current selling price = Rs. 50

Units = 1,000 each year

Inflation = 10%

Real cash flows

Year 1 = Rs. 50,000
Year 2 = Rs. 50,000

Money cash flows

Year 1 = Rs. 55,000
Year 2 = Rs. 60,500

7. COMMON EXAM TRAPS

- Discounting real cash flows at a money rate.
- Discounting money cash flows at a real rate.
- Inflating only sales but forgetting current-price costs.
- Using one general inflation rate when the question gives specific inflation rates.
- Ignoring inflation effects on working-capital requirements where relevant.

8. ATTEMPT TIPS

- Label each input as REAL or MONEY before starting.
- Inflate year by year before discounting.
- Write the discount-rate basis beside the NPV working.
- Keep tax and working-capital timing separate.
- Show Fisher working clearly when converting rates.
- Finish with a clear NPV-based recommendation.

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CHAPTER 13 — SENSITIVITY & SC A

ONE-PAGE SUMMARY

1. SENSITIVITY ANALYSIS

- Measures how project NPV changes when ONE key variable is changed while other assumptions remain constant.
- Useful for identifying the variables to which the investment decision is most sensitive.
- A project with a small tolerance to an adverse change is more exposed to estimation risk.

2. SENSITIVITY — EXAM PROCE

- Step 1: Calculate the base-case NPV.
- Step 2: Select one uncertain variable.
- Step 3: Change that variable to an adverse level.
- Step 4: Recalculate NPV while holding other assumptions unchanged.
- Step 5: Compare the revised NPV with the base case and explain the risk.

3. KEY VARIABLES TO TEST

- Sales volume and selling price
- Material, labour and other operating costs
- Inflation assumptions
- Discount rate / cost of capital
- Initial investment and residual value
- Working-capital requirement
- Tax-related cash-flow assumptions where relevant

4. SCENARIO ANALYSIS

- Scenario analysis changes TWO OR MORE assumptions together to evaluate a complete alternative set of conditions.
- Typical scenarios are Base Case, Best Case and Worst Case.
- Best case combines favourable assumptions; worst case combines adverse assumptions.
- Unlike sensitivity analysis, scenario analysis recognises th in

Scenario	Assumptions	NPV Result
Best	Favourable mix	Higher NPV
Base	Expected mix	Base NPV
Worst	Adverse mix	Lower NPV

5. SENSITIVITY vs SCENARIO

Sensitivity	One variable at a time
Scenario	Several variables together
Sensitivity	Shows which input drives NPV risk
Scenario	Shows outcome under a complete set of conditions
Both	Support risk assessment — they do not replace the NPV decision rule

6. INTERPRETATION

- If a small adverse change makes NPV negative, the project is highly sensitive to that variable.
- If NPV remains positive under reasonable adverse assumptions, the decision is more robust.
- Management should focus monitoring and control on the most sensitive assumptions.

7. COMMON ICAP-STYLE TRAPS

- Changing several variables in a sensitivity calculation.
- Calling a one-variable change a scenario.
- Recalculating profit instead of project cash flows / NPV.
- Giving revised numbers without explaining what they mean for project risk.
- Changing assumptions inconsistently with inflation or tax treatment.

8. ATTEMPT TIPS

- State the base-case NPV first.
- Show the variable changed and the revised assumption clearly.
- Recalculate only the affected cash flows.
- Label Best / Base / Worst scenarios.
- Conclude whether the project remains acceptable and which assumption is most critical.
- Keep workings separate and easy to follow.

CAF 7: BUSINESS INSIGHTS AND ANALYSIS

CHAPTER 13
CAPITAL RATIONING & PROFITABILITY INDEX APPROACH

ONE PAGE SUMMARY

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1. INTRODUCTION

- Capital rationing occurs when a company has limited funds to invest in all available positive NPV projects.
- The objective is to allocate limited funds among projects to maximize total NPV.
- Profitability Index (PI) approach is used for Single Period Capital Rationing.



2. IMPORTANT TERMINOLOGY

Single Period Capital Rationing	Funds are limited only at time 0 (now).
Divisible Projects	Projects that can be accepted in full (100%), in part or scaled up beyond 100%.
Indivisible Projects	Projects that can either be accepted in full (100%) or rejected (0%).
Mutually Exclusive Projects	Projects that cannot be undertaken together due to competition for common resources; only one can be selected.

3. PROFITABILITY INDEX (PI) APPROACH – STEPS

1. Calculate NPV of each project.
2. Calculate PI of each project and rank from highest PI to lowest PI.

$$PI = \frac{\text{NPV of Project}}{\text{Initial Investment}}$$

3. Prepare optimal investment plan and compute total NPV.
   - **Divisible Projects:** Accept projects in ranking order until funds exhaust.
   - **Mutually Exclusive Projects:** Prepare different combinations and choose the plan with highest total NPV.
   - **Indivisible Projects:** Prepare different plans (0% or 100%) and choose plan with highest total NPV. Surplus funds, if any, can be invested at cost of capital.

4. RULES TO REMEMBER

- Always use NPV based on after-tax cash flows.
- Rank projects by PI (not by NPV or accounting profit).
- PI > 1 means project adds value.
- If PI is same, prefer project with higher NPV.
- In indivisible case, accept/reject whole project only.
- Surplus funds are reinvested at cost of capital unless stated otherwise.

EXAMPLE – DIVISIBLE PROJECTS

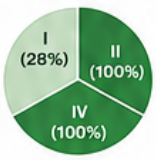
Capital available at time 0 is Rs. 5,000,000. There are four projects with positive NPV.

Project	NPV (Rs.'000)	Initial Investment (Rs.'000)	PI (NPV ÷ Investment)	Rank
I	6,250	5,000	6,250 / 5,000 = 1.25	1
II	4,200	2,100	4,200 / 2,100 = 2.00	2
III	1,540	1,400	1,540 / 1,400 = 1.10	3
IV	1,950	1,500	1,950 / 1,500 = 1.30	4

Optimal Plan (Divisible):

- Take Project II (Investment 2,100; NPV 4,200)
- Take Project IV (Investment 1,500; NPV 1,950)
- Remaining funds = 5,000 – (2,100 + 1,500) = 1,400
- Take 28% of Project I (1,400 / 5,000) → NPV = 28% of 6,250 = 1,750

Total NPV = 4,200 + 1,950 + 1,750 = Rs. 7,900 ('000)



EXAMPLE – MUTUALLY EXCLUSIVE PROJECTS

Company can undertake only one project from A or B.
Capital available is Rs. 5,000,000.

Project	NPV (Rs.'000)	Investment (Rs.'000)	PI	Rank
A	6,500	5,000	1.30	1
B	7,200	6,000	1.20	2

Possible Plans:

Plan 1: Take A → NPV = 6,500

Plan 2: Take B → NPV = 7,200

Select Plan 2 (Project B) because NPV is higher.



EXAMPLE – INDIVISIBLE PROJECTS

Capital available is Rs. 5,000,000.

Project	NPV (Rs.'000)	Investment (Rs.'000)	PI	Rank
I	6,000	4,000	1.50	1
II	4,000	2,500	1.60	2
III	3,000	2,000	1.50	3

Possible Plans:

- Plan A: I + II → Invest 6,500 (Not feasible)
- Plan B: I + III → Invest 6,000 (Not feasible)
- Plan C: II + III → Invest 4,500 NPV = 4,000 + 3,000 = 7,000
- Plan D: I → Invest 4,000 NPV = 6,000

Select Plan C (Projects II + III) → Highest NPV = Rs. 7,000 ('000)

8. ADVANTAGES & LIMITATIONS

Advantages

- Simple and easy to apply.
- Considers time value of money.
- Focuses on value creation (NPV).
- Helps in optimal use of limited funds.

Limitations

- Only suitable for single period rationing.
- Ranking by PI may change with different cash flows.
- Assumes divisible projects accurately.

9. EXAM FOCUS POINTS

- Formula of PI and ranking.
- Steps of PI approach.
- Treatment of divisible, indivisible & mutually exclusive projects.
- Finding optimal plan and total NPV.
- Surplus funds reinvestment rule.

EXAM TIP

Always calculate NPV first, then PI. Rank correctly, prepare all possible plans (if required) and select the plan with the maximum total NPV within the available capital.