Comprehensive Finance and Markets Concepts – 2025-Oriented Notes

> *Prepared for interview and exam prep (RBI, SEBI, CAT-WAT-PI, banking & markets roles). Updated with India-specific data as of Dec 2025 wherever relevant.*

1. Accounting and Financial Statements

1.1 What relates the Profit & Loss statement to the balance sheet?

The link between the Profit & Loss (P&L) statement and the Balance Sheet is **retained earnings (or accumulated profits)**.

- The P&L shows **revenues – expenses = profit or loss** for a period.
- This period's **net profit after tax** (minus dividends) is **added to equity** in the Balance Sheet as **retained earnings**.
- If there is a loss, it reduces retained earnings.

Formula link:

> *Closing Retained Earnings = Opening Retained Earnings + Profit after tax – Dividends*

So, the **Balance Sheet at date t** reflects the **cumulative impact of all past P&L statements** through retained earnings.

1.2 Why is profit considered a liability for a company?

On the Balance Sheet, **profit belongs to shareholders**, not to the company as such.

- Legally, the company is a **separate entity** from its owners.
- Profits after tax are owed to shareholders either as:

- **Dividends (payable)** – shown explicitly as a current liability once declared; or

- **Retained earnings** – an equity claim of shareholders.

Conceptually, **equity is also a claim on the company** (by owners), so from the company's viewpoint, **profits create or increase obligations to shareholders**. That is why **profits are often explained as "a liability" in the sense of a claim of owners on the assets of the firm**.

1.3 Effect of an increase in depreciation on all three financial statements

Assume higher depreciation expense (for the same asset base, same tax rate):

1. **P&L Statement**

   - Depreciation expense ↑ → EBIT ↓ → Profit before tax ↓ → Profit after tax ↓.

2. **Cash Flow Statement**

   - Start from lower Net Profit.

   - Depreciation is a **non-cash expense**, so it is **added back** in Cash Flow from Operations.

   - Tax payment falls (because profit before tax is lower) → **cash tax outflow decreases**.

   - Net effect: **Operating cash flow usually increases slightly** (tax shield effect), assuming the higher depreciation is tax-deductible and there is no change in revenue or other costs.

3. **Balance Sheet**

   - **Fixed assets (net block)** ↓ more quickly (accumulated depreciation ↑).

   - **Equity (retained earnings)** ↓ because net profit is lower.

   - Cash may be **higher** due to lower tax paid (if all else constant).

1.4 Revenue recognition – when item is sold or when cash is received?

Under **accrual accounting**, revenue is recognized **when it is earned**, not when cash is received.

- Typically: when **significant risks and rewards of ownership have transferred**, amount is **measurable**, and **collection is reasonably certain**.
- For goods: when delivered to customer as per contract.
- For services: as the service is performed (e.g., percentage-of-completion).

Cash may be received **before** (advance / unearned revenue – shown as liability) or **after** (trade receivable – shown as asset) revenue recognition.

1.5 Liquidity ratios – definition and why multiple ratios?

Liquidity ratios measure a firm's ability to **meet short-term obligations**.

Key ratios:

1. **Current Ratio** = Current Assets / Current Liabilities
2. **Quick Ratio (Acid Test)** = (Current Assets – Inventory – Prepaid expenses) / Current Liabilities
3. **Cash Ratio** = (Cash + Cash Equivalents + Marketable Securities) / Current Liabilities

Why multiple ratios?

- Current ratio counts **all current assets**, including inventories and receivables, which may not be quickly realizable.
- Quick ratio excludes **inventory and prepaids** to test more stringent liquidity.
- Cash ratio uses **only cash and equivalents**, the strictest view of immediate liquidity.

Different stakeholders have different risk appetites, so they use **a spectrum of liquidity measures** instead of a single ratio.

1.6 How do you determine if a company is heading toward bankruptcy?

Indications of potential bankruptcy combine **quantitative ratios** and **qualitative signals**:

1. **Quantitative indicators**

   - Persistent **losses**, negative EBIT / EBITDA.

   - **Interest Coverage Ratio** (EBIT / Interest) very low (<1 means operating profit cannot cover interest).

   - **High leverage**: Debt/Equity, Debt/EBITDA very high.

   - **Negative operating cash flows** for multiple years.

   - **Deteriorating liquidity**: current ratio and quick ratio falling below 1.

   - Frequent **rollover of short-term debt**.

2. **Predictive models**

   - **Altman Z-Score** (for manufacturing): combines working capital, retained earnings, EBIT, market value of equity, sales vs total assets. Low Z-score (e.g., <1.8 in classic model) signals distress.

3. **Qualitative red flags**

   - Delays in supplier payments, salary cuts, auditor qualifications, resignations of key management, continuous pledging of promoter shares, rating downgrades.

A **combination** of these, rather than a single signal, is used to infer bankruptcy risk.

1.7 Solvency ratios and how they assess financial health

Solvency ratios focus on a company's **long-term ability to meet its obligations**.

Common solvency ratios:

1. **Debt to Equity Ratio** = Total Debt / Shareholders' Equity
2. **Debt to Assets Ratio** = Total Debt / Total Assets

3. **Interest Coverage Ratio** = EBIT / Interest Expense

4. **Debt Service Coverage Ratio (DSCR)** = (EBITDA or Cash from Operations) / (Interest + Principal Repayment)

Interpretation:

- **Higher leverage** (Debt/Equity, Debt/Assets) → higher risk; may improve ROE but increases probability of distress.

- **Coverage ratios** show whether the firm generates enough operating profit or cash to service its debt; low coverage is a warning signal.

These ratios help creditors, rating agencies, and investors assess **long-term solvency** rather than just short-term liquidity.

1.8 Difference between Cash Flow Statement and Fund Flow Statement

Cash Flow Statement

- Standard under IFRS/Ind AS.

- Shows **actual cash inflows and outflows** during a period.

- Categorized into:

    - Operating activities

    - Investing activities

    - Financing activities

Fund Flow Statement (traditional)

- Analyses changes in **working capital** or in **long-term funds** between two Balance Sheet dates.

- Focuses on sources and uses of **"funds" (often defined as net working capital)** rather than cash alone.

Key differences:

- Cash flow: **movement of cash & cash equivalents**.

- Fund flow: **movement of funds (often working capital) between two dates**.
- Cash flow is mandatory and more widely used; fund flow is now mostly pedagogical or internal analysis.

1.9 What is working capital and its components?

Working capital is the capital used in day-to-day operations.

Two concepts:

1. **Gross Working Capital** = Total Current Assets.
2. **Net Working Capital (NWC)** = Current Assets − Current Liabilities.

Typical components:

- **Current Assets**: cash & bank, marketable securities, trade receivables, inventory, short-term loans & advances, prepaid expenses.
- **Current Liabilities**: trade payables, short-term borrowings, current portion of long-term debt, accrued expenses, taxes payable, other payables.

1.10 What does a negative working capital ratio indicate?

The **working capital ratio** is usually the **Current Ratio = Current Assets / Current Liabilities**.

- If **<1**, current liabilities exceed current assets → effectively **"negative net working capital"**.

Interpretation:

- Potential **liquidity stress**: the firm may have difficulty paying short-term obligations.
- However, some business models (e.g., FMCG, large retailers, e-commerce marketplaces) operate with **negative working capital** as they get cash from customers quickly but pay suppliers later. In such cases it can be **efficient** if:
  - Cash flows are stable and predictable, and
  - Lenders / suppliers remain confident.

But for most companies, persistent negative working capital can be an **early warning of financial strain**.

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2. Valuation and Investment Analysis

2.1 What is NPV and how does it differ from IRR?

Net Present Value (NPV)

- Present value of all **expected cash inflows and outflows** discounted at the project's **required rate of return (cost of capital)**.
- Formula:

> $NPV = \Sigma\ [CF_t\ /\ (1 + r)^t] - Initial\ Investment$

- Decision rule: **Accept** project if NPV > 0 (value creation for shareholders).

Internal Rate of Return (IRR)

- The **discount rate that makes NPV = 0**.
- It is the **implied rate of return** of the project.

Key differences:

- NPV uses an **external discount rate** (cost of capital); IRR is an **internal rate**.
- NPV measures **absolute value added** (₹), IRR measures **percentage return**.
- For mutually exclusive projects or non-conventional cash flows, **NPV is more reliable** than IRR.

2.2 Can a project have more than one IRR? How?

Yes, a project can have **multiple IRRs** when the **cash flow sign changes more than once** (non-conventional cash flows).

Example: Outflow → inflow → outflow.

- Mathematically, the NPV equation becomes a polynomial that can have **multiple positive roots**, each corresponding to a different IRR.

- In such cases, IRR becomes ambiguous; NPV or **Modified IRR (MIRR)** is preferred.

2.3 How is the valuation of an unlisted company calculated? (DCF approach)

For an **unlisted company**, **Discounted Cash Flow (DCF)** is widely used, since there is no market price.

Steps:

1. **Project Free Cash Flows (FCF)** for 5–10 years

   - Either Free Cash Flow to Firm (FCFF) or Free Cash Flow to Equity (FCFE).

2. Estimate an appropriate **discount rate**

   - FCFF → use **WACC** (Weighted Average Cost of Capital).

   - FCFE → use **Cost of Equity**.

3. Compute a **terminal value** beyond the forecast period

   - **Gordon Growth Model**: TV = FCF_{n+1} / (r − g)

   - Or Exit multiple (e.g., EV/EBITDA, P/E) based on comparable firms.

4. Discount all FCFs + terminal value to present.

5. Adjust for **non-operating assets/liabilities** (excess cash, investments, debt) to get **equity value**.

6. Divide by number of shares to get **intrinsic price per share**.

For India, unlisted valuations often incorporate a **liquidity discount** (lack of marketability) versus comparable listed peers.

2.4 What is market capitalization, and how does it reflect a company's net worth?

Market Capitalization (Market Cap) = Current share price × Number of outstanding equity shares.

- It represents the **market's valuation of the equity** of the company.
- It reflects investors' expectations about **future earnings, growth, risk, and capital structure**.

Market cap vs **book net worth**:

- **Book net worth** = Share capital + reserves (from Balance Sheet, historical cost basis).
- Market cap is **forward-looking** and can be much higher or lower than book net worth depending on expected profitability, brand value, competitive position, etc.

2.5 Dividend Payout Ratio (DPR) and retention rate

Definitions:

- **Dividend Payout Ratio (DPR)** = Dividend per share / Earnings per share (or Total dividends / Net profit).
- **Retention Ratio (b)** = 1 − DPR.

So if a firm pays out 40% of earnings as dividends, **DPR = 0.4** and **Retention Ratio = 0.6**.

In Gordon Growth Model:

> *g (sustainable growth) = ROE × Retention Ratio.*

2.6 How do you calculate the DCF valuation of a company? (FCFF method)

For **Free Cash Flow to Firm (FCFF)**:

1. Start with **EBIT**.
2. Compute **NOPAT** = EBIT × (1 − Tax rate).

3. Add back **non-cash charges** (Depreciation, Amortization).

4. Subtract **Capex**.

5. Subtract **Increase in Working Capital**.

> *FCFF = EBIT × (1 − T) + Depreciation & Amortization − Capex − ΔWorking Capital*

Then:

- Discount each year's FCFF at **WACC**.

- Add **terminal value** discounted back.

- Sum = **Enterprise Value (EV)**.

- EV − Net Debt + Non-operating assets = **Equity Value**.

2.7 Tobin's Q ratio and its significance

Tobin's Q:

> *Q = Market Value of a Firm's Assets / Replacement Cost of Assets*

In practice, approximated as:

> *Q ≈ (Market value of equity + Market value of debt) / Replacement cost (or book value) of assets.*

Interpretation:

- **Q > 1**: Market values the firm more than the replacement cost of its assets → indicates **intangible advantages**, growth opportunities; may incentivize new investment.

- **Q < 1**: Market value lower than replacement cost → weak growth prospects; may discourage new investment.

Used in macro (investment behavior) and micro (firm valuation and governance studies).

2.8 Ratios an investor should look at before making an investment

Key ratio buckets:

1. **Profitability**

   - ROE, ROA, Net margin, EBITDA margin.

2. **Growth**

   - Revenue and EPS CAGR over 3–5 years.

3. **Valuation**

   - P/E, P/B, EV/EBITDA, Price/Sales.

4. **Leverage & Solvency**

   - Debt/Equity, Interest Coverage, Debt/EBITDA.

5. **Liquidity / Efficiency**

   - Current Ratio, Quick Ratio, Asset Turnover, Inventory Days, Receivable Days.

6. **Cash Flow Quality**

   - Operating Cash Flow / Net Profit, Free Cash Flow.

For Indian equities, investors also track **promoter holding, FII/DII flows, pledging of shares, and regulatory / corporate governance history**.

2.9 Fundamental vs Technical Analysis

Fundamental Analysis

- Examines **business model, management, industry, financial statements, cash flows, valuation**.
- Objective: estimate **intrinsic value** and compare with market price.
- Time horizon: **medium to long term**.

Technical Analysis

- Focuses on **price, volume, charts, indicators (RSI, MACD, moving averages)**.
- Based on the idea that **price reflects all information** and trends repeat.
- Objective: identify **entry/exit points** and short- to medium-term trends.

Combination approach: Many professionals use fundamentals for **stock selection** and technicals for **timing**.

2.10 Value at Risk (VaR) and Expected Shortfall

Value at Risk (VaR)

- A statistical measure of **maximum expected loss** over a given **time horizon** at a chosen **confidence level**.
- Example: 1-day 99% VaR of ₹10 crore means **there is only 1% probability that loss will exceed ₹10 crore in one day**.

Common methods to compute VaR:

1. **Variance–Covariance (Parametric)** – assumes returns are normally distributed, uses mean and standard deviation.
2. **Historical Simulation** – uses actual past returns to simulate future distribution.
3. **Monte Carlo Simulation** – simulates many random price paths based on assumed distributions and correlations.

Expected Shortfall (ES) or Conditional VaR

- The **average loss given that loss exceeds VaR** at a specified confidence level.
- More coherent risk measure; captures **tail risk** better than VaR.

Regulators (including Basel III/IV framework) increasingly emphasize **Expected Shortfall** for market risk capital.

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3. Banking and Financial Institutions (India Focus)

3.1 What is the foreign exchange reserve of India, and why is it important?

As per RBI and recent reports, **India's foreign exchange reserves crossed USD 700 billion in 2025**, reaching around **USD 702–703 billion by September 2025**, enough to cover **about 11 months of imports** and a high share of external debt.[22][28][25]

Components:

- Foreign Currency Assets (FCA)

- Gold reserves

- Special Drawing Rights (SDR) with IMF

- Reserve Tranche Position (RTP) in IMF[19][22]

Importance:

- Provides a **buffer against external shocks** (sudden capital outflows, rupee volatility).

- Supports **import payments** (oil, commodities) and **external debt servicing**.

- Enhances **investor confidence and sovereign creditworthiness**.

- Gives RBI flexibility for **exchange rate management** without a fixed target, helping smooth volatility.[19]

3.2 What is the required percentage of NPAs for banks in India?

There is **no fixed "required" percentage of NPAs**; lower is better. But current levels are important context.

- As of **March–September 2025**, Indian banks' **gross NPA (GNPA) ratio** has fallen to **around 2.1–2.8%** and **net NPAs near 0.5%**, which is a **20-year low**.[20][23][26]

- Regulators (RBI) set **asset classification norms and provisioning requirements**, not a target NPA level.

In exams/interviews, answer like:

> There is no mandated NPA percentage; banks are expected to minimize NPAs while following RBI norms. Currently, GNPA for scheduled commercial banks is around the low single digits (~2–3%), and NNPA is below 1%, indicating improved asset quality.[20][23][26]

3.3 Small Finance Banks (SFBs) and turnover/capital criteria for small businesses

Small Finance Banks (SFBs) are specialized banks introduced by RBI (2015 onwards) to **promote financial inclusion**, especially for small businesses, MSMEs, small farmers, and unorganized sector.

Key features & regulatory criteria:

- Must be registered under **Companies Act** and licensed under **Banking Regulation Act, 1949**.[47]

- **Minimum paid-up equity capital / net worth** currently around **₹200–300 crore** as per updated RBI guidelines; earlier guidelines required at least ₹100 crore at commencement to be raised to ₹200 crore within five years.[47][53][56]

- Must maintain **Capital Adequacy Ratio of 15%** of risk-weighted assets.[47][53]

- At least **75% of Adjusted Net Bank Credit as priority sector lending (PSL)** and **50% of the loan portfolio must be loans up to ₹25 lakh**, i.e., smaller ticket loans to MSMEs, small borrowers.[47][53][56]

- At least **25% of branches in unbanked rural centres**.[47][56]

Turnover/capital criteria for small businesses (MSMEs) are defined separately under MSME law (not SFB guidelines), but SFBs are **mandated to focus on such small borrowers**.

3.4 When does a bank qualify as a scheduled bank?

A **Scheduled Bank** is a bank that is **included in the Second Schedule of the RBI Act, 1934**.[48][54]

Key conditions:

- **Paid-up capital and reserves of at least ₹5 lakh** (legacy threshold; new bank licenses have much higher capital requirements).[48][51][54]

- Conduct of affairs must not be **detrimental to the interests of depositors**.

Benefits:

- Eligible for **refinance/loans from RBI** at the bank rate.

- Access to **RBI clearing house** and other facilities.

- Higher public confidence and regulatory oversight.[48][54]

3.5 Repo rate and reverse repo rate; their role in monetary policy

- **Repo Rate**: Rate at which **RBI lends short-term funds to banks** against government securities.
- **Reverse Repo Rate**: Rate at which **RBI borrows funds from banks**, absorbing liquidity.

As of **December 2025**:

- **Repo rate = 5.25%**, after a series of cuts totaling ~125 bps in 2025.[21][24][27]
- **Reverse repo rate ~= 3.35%**, unchanged in recent policy.[24]

Influence on monetary policy:

- When RBI **cuts repo rate**, borrowing costs for banks fall → banks cut lending rates → **stimulates credit, investment, and growth**.
- When RBI **raises repo rate**, it **controls inflation** by making credit costly.
- Reverse repo helps **absorb excess liquidity**; a higher reverse repo encourages banks to park surplus funds with RBI instead of lending.

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4. Portfolio Management

4.1 Markowitz Model and application in portfolio management

The **Markowitz Modern Portfolio Theory (MPT)** is the foundation of **mean-variance optimization**.

Core idea:

- Investors care about **expected return (mean)** and **risk (variance/standard deviation)**.
- By combining assets with **less-than-perfect correlation**, a portfolio can **reduce risk for a given level of return**.

Application:

1. Estimate **expected returns**, **variances**, and **covariances** for assets.

2. Use optimization to find portfolios that **minimize variance for a given expected return** – these form the **efficient frontier**.

3. Choose an optimal portfolio based on **risk preference** (indifference curves) or combine the **risk-free asset** with a **tangency (market) portfolio** in CAPM.

In practice, mutual funds and PMS products approximate this using **factor models and risk constraints** instead of pure Markowitz estimation.

4.2 How is risk measured in a portfolio?

Typical measures:

- **Variance / Standard Deviation of returns** – total volatility.

- **Beta (β)** – systematic risk relative to market (CAPM).

- **Tracking Error** – volatility of portfolio return relative to benchmark.

- **Value at Risk (VaR)** and **Expected Shortfall** – tail risk.

- **Sharpe Ratio** – excess return per unit of total risk.

- **Sortino Ratio** – excess return per unit of downside risk.

For diversified portfolios, **systematic risk (beta)** is key, because **unsystematic risk can be diversified away**.

4.3 Why is unsystematic risk measured through variance?

- **Unsystematic risk** = **company-specific or sector-specific risk** that can be diversified away.

- Mathematically, total variance of a security's return = **systematic variance + unsystematic variance**.

In a **well-diversified portfolio**, idiosyncratic ups and downs **offset each other**, so only systematic variance (market-related) remains.

Variance (or standard deviation) is used because it captures **dispersion around the mean**, which is a convenient statistical measure for both systematic and unsystematic risk, and works well in **Markowitz and CAPM framework** which assume normally distributed returns.

4.4 CAPM and its application

The **Capital Asset Pricing Model (CAPM)** relates a security's expected return to its systematic risk (beta).

Formula:

$$E(R_i) = Rf + \beta_i \times (E(Rm) - Rf)$$

Where:

- $E(R_i)$: expected return on security i
- Rf: risk-free rate
- E(Rm): expected return on the market portfolio
- β_i: beta of security i (covariance with market / variance of market)

Applications:

- Estimating **cost of equity** for valuation and capital budgeting.
- Assessing whether a security is **over- or under-priced** compared to CAPM.
- Building **SML (Security Market Line)** for performance analysis (Jensen's alpha).

4.5 RSI (Relative Strength Index) and its use in trading

RSI is a momentum oscillator used in technical analysis.

- Values from **0 to 100**.
- Typically calculated over 14 periods.

Formula (conceptual):

$$RSI = 100 - [100 / (1 + RS)], \text{ where } RS = \text{Average Gain / Average Loss over the period.}$$

Usage:

- **RSI > 70**: overbought zone → potential **price correction / sell signal**.
- **RSI < 30**: oversold zone → potential **rebound / buy signal**.

Traders also look for **divergences** (price making new highs but RSI not confirming) and **RSI crossing key levels** as entry/exit triggers.

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5. Stock Markets and Trading

5.1 How do you select a stock for investment?

A structured approach combines **top-down** and **bottom-up** analysis:

1. **Macro & Sector View**

   - GDP growth, interest rates, inflation, policy (e.g., RBI repo moves, fiscal stance).

2. **Industry Analysis**

   - Competition (Porter's 5 Forces), regulatory risk, cyclicality.

3. **Company Analysis**

   - Business model, moat, management quality, governance track record.
   - Financials: growth, profitability, leverage, cash flows.

4. **Valuation**

   - Compare P/E, P/B, EV/EBITDA with peers.
   - Run DCF or relative valuation.

5. **Risk Assessment**

   - Sensitivity to interest rates, FX, commodity prices, regulatory changes.

6. **Technical View (optional)**

   - Trend, support/resistance, volumes, indicators like RSI.

5.2 Would you recommend investing in the current Indian stock market? Why?

As of **2025**, the Indian market has seen **phases of both strong performance and underperformance**:

- Some reports call India **one of the more expensive emerging markets**, with Nifty trading around **19x forward earnings**; returns in 2025 have at times lagged other markets like Korea and Germany due to high valuations and slower earnings growth.[49][55]

- Other analyses highlight strong **domestic growth (>7% GDP)**, robust **domestic flows**, and expectation of **earnings recovery and policy support**, suggesting potential for **moderate to strong gains** going forward.[49][52][55]

A balanced interview answer:

> *India remains a structurally attractive growth story with strong macro fundamentals and improving banking health. However, valuations are rich compared to peers. For a long-term investor with a 5–10-year horizon, systematic investing in quality companies or diversified indices still makes sense, but near-term returns may depend on earnings catching up with valuations. Stock selection and margin of safety are critical in the current environment.[49][52][55]*

5.3 Significance of RSI and the 30–70 rule

- **RSI 70**: indicates **overbought** – price has risen sharply; risk of correction.
- **RSI 30**: indicates **oversold** – price has fallen sharply; possible rebound.

Traders use this rule to:

- Avoid entering fresh long positions when RSI is >70.
- Look for **buy opportunities** when RSI moves up from below 30.
- Confirm signals with trend, support/resistance, and volumes.

5.4 Difference between stocks and derivatives, and their markets

- **Stocks (Equity shares)**: represent **ownership** in a company; traded in **cash/spot market**.
- **Derivatives**: financial contracts whose value is **derived from an underlying asset** (stocks, indices, commodities, currencies).

- Common types: Futures, Options, Swaps.

  - Traded in **derivatives (F&O) segment** of exchanges.

Stocks are used primarily for **investment and ownership**, derivatives for **hedging, speculation, and arbitrage**.

5.5 Fundamental vs technical analysis in stock selection

- **Fundamental analysis**: select which stock to own based on **business and valuation**.

- **Technical analysis**: decide **when to enter/exit** based on **price behavior**.

In practice:

> For long-term investment, use fundamentals as the primary filter and technicals to optimize timing and risk management.

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6. Corporate Finance

6.1 What is working capital, and why is it critical?

(Concept already in 1.9.)

Working capital is critical because:

- It ensures **smooth operations** – timely purchase of raw materials, payment of salaries, utilities.

- Insufficient working capital → **liquidity crunch, production interruptions, loss of credibility**.

- Excess working capital → **idle funds and low returns**.

Efficient working capital management balances **liquidity and profitability**.

6.2 How is the solvency position of a company assessed?

Use **solvency ratios** (see 1.7) plus:

- **Maturity profile of debt** – long-term vs short-term.

- **Refinancing risk** and access to capital markets.

- **Interest coverage, DSCR**, and **cash flow forecasts**.

- External indicators: **credit ratings, bond yields, default history**.

6.3 Liquidity ratios and financial health

Covered in **1.5**. From corporate finance view:

- Liquidity ratios show whether the firm can **meet short-term obligations without distress selling of assets or costly external finance**.

- They affect **credit terms** from suppliers, **bank limits**, and **ratings**.

6.4 Significance of CAPM in corporate finance

CAPM is central because it provides a theoretically grounded measure of **cost of equity**, critical for:

- **Capital budgeting** (project appraisal).

- **Valuation (DCF)**.

- **Capital structure decisions**.

Many Indian companies and analysts estimate **cost of equity** as: risk-free government bond yield + beta × equity risk premium (India or global with country risk spread).

6.5 Relationship between cost of equity, cost of debt, and WACC (equation)

Weighted Average Cost of Capital (WACC) is the overall required return on the firm's capital.

Formula:

$$WACC = (E / (D + E)) \times k_e + (D / (D + E)) \times k\_d \times (1 - T)$$

Where:

- E = market value of equity

- D = market value of debt

- k_e = cost of equity (often from CAPM)

- k_d = pre-tax cost of debt

- T = corporate tax rate

- Cost of equity is usually **higher** than cost of debt due to higher risk.

- Interest expense is **tax-deductible**, so effective cost of debt is **k_d × (1 − T)**.

WACC is used as **discount rate for FCFF** in DCF.

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7. Risk Management

7.1 How is risk quantified in financial decision-making?

Common metrics:

- **Variance/Standard deviation** of returns (volatility).
- **Beta** (systematic risk).
- **VaR and Expected Shortfall** (tail risk).
- **Credit risk metrics**: Probability of Default (PD), Loss Given Default (LGD), Exposure at Default (EAD), Expected Loss (EL = PD × LGD × EAD).
- **Liquidity risk**: bid–ask spreads, market depth, days to liquidate.

Decisions (capital allocation, limits, pricing) are based on these quantified risk measures.

7.2 Black-Scholes equation and option pricing

The **Black-Scholes-Merton model** prices European call/put options assuming log-normal underlying prices and continuous trading.

European call option price:

> $C = S_0 \times N(d_1) - K \times e^{(-rT)} \times N(d_2)$

Where:

- S_0: current stock price

- K: strike price

- r: risk-free rate

- T: time to maturity

- σ: volatility of returns

- N(·): cumulative normal distribution

- $d_1 = [\ln(S_0/K) + (r + \sigma^2/2)T] / (\sigma\sqrt{T})$

- $d_2 = d_1 - \sigma\sqrt{T}$

Used for **equity, FX, and index options**, risk management, and implied volatility estimation.

7.3 How do you calculate VaR for a portfolio?

Example – **Variance–Covariance (parametric) method**:

1. Estimate daily **mean return (μ)** and **standard deviation (σ)** of portfolio.

2. For confidence level **Z** (e.g., 1.65 for 95%, 2.33 for 99% under normality):

> $VaR = Portfolio\ Value \times (Z \times \sigma - \mu)$

Often μ is small → VaR ≈ Z × σ × Portfolio Value.

For multi-asset portfolios, compute **covariance matrix** of returns to get portfolio variance.

Alternative methods: **Historical simulation** and **Monte Carlo** (already explained in 2.10).

7.4 Indicators of financial distress or impending bankruptcy

Essentially same as 1.6 plus:

- **Dividend cuts or omissions**.

- **Breaches of debt covenants**.

- **Credit rating downgrades** and widening bond spreads.

- Frequent **restructuring of loans**, evergreening.

7.5 What is hedging, and how does it mitigate financial risk?

Hedging is taking a **position that offsets potential losses** in another exposure.

Examples:

- An exporter hedging USD receivables by selling USD futures.

- An investor hedging equity portfolio using index futures.

- A borrower swapping floating-rate debt into fixed rate via an interest rate swap.

Hedging **reduces volatility of cash flows or asset values**, sacrificing some upside in exchange for downside protection.

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8. Taxation and Policy

8.1 What is GST and how does it differ from VAT?

Goods and Services Tax (GST) is a **destination-based, multi-stage value-added tax** levied on supply of goods and services.

Difference from old **VAT/excise/service tax regime**:

- GST **replaced multiple indirect taxes** (central excise, service tax, state VAT, entry tax, etc.).

- Under GST, credits flow along the value chain across **goods and services and across states**, reducing cascading.

- Administered jointly by **Centre and States** (CGST, SGST/UTGST, IGST for inter-state).

8.2 Fiscal policy and its impact on the economy

Fiscal policy refers to **government spending and taxation decisions**.

Impacts:

- **Expansionary fiscal policy** (higher spending, lower taxes) boosts **aggregate demand**, growth, and employment but may widen **fiscal deficit** and raise inflation.
- **Contractionary policy** (spending cuts, higher taxes) can control **inflation and deficits** but slows growth.
- In India, fiscal policy interacts with **monetary policy** (RBI) especially under inflation targeting regime; coordinated policies are needed to manage growth vs inflation trade-off.[6]

8.3 How does taxation influence investment decisions?

Taxation affects:

- **Post-tax returns** on equity, bonds, real estate, etc.
- **Choice of instruments** (e.g., tax-advantaged ELSS funds, PPF, NPS, municipal bonds).
- **Capital structure**: interest is tax-deductible, dividends are not, making debt attractive up to a point.

Corporate and personal tax changes can alter:

- Required return thresholds.
- Holding periods (to benefit from long-term capital gains treatment).
- Preference for **growth vs dividend** stocks.

8.4 Implications of corporate tax rates on profitability

- **Higher corporate tax rate** → lower **after-tax profit**, **EPS**, and **ROE**, all else equal.
- Lower tax rates can **increase retained earnings**, provide more internal funds for investment, and improve valuations.

For India, significant corporate tax cuts in earlier years (2019 reform for new manufacturing companies) aimed to boost **investment, competitiveness, and FDI**.

8.5 How do government policies influence financial markets?

Channels:

- **Fiscal policy**: affects growth expectations, bond yields, and currency.
- **Monetary policy (repo, CRR, SLR)**: influences interest rates, credit growth, valuations.[21][24][27]
- **Regulatory policies**: banking and NBFC norms, capital market regulations (SEBI), tax rules.
- **Structural reforms**: GST, IBC, disinvestment, PLI schemes.

Markets continuously re-price assets based on expectations of policy impact on **earnings, risk, and liquidity**.

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9. International Finance

9.1 Exchange rates and how they are determined

An **exchange rate** is the price of one currency in terms of another (e.g., INR per USD).

Determination:

- In a **managed float** like India, it is driven by **demand and supply of forex** in the market, with periodic RBI intervention to smooth volatility.[19][22][25]
- Influencing factors: interest rate differentials, inflation, trade balance, capital flows, risk sentiment.

9.2 Foreign exchange risk and its management

Foreign exchange risk is the risk that **changes in exchange rates** will affect the value of foreign-currency cash flows or assets/liabilities.

Types:

- **Transaction risk** – on specific receivables/payables.
- **Translation risk** – on consolidating foreign subsidiaries.

- **Economic risk** – long-term impact on competitiveness.

Management tools:

- Forwards, futures, options, swaps.

- Natural hedging (matching currency of costs and revenues).

- Leading/lagging, netting, currency diversification.

9.3 How do interest rate changes affect foreign investment?

- **Higher domestic rates** vs foreign rates → attract **foreign portfolio flows** seeking higher yields; may lead to **currency appreciation**.

- **Lower rates** → may reduce portfolio flows but can support **growth**, improving equity prospects.

In India, RBI's **repo cuts in 2025** have lowered borrowing costs and, together with low inflation, influenced global investors' allocation between Indian debt and equity. [21][24][27][55]

9.4 What is coupon rate?

The **coupon rate** on a bond is the **annual interest payment as a percentage of face (par) value**.

Example:

- Face value = ₹1,000; annual coupon = ₹80 → coupon rate = 8%.

Coupon is usually fixed (fixed-rate bonds) but can be floating (linked to benchmark).

9.5 Sovereign bonds – meaning, significance, and how they work

Sovereign bonds are bonds issued by a **national government** in its local or foreign currency.

- In India: **G-Secs (Government Securities)**, Treasury Bills, long-term dated securities.

- Globally: US Treasuries, Gilts, Bunds, etc.

Significance:

- Provide a **risk-free (or low-risk) benchmark yield curve** for pricing other assets.
- Finance **fiscal deficits and government spending**.
- Held by banks, insurance companies, foreign investors as **safe assets**.

Working:

- Government issues bonds via auctions.
- Investors pay the issue price and receive **periodic coupons** plus **principal at maturity**.
- Yields reflect **inflation expectations, fiscal credibility, and monetary policy**.

9.6 Balance of Payments (BoP) and its importance

BoP is a systematic record of **all economic transactions** between residents of a country and the rest of the world over a period.

Components:

1. **Current Account** – trade in goods & services, income, transfers.
2. **Capital Account** – minor capital transfers.
3. **Financial Account** – FDI, FPI, external commercial borrowings, reserves.

By accounting identity, **overall BoP must balance**; any surplus/deficit is reflected in **changes in forex reserves**.

Importance:

- Indicates **external sector health** – sustainability of deficits, external debt risk.
- Guides **exchange rate and reserve management**.
- Influences sovereign ratings and investor confidence.

9.7 Inverted yield curve – causes and effects

A **yield curve** plots interest rates (yields) of bonds with **same credit quality but different maturities**.

- Normally, long-term yields > short-term yields (upward-sloping curve).

- An **inverted yield curve** occurs when **short-term yields exceed long-term yields**.

Causes:

- Market expects **future interest rates to fall** (often due to expected economic slowdown/recession).

- Central bank has hiked short-term rates aggressively to fight inflation, while long-term inflation/growth expectations are low.

Effects:

- Historically, in developed markets, a persistent inverted yield curve has been a **leading indicator of recession**.

- Tightens **bank margins** (they borrow short, lend long), potentially reducing credit and investment.

- Shifts investor preference towards **long-duration bonds** for capital gains if yields fall.

Usage Tip for You (Interview/Exam):

- Convert each question heading into an anticipated interview question.

- Practice giving **2–3 minute structured answers** (definition → mechanism → example → India-2025 context where relevant).

- Regularly update macro figures like **forex reserves, repo rate, NPA ratios, GDP growth** close to your exam/interview date using RBI and government sources.