

## 1. FSA Framework & Key Sources

- **Six-step process:** define purpose → collect data → process (adjust, common-size, ratios) → analyse & interpret → conclude & communicate → follow-up.
- **Primary users:** equity holders, creditors, management, analysts – focus on profitability, liquidity, risk.
- **Information sources:** regulatory filings (10-K, 10-Q, 8-K), earnings calls, industry and macro data, third-party databases.
- **IFRS vs US GAAP – highlights:** LIFO (GAAP only), development costs (capitalise under IFRS), extraordinary items (GAAP), impairment reversals (IFRS only).

## 2. The Four Core Statements

- **Balance Sheet:** point-in-time view – liquidity (current) vs solvency (non-current).
- **Income Statement:** performance, growth, risk.
- **Cash-Flow Statement:** Operating vs Investing vs Financing; change in working capital bridges NI and CFO.
- **Statement of Changes in Equity:** contributed capital, retained earnings, OCI.

## 3. Income Statement Details

- **Revenue recognition – 5 steps:** identify contract, performance obligations, transaction price, allocate price, recognise revenue when obligations satisfied.
- **Expense recognition:** matching principle; period vs product costs; capitalise vs expense affects assets, NI, CF and ratios.
- **Earnings per share:** Basic =  $\frac{NI - \text{PrefDiv}}{\text{WtdAvgShares}}$ ; Diluted adjusts for options/convertibles.
- **Non-recurring items:** discontinued operations, unusual/infrequent items, accounting changes – remove for core earnings.

## 4. Balance-Sheet – Assets

- **Current assets:** cash, receivables, inventory (see §7).
- **PP&E:** cost or revaluation model; straight-line / accelerated depreciation; impairment testing.
- **Intangibles:** finite life → amortise; indefinite life → annual impairment; goodwill – test, no amortisation.
- **Financial instruments:** Amortised Cost, FVOCI, FVPL based on business model and cash-flow characteristics.

## 5. Cash Flow & Free Cash Flow

- **Classification (IFRS default):** Operating (O), Investing (I), Financing (F). Interest/dividends may be O or F under IFRS.
- **Direct vs Indirect:** direct lists cash receipts/payments; indirect reconciles NI to CFO.
- **Free Cash Flow:**
  - $\text{FCFF} = NI + \text{NCC} + \text{Int}(1 - T) - \text{FCInv} - \text{WCInv}$ .
  - $\text{FCFE} = \text{CFO} - \text{FCInv} + \text{NetBorrowing}$ .

## 6. Key Ratios

### Liquidity

- Current =  $\frac{CA}{CL}$ ; Quick =  $\frac{\text{Cash} + MS + AR}{CL}$ ; Cash =  $\frac{\text{Cash} + MS}{CL}$ .
- Defensive interval =  $\frac{\text{Cash} + MS + AR}{\text{daily cash outflow}}$ .
- Cash-conversion cycle = DOH + DSO – DPO.

### Activity

- Inventory TO =  $\frac{COGS}{\text{AvgInv}}$ ; DOH =  $\frac{365}{\text{InvTO}}$ .
- Receivables TO =  $\frac{\text{Revenue}}{\text{AvgAR}}$ ; DSO =  $\frac{365}{\text{RecTO}}$ .
- Payables TO =  $\frac{\text{Purchases}}{\text{AvgAP}}$ ; DPO =  $\frac{365}{\text{PayTO}}$ .
- Total-asset TO =  $\frac{\text{Sales}}{\text{AvgTA}}$ .

### Solvency

- Debt-to-assets =  $\frac{TD}{TA}$ ; Debt-to-equity =  $\frac{TD}{TE}$ ; Capital structure =  $\frac{TD}{TD + TE}$ .
- Interest coverage =  $\frac{EBIT}{\text{Int}}$ ; Fixed-charge =  $\frac{EBIT + \text{Lease}}{\text{Int} + \text{Lease}}$ .

### Profitability

- Gross margin =  $\frac{GP}{\text{Sales}}$ ; Operating margin =  $\frac{EBIT}{\text{Sales}}$ ; Net margin =  $\frac{NI}{\text{Sales}}$ .
- ROA =  $\frac{NI}{\text{AvgTA}}$ ; ROE =  $\frac{NI}{\text{AvgTE}}$ .
- DuPont (3-step):  $ROE = \frac{NI}{\text{Sales}} \times \frac{\text{Sales}}{\text{Assets}} \times \frac{\text{Assets}}{\text{Equity}}$ .

## 7. Inventory Accounting

- **Cost flow:** FIFO, Weighted-Average, LIFO (GAAP only). LIFO reserve converts LIFO → FIFO.
- **Inflation impact:** FIFO → higher NI & ending inv; LIFO → tax benefit.
- **Valuation:** lower of cost & NRV (IFRS) or cost & market (GAAP – LIFO/Retail). Reversal allowed only under IFRS.
- **Key ratios:** Inv TO, DOH, GP margin.

## 8. Long-Lived Assets

- Depreciation methods: SL, DDB, units-of-production.
- Impairment: IFRS – carrying  $\downarrow$  recoverable (higher of FV-Cost & value-in-use); GAAP – two-step test.
- Capitalised interest/development: increases assets, lowers CFO, raises future depreciation/amortisation.
- Asset age: Avg age =  $\frac{\text{AccDep}}{\text{DepExp}}$ ; Remaining life =  $\frac{\text{NetPP\&E}}{\text{DepExp}}$ .

## 9. Leases & Pensions

- Lessee: recognise Right-of-Use asset & lease liability. IFRS single model; US GAAP finance vs operating.
- Lessor: finance lease → net investment; operating → asset retained.
- Pensions (DB plans): obligation – FV plan assets = funded status; periodic cost = service + interest – expected return.
- Share-based comp: expense FV at grant over service period.

## 10. Income Taxes

- Deferred tax liability (DTL): taxable temporary difference → future taxable amount. DTA opposite.
- Formula:  $DT = \text{TempDiff} \times \text{TaxRate}$ .
- Effective tax rate =  $\frac{\text{TaxExp}}{EBT}$ ; compare to statutory for permanent differences.

## 11. Reporting Quality & Red Flags

- High-quality reports are relevant, faithful, comparable, timely, understandable.
- Warning signs: revenue peers, receivable spike, inventory build-up, NI CFO, frequent special items, aggressive capitalisation.
- Analytical tests: Beneish M-score, cash-to-income  $\downarrow$ , declining asset turnover.

## 12. Modelling & Forecasting

- Techniques: sensitivity (one-way), scenario (multi-way), Monte-Carlo simulation.
- Build pro-forma statements: forecast sales (top-down & bottom-up), COGS, SG&A, capex, working capital, capital structure.
- Behavioural pitfalls: overconfidence, anchoring, confirmation bias – stress-test assumptions.