LM02 · FINANCIAL STATEMENT ANALYSIS · CFA LEVEL I

# Analyzing Income Statements

Revenue, expenses, and the bottom line — how the IS reports a company's financial results over a period of time

### What This Reading Covers

The income statement presents a company's financial results over a period of time: **Revenue – Expenses = Net Income**. You will learn the IS's components and formats, the five-step IFRS 15 revenue-recognition model, expense-recognition choices (inventory, depreciation, amortization), non-recurring items, accounting changes, EPS (basic and diluted), common-size analysis, margin ratios, and comprehensive income.

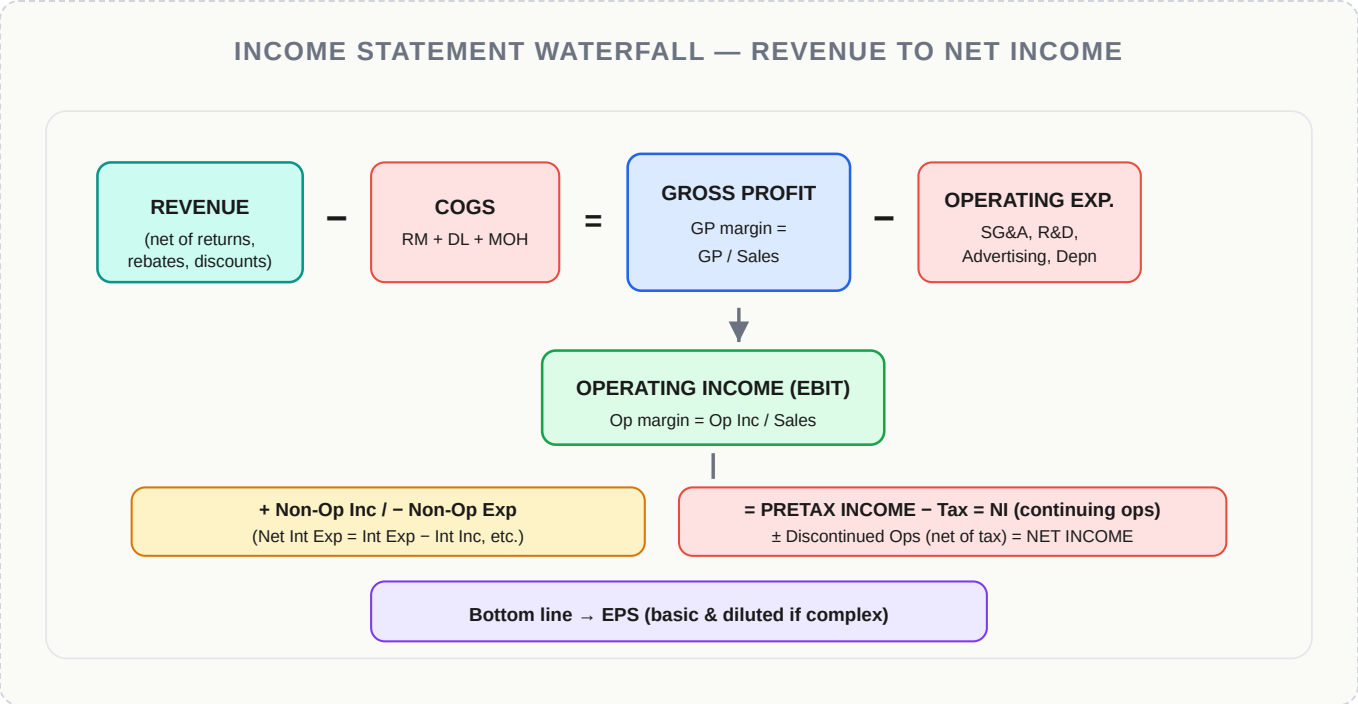
## Learning Outcome Statements

| | |
|---|---|
| **LOS a** | Describe the components of the income statement and alternative presentation formats |
| **LOS b** | Describe general principles of revenue recognition and accounting standards |
| **LOS c** | Calculate revenue given information that might influence the choice of recognition method |
| **LOS d** | Describe general principles of expense recognition, specific applications, and analysis implications |
| **LOS e** | Contrast operating and non-operating components of the income statement |
| **LOS f** | Formulate income statements into common-size income statements |
| **LOS g** | Evaluate performance using common-size statements and income-statement ratios |
| **LOS h** | Describe, calculate, and interpret comprehensive income |
| **LOS i** | Describe other comprehensive income and major types of items included |

**Exam Tip:** Presentation is either (a) a separate Income Statement followed by a Statement of Comprehensive Income, or (b) a single statement of Comprehensive Income with a separate section for P/L. Both IFRS and U.S. GAAP permit either format.

LOS A · COMPONENTS & PRESENTATION

# Structure of the Income Statement




## Components

**Revenue** (first line) — amounts charged for goods/services in the ordinary activities of the business, reported net of estimated returns, rebates, and discounts.

**Expenses** — outflows, depletion of assets, or incurrences of liabilities in the ordinary course of business; may be grouped by **nature** or **function**.

**Gains / Losses** — typically non-operating (e.g., gain/loss on sale of assets; unrealized gain/loss on financial assets).

## Grouping: Nature vs Function

### By Nature

Items grouped by their *character* — e.g., **depreciation** shown as one line.

### By Function

Items grouped by *purpose* — e.g., **COGS** (RM, DL, MOH) and **SG&A** (DL, OH).

## Multi-step IS Layout

| LINE | DOLLARS | COMMON-SIZE |
|---|---|---|
| Revenue | $ | 100% |

| | | |
|---|---|---|
| − COGS | ($) | x % |
| **= Gross Profit / Gross Margin** | $ | (100 − x) % |
| − Operating Expenses | ($) | |
| **= Operating Profit / Operating Margin** | $ | not affected by capital structure |
| ± Non-operating items, income from associates, discontinued ops | $/(X) | |
| **= EBIT − I − T = Net Income (bottom line)** | $ | NI % |

LOS B, C · REVENUE RECOGNITION

# Revenue Recognition — 5-Step IFRS 15 / ASC 606 Model

**Core Principle (IASB / FASB converged)**

Revenue is recognized to **reflect the transfer of goods/services to customers** in an amount that reflects the consideration the firm **expects to receive**. Accrual basis — revenue is recognized when **earned**, which may or may not coincide with payment (if payment after delivery → *Accounts Receivable*; if payment before delivery → *Unearned Revenue*).

## The Five Steps

1. **Identify the contract(s)** with a customer. A contract is an agreement between parties that establishes obligations and rights (e.g., deliver g/s for payment). A contract exists only if **collectability is probable** (IFRS: *more likely than not*; GAAP: *likely to occur*).
2. **Identify the separate/distinct performance obligations** in the contract — a promise to deliver a distinct good or service. "Distinct" requires (i) customer can benefit from it on its own, and (ii) the promise can be separated from other promises in the contract.
3. **Determine the transaction price** — amount the firm expects to receive. May be fixed or variable; recognize only when highly probable revenue will not have to be reversed.
4. **Allocate the transaction price** to the performance obligations.
5. **Recognize revenue** when (or as) the entity satisfies a performance obligation.

## Indicators That a Performance Obligation Is Satisfied

(1) Company has a **right to payment**
(2) Customer has **legal title**
(3) Customer has **physical possession**
(4) Customer has **significant risks & rewards** of ownership
(5) Customer has **accepted the asset**

**Complex Revenue Situations (IFT)**

Analysts encounter complex policies such as: **Principal vs. agent** (agent records only net fee as revenue); **Franchising / Licensing**; **Software as a service or license**; **Long-term contracts**; **Bill-and-hold arrangements**. Firms may use any method provided there is a rationale — but aggressive recognition inflates current earnings and depresses future earnings.

**Exam Tip:** Read the revenue-recognition policy in the notes. Warning signs: changes in methods, barter transactions, rebate programs, lack of transparency, revenue growth out of line with peers, decreasing receivables turnover, non-operating items included in revenue.

LOS C · SPECIAL REVENUE SITUATIONS

# Long-Term Contracts, Installment Sales, Barter

## Long-Term Contracts — Percentage of Completion

For long-term contracts, revenue is recognized **based on the firm's progress toward completing a performance obligation**. Progress can be measured:

I **Input side** — e.g., percentage of completion using costs incurred (costs-to-date ÷ total estimated costs).

O **Output side** — e.g., percentage of total output delivered to date.

WORKED **Percentage-of-Completion — Progress Measurement**

■ GIVEN

Contract price = $1,000,000. Total estimated costs = $800,000. Costs incurred by end of Year 1 = $200,000.

SOLUTION

▶ SOLUTION — INPUT (COST) METHOD

1 **Progress** = $200,000 / $800,000 = **25%**

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% complete = costs-to-date ÷ total estimated costs
```

2 **Revenue recognized Year 1** = 25% × $1,000,000 = $250,000

3 **Expense Year 1** = costs incurred = $200,000 → Gross profit Year 1 = $50,000

✓ ANSWER

**Year 1 revenue = $250,000 (25% of contract)**

## Other Special Situations

INSTALLMENT SALES

Revenue and profit are recognized as cash is collected when payment is spread over time and collectibility cannot be reasonably assured (primarily pre-IFRS-15 concept, but still tested).

BARTER TRANSACTIONS

Exchanges of goods/services without cash. **Warning sign** — flagged because the "transaction price" is hard to verify. Barter can be used to inflate revenue.

### Bill-and-Hold Warning

Customer buys and receives an invoice, but the firm keeps the goods at its location. Fictitious bill-and-hold transactions can increase current earnings by recognizing revenue for goods still in inventory; revenue for future periods is correspondingly reduced when real orders are filled.

QUIZ 1 · CHECKPOINT (~33%)

## Test Yourself: IS Structure & Revenue

**Q1.** Under IFRS 15 / ASC 606, which is the FIRST of the five steps to recognize revenue?

**Q2.** A company receives cash in advance for a magazine subscription. The most appropriate treatment at the time of cash receipt is to recognize:

**Q3.** A construction contract has total price $1,000,000$ and total estimated costs $800,000$. By end of Year 1, $200,000 of costs have been incurred. Using the input (cost) method, Year 1 revenue recognized is closest to:

**Q4.** On a multi-step income statement, expenses grouped "by nature" would display which line?

**Q5.** When acting as an *agent* rather than a *principal*, a firm should:

LOS D · EXPENSE RECOGNITION

# Expense Recognition & the Matching Principle

**IASB Definition**

Expenses are **decreases in economic benefits** in the form of (a) outflows, (b) depletion of assets, or (c) incurrences of liabilities that result in **decreases in equity**. Expenses + losses.

## Matching Principle (the Central Concept)

Match costs with the revenues they help generate, in the **same period** as the revenue.

**Product Costs**

**COGS** — directly related to revenue. If goods bought this year remain unsold, they are *not* included in COGS this year; they enter COGS next year when sold.

**Period Costs**

**Admin, Depreciation, Rent** — tied to operations regardless of revenue level. Expensed in the period incurred.

## Capitalize vs Expense

+ Costs expected to provide benefits **only for the current period → expensed** now.

+ Costs expected to provide benefits **over multiple periods → capitalized** on the balance sheet and spread over the asset's life.

! Costs with **uncertain** future benefit → expensed (conservative).

## Capitalize-vs-Expense: Effect on Financial Statements

| METRIC | CAPITALIZE | EXPENSE |
|---|---|---|
| Income variability | LOWER | HIGHER |
| Profitability — early years | HIGHER | LOWER |
| Profitability — later years | LOWER | HIGHER |
| Total cash flows | SAME | SAME |

| | | |
|---|---|---|
| CFO | HIGHER | LOWER |
| CFI | LOWER | HIGHER (less negative) |
| Debt/Equity & Debt ratio | LOWER | HIGHER |

## Specific Expense-Recognition Applications

DOUBTFUL ACCOUNTS

**Reporting:** matching — estimate uncollectible amount (from past experience) and expense on IS.
**Tax:** *direct write-off* — charge only when default occurs.

WARRANTIES

Estimate expense based on level of sales and past experience; expense on IS in period of sale.

### Capitalized Interest

When a firm constructs an asset for its own use (or in limited cases for resale), interest accruing during construction is **capitalized as part of the asset's cost**. The interest must actually be paid. Once capitalized, the interest is allocated to the IS through **depreciation** (asset held for use) or **COGS** (asset held for sale). Capitalized interest shows as **CFI outflow** (not CFO) — contrast with ordinary interest paid, which is CFO under U.S. GAAP.

### R&D

**IFRS:** research costs *expensed*; development costs *may be capitalized* (feasibility, intent, resources, identifiable costs, etc.).
**U.S. GAAP:** research *and* development generally expensed. Exception: software for sale — capitalized once technological feasibility is established.

**Exam Tip:** Aggressive expense recognition *delays* recognition of expenses — increases current net income but reduces future earnings. Identify policy as conservative or aggressive when comparing companies.

LOS D · INVENTORY COST-FLOW METHODS

# Inventory: FIFO, LIFO, Weighted-Average

### Formula — COGS

$$\text{BI} + \text{Purchases} - \text{EI} = \text{COGS}$$

| | | | |
|---|---|---|---|
| $BI$ | beginning inventory | $EI$ | ending inventory |
| $COGS$ | cost of goods sold | | |

Whatever goes into the BS as Ending Inventory does *not* go into the IS as COGS.

## The Three Methods

| METHOD | ASSUMPTION | COMMENTS |
|---|---|---|
| **FIFO** — First-In, First-Out | Oldest costs flow to COGS; newest costs remain in inventory | Balance-sheet inventory reflects *recent* costs (closer to replacement cost). Permitted under IFRS & GAAP. |
| **LIFO** — Last-In, First-Out | Newest costs flow to COGS; oldest costs remain in inventory | Permitted **only under U.S. GAAP** (not IFRS). Makes COGS closer to current cost. |
| **Weighted Average** | Average cost applied to both COGS and ending inventory | Value falls *between* LIFO and FIFO. Permitted under IFRS & GAAP. |

## Assuming Rising Prices (LIFO vs FIFO)

| LINE | LIFO | FIFO |
|---|---|---|
| COGS | HIGHER | LOWER |
| EBT / Net Income | LOWER | HIGHER |
| Taxes | LOWER | HIGHER |
| Inventory (BS) | LOWER | HIGHER |
| Working capital / Retained earnings | LOWER | HIGHER |
| CFO (via lower taxes) | HIGHER | LOWER |

| | | |
|---|---|---|
| Gross / Operating / Net margins | LOWER | HIGHER |
| Inventory turnover (COGS/Avg Inv) | HIGHER | LOWER |
| Debt ratio / D-to-E | HIGHER | LOWER |

**Rate of Change Note**

The three methods differ in the **rate at which costs flow through COGS**. When prices are *rising* and quantities stable/increasing, LIFO transfers costs to COGS fastest (at current/recent prices), while FIFO transfers the oldest costs first (lagging current prices). In falling-price environments the direction reverses. Weighted average lies between.

**LIFO Liquidation Warning**

When a LIFO firm's inventory quantities **decline** in a rising-price environment, older/lower-cost layers flow to COGS — making COGS artificially low and boosting gross profit / NI *temporarily*. A *decrease in the LIFO reserve* (disclosed in footnotes) signals a possible LIFO liquidation.

**Exam Tip:** FIFO gives the most "accurate" balance-sheet inventory (close to replacement cost). Weighted-average gives COGS closer to current replacement cost, so gross and net margins better reflect economic reality.

LOS D · DEPRECIATION & AMORTIZATION

# Depreciation and Amortization

**Concept**

The cost of long-lived assets is **allocated over the period during which they provide economic benefits** (except land, and intangibles with indefinite lives). Physical assets → **Depreciation**. Intangibles → **Amortization**.

## IFRS — Two Models

### 1. Cost Model

$$\text{Dep} = \frac{\text{Cost} - \text{Salvage Value}}{\text{Useful Life}}$$

BS: **BV = Cost − Accumulated Depreciation**

### 2. Revaluation Model (not widely used)

IS: ΔFV — unrealized gains/losses ($FV_t - FV_{t-1}$)

BS: **Carrying value = fair value**

Revaluation model is *not permitted under U.S. GAAP*.

**IFRS** requires each component of an asset to be depreciated separately and requires an annual review of salvage value and useful life. The choice of method should *match the asset's pattern of use*.

## Depreciation Methods

### Straight-Line (SL)

STRAIGHT-LINE DEPRECIATION

$$\text{Depreciation} = \frac{\text{Cost} - \text{Salvage Value}}{\text{Useful Life}}$$

Use when there is no clear pattern of use. Cost and salvage are estimates; useful life is an estimate.

### Accelerated — e.g., Double-Declining Balance (DDB / 2×)

Allocates a **greater proportion of cost to early years** — referred to as *conservative*.

DOUBLE-DECLINING BALANCE

$$\text{Dep} = \frac{2}{\text{Useful Life}} \times \text{Beginning Book Value}$$

| YEARS | DDB VS SL | NET INCOME |
|---|---|---|
| Early years | 2× > SL depreciation | Higher NI with SL |
| Later years | 2× < SL depreciation | Higher NI with 2× |

**Units-of-Production**

Allocate cost based on **actual usage** — output produced in the period ÷ total estimated output × depreciable base.

## Amortization

Amortization of intangibles is **typically straight-line**.

**Finite-lived intangibles** — amortized over useful life and tested for impairment.

**Indefinite-lived intangibles** (e.g., Goodwill) — *no amortization* but tested annually for impairment.

**Exam Tip:** Compared to SL, an accelerated method increases expenses and decreases NI in *early* years; effect reverses in later years. An *increase in salvage value* (or longer useful life) decreases depreciation, increases operating income, and raises the asset's carrying value. Methods, lives, and salvage values out of line with peers are warning signs.

LOS E · NON-OPERATING & NON-RECURRING ITEMS

# Non-Operating Items & Non-Recurring Items

## Operating vs Non-Operating

$$\text{Gross Profit} - \text{Operating Expenses} = \text{Operating Income}$$

**Non-operating gains/income** — typically amounts earned through *investing or financing* activities.

**Non-operating losses/expenses** — reported separately.

May be disclosed on a "net" basis — e.g., **Net Interest Expense = Interest Expense − Interest Income**.

## Non-Recurring Items — Two Categories

| | DISCONTINUED OPERATIONS | UNUSUAL OR INFREQUENT ITEMS |
|---|---|---|
| **Definition** | Operation disposed of (or planned to be disposed). Must be physically and operationally distinct from the rest of the firm. | Events *either* unusual *or* infrequent, but not both. E.g., gains/losses from selling manufacturing equipment; impairments, write-offs, write-downs, restructuring costs. |
| **Placement** | **Below the line** — after net income from continuing operations | **Above the line** — included in income from continuing operations |
| **Tax Treatment** | Reported **net of tax** | Reported **pre-tax** |
| **Forecasting** | Do not affect NI from continuing ops → *exclude* when forecasting future earnings | Analyst must determine effect on future income |

**Mnemonic**

**Discontinued = Below / Net of tax. Unusual or Infrequent = Above / Pre-tax.**

## Prior-Period Adjustments

Correction of an **accounting error** from a prior period → reported as a **prior-period adjustment** and requires **retrospective application** (all prior-period statements presented must be **restated**).

Disclosure of the nature of the adjustment and its effect on net income is required. Frequent errors may point to weaknesses in internal controls.

**Exam Tip:** An expense classified as "non-recurring" that appears regularly in financial reports is a warning sign of earnings management.

LOS D, E · ACCOUNTING CHANGES

# Changes in Accounting — Policy vs. Estimate vs. Errors

| CHANGE TYPE | EXAMPLE | APPLICATION | PRIOR STATEMENTS |
|---|---|---|---|
| **Change in accounting policy** | Changing inventory method from LIFO → FIFO; capitalizing rather than expensing specific purchases | **Retrospective** (unless impractical) | Restate prior-period statements presented — preserves comparability |
| **Change in accounting estimate** | Changing useful life of a depreciable asset because new information shows longer life | **Prospective** | No restatement; only future statements reflect the change. Disclosed in footnotes. |
| **Correction of prior-period error** | Change from an incorrect method to one acceptable under GAAP/IFRS | **Retrospective** (prior-period adjustment) | Prior statements restated; nature & effect disclosed. Frequent errors → weak internal controls. |

### Modified Retrospective Application

With the recent change in revenue recognition standards, firms were given the option of **modified retrospective application** — no restatement of prior-period statements; instead, beginning values of affected accounts are adjusted for cumulative effects of the change.

### Cash Flow Impact

Changes in accounting estimates **typically do not affect cash flow**. Prior-period adjustments (error corrections) usually do not affect cash flow either. However, analysts should review them carefully — estimate changes can materially affect future operating results, and errors may signal internal-control weaknesses.

**Exam Tip:** Remember the mnemonic: **P**olicy → retrospective (restate); **E**stimate → prospective (no restate); **E**rror → retrospective (restate + disclose).

QUIZ 2 · CHECKPOINT (~66%)

# Test Yourself: Expenses, Inventory & Non-Recurring Items

**Q6.** In a period of *rising prices* with stable or increasing inventory quantities, which statement about LIFO vs FIFO is correct?

**Q7.** Compared to straight-line depreciation, double-declining balance in the *early* years of an asset's life results in:

**Q8.** Discontinued operations on the income statement are reported:

**Q9.** A firm changes the useful life of a depreciable asset from 8 years to 10 years. This is:

**Q10.** Capitalized interest during asset construction is:

ANALYZING INCOME STATEMENTS · EARNINGS PER SHARE

# Basic EPS

### Key Terminology

| | |
|---|---|
| **Potentially dilutive securities** | Securities that can be converted into ordinary shares — convertible bonds, convertible preferred stock, stock options, warrants |
| **Simple capital structure** | No potentially dilutive securities |
| **Complex capital structure** | Has potentially dilutive securities — must report both basic *and* diluted EPS |
| **Dilutive security** | Decreases EPS when exercised/converted |
| **Antidilutive security** | *Increases* EPS when exercised/converted — must be ignored (viewed in isolation) |

### Basic EPS Formula

$$\text{Basic EPS} = \frac{\text{Net Income} - \text{Preferred Dividends}}{\text{Weighted-Avg Common Shares Outstanding}}$$

| | | | |
|---|---|---|---|
| $NI$ | net income for the period | $Pref\ Div$ | preferred dividends declared |
| $WASO$ | weighted-average common shares outstanding | | |

Stock splits and stock dividends are applied **retroactively** to the beginning of the year (old shares converted to new shares). Other share issues/repurchases are weighted by the portion of year outstanding.

WORKED **Basic EPS — Company ABC 2001 (IFT)**

■ GIVEN

NI = $100,000. Preferred dividends paid = $22,000. Common dividends paid = $12,000. Shares as of Jan 1, 2001: 10,000. Additional shares issued July 1, 2001: 2,000.

SOLUTION

▶ SOLUTION

1. Weighted-avg shares: 10,000 × 6/12 + 12,000 × 6/12 = **11,000**

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10,000 outstanding for first 6 months; 12,000 outstanding for last 6 months
```

2. Numerator: NI − Preferred Div = $100,000 - 22,000$ = **$78,000** *Common dividends are IGNORED — they're a return to the same shareholders whose EPS we're calculating.*

3. Basic EPS = $78,000 / 11,000 = **$7.09**

✓ ANSWER

**Basic EPS = $7.09**

**Exam Tip:** Common dividends are NOT subtracted in the numerator — they represent the return to the same common shareholders whose EPS is being measured. Only *preferred* dividends are removed.

ANALYZING INCOME STATEMENTS · DILUTED EPS

# Diluted EPS — Complex Capital Structures

### Formula

$$\text{Diluted EPS} = \frac{\text{NI} + \text{Conv-debt Int} \times (1 - t) - \text{Pref Div} + \text{Conv-Pref Div}}{\text{Wt-Avg Shares} + \text{New Shares from Conversion}}$$

Treat each dilutive security as if converted from the start of the period (or issue date, if issued in current year). **Test each potentially dilutive security separately**: if it increases EPS it is *antidilutive* and must be ignored.

WORKED A

## Convertible Preferred — Company ABC 2001

■ GIVEN

NI = $100,000. Preferred div = $22,000. Common div = $12,000. Common shares = 11,000. 2,200 preferred shares, each convertible into 2 common shares.

SOLUTION

▶ SOLUTION

1. New shares from conversion: 2,200 × 2 = **4,400**
2. Add back conv-pref dividend to numerator (since the preferred is being treated as converted to common).

   $$\text{Numerator} = 100,000 + 0 - 22,000 + 22,000 = 100,000$$

3. Denominator = 11,000 + 4,400 = **15,400**
4. Diluted EPS = $100,000 / 15,400 = **$6.50**

✓ ANSWER

**Diluted EPS = $6.50**

WORKED B

## Convertible Bonds — Company ABC 2001

■ GIVEN

NI = $100,000. 11,000 common shares. 1,000 convertible bonds, par$100, 10% coupon, convertible to 5,000 shares. Tax rate 30%.

SOLUTION

▶ SOLUTION

1. New shares from conversion = **5,000**
2. Interest on bonds = 100 × $1,000 \times 10$10,000 *Note: source uses $100 \times 1{,}000 \times 10\%$ format = total interest $10,000*
3. Add back after-tax interest to numerator: $10,000 \times (1 - 0.30) =$7,000

   ```
   Numerator = 100,000+7,000 – 0+0 = $107,000
   ```
4. Denominator = 11,000 + 5,000 = 16,000
5. Diluted EPS = $107,000 / 16,000 = **$6.69**

✓ ANSWER

**Diluted EPS = $6.69**

WORKED C

## Stock Options — Treasury Stock Method

■ GIVEN

NI = $100,000. Prefdiv$ =22,000. 11,000 common shares. 1,000 stock options, exercise price $20. Average market price during 2001$ =25.

SOLUTION

▶ SOLUTION (TREASURY STOCK METHOD)

1. Shares issued on exercise = **1,000**
2. Cash proceeds from exercise = 1,000 × $20 = **$20,000**
3. Shares hypothetically repurchased at avg market price: $20,000/25$ = **800**
4. Net new shares = 1,000 − 800 = **200**
5. Numerator unchanged: $100,000$—22,000 = $78,000; Denominator = 11,000 + 200 = 11,200

   `Diluted EPS = 78,000/11,200 =6.96`

✓ ANSWER

**Diluted EPS = $6.96**

### Antidilutive Rules

**Each dilutive security must be viewed in isolation.** If including it produces a result *greater* than basic EPS, the security is antidilutive and must be ignored.

**Options & warrants** are antidilutive whenever the **exercise price > average market price** (i.e., average price < exercise price). For convertible bonds, dilution occurs when the denominator rises *faster* than the numerator (denominator rises with converted shares; numerator rises with after-tax interest savings).

LOS F, G · COMMON-SIZE ANALYSIS & RATIOS

# Common-Size Income Statement & Margin Ratios

**Common-Size IS**

Each line item expressed as a **percentage of revenue**. Removes the *size effect* and facilitates **time-series** and **cross-sectional** comparisons.

## Worked Common-Size Example (IFT)

| | 2001 | % | 2002 | % |
|---|---|---|---|---|
| Revenue | $100,000 | 100% | $110,000 | 100% |
| Cost of goods sold | $60,000 | 60% | $65,000 | 59% |
| **Gross profit** | **$40,000** | **40%** | **$45,000** | **41%** |
| SG&A expenses | $10,000 | 10% | $11,000 | 10% |
| Depreciation expense | $10,000 | 10% | $11,000 | 10% |
| **Operating profit** | **$20,000** | **20%** | **$23,000** | **21%** |
| Interest expense | $5,000 | 5% | $5,500 | 5% |
| Earnings before taxes | $15,000 | 15% | $17,500 | 16% |
| Taxes (10%) | $1,500 | 1.5% | $1,750 | 1.6% |
| **Net income** | **$13,500** | **13.5%** | **$15,750** | **14.3%** |

Profitability margins improved in 2002 vs 2001 — gross margin +1pp, operating margin +1pp, NI margin +0.8pp.

**Note on Tax**

It is usually more meaningful to present income tax expense as an **effective rate = tax / pretax income**, not as a percentage of revenue. Tax % shown on common-size IS is technically T on operating profit (T/op profit), *not* T/Sales.

## Margin Ratios

### Gross Profit Margin

$$\frac{\text{GP}}{\text{Sales}}$$

Measures effectiveness at **manufacturing / purchasing**. Lower margins over time = competitive pressure. Can be increased by raising prices or reducing production costs.

### Operating Profit Margin

$$\frac{\text{EBIT}}{\text{Sales}}$$

Measures effectiveness at **operations**. Higher margins as size grows = economies of scale.

### Net Profit Margin

$$\frac{\text{NI}}{\text{Sales}}$$

Measures **overall effectiveness**. Any subtotal on the IS can be expressed as a margin ratio — e.g., pretax margin = pretax profit / revenue.

**Exam Tip:** High margin ratios are desirable. Analysts compare common-size figures across time periods (time-series) and across companies in the same industry (cross-sectional). Gross/operating margins noticeably higher than peers can be a warning sign of earnings management.

LOS H, I · COMPREHENSIVE INCOME & OCI

# Comprehensive Income & OCI

### Definitions

**Total Comprehensive Income (TCI)** — the change in equity during a period resulting from transactions and other events, *other than* those changes resulting from transactions with owners.

**Other Comprehensive Income (OCI)** — other revenue/expense items NOT included in net income.

### Core Equation

$$\text{TCI} = \text{NI} + \text{OCI}$$

## Major Items Included in OCI

1. **Foreign currency translation adjustments**
2. **Unrealized gains/losses on derivatives** accounted for as hedges
3. **Unrealized gains/losses on certain financial assets** — under GAAP these are *available-for-sale (AFS)* securities; under IFRS these are *FVOCI*
4. **Certain defined-benefit pension plan (DBPP) costs**
5. **Revaluation model results** — IFRS only

## Presentation Options

### Option 1 — Two statements

Separate Income Statement **followed by** a separate Statement of Comprehensive Income.

### Option 2 — Single statement

A single Statement of Comprehensive Income with a separate section for Profit/Loss.

**Exam Tip:** OCI items are NOT in net income but ARE in total comprehensive income. An analyst reviewing equity changes must look beyond NI to OCI to understand all period-to-period equity movements (other than owner transactions like dividends or share issuance).

QUIZ 3 · CHECKPOINT (~95%)

# Test Yourself: EPS, Common-Size & Comprehensive Income

**Q11.** Company ABC has NI = $100,000 and paid $22,000 preferred dividends and $12,000 common dividends. Shares were 10,000 on Jan 1 and 2,000 additional shares issued on July 1. Basic EPS is closest to:

**Q12.** A company has 1,000 stock options outstanding with exercise price $20. Average market price during the year was $25. Under the treasury stock method, the net new shares added to the diluted-EPS denominator equal:

**Q13.** Stock options are antidilutive when:

**Q14.** Which of the following is NOT included in Other Comprehensive Income?

**Q15.** Using the IFT common-size example, revenue in 2001 was $100,000 and NI was $13,500. Revenue in 2002 was $110,000 and NI was $15,750. Which statement is most accurate?

MODULE COMPLETE

## Your Scorecard

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## LM02 Key Takeaways — Exam-Ready Cheat Sheet

### Income Statement Structure

1. **Revenue − Expenses = Net Income.** IS reports results over a period. IFRS/GAAP allow (a) two separate statements (IS then CI) or (b) single CI statement with P/L section.
2. **Expense grouping:** by *nature* (e.g., depreciation as one line) or by *function* (e.g., COGS/SG&A). Multi-step IS: Rev → GP → Op Inc → Pretax → NI.
3. **Non-operating** items typically relate to investing/financing (e.g., Net Int Exp = Int Exp − Int Inc).

### Revenue Recognition — 5 Steps

4. (1) Contract → (2) Performance obligations → (3) Transaction price → (4) Allocation → (5) Recognize. Collectibility must be *probable (IFRS)* or *likely (GAAP)*. Long-term contracts: % of completion (input costs or output delivered). Agent: recognize only net amount.

### Expense Recognition

5. **Matching:** product costs (COGS) match revenues; period costs (admin, rent) expensed when incurred. Capitalize if benefit spans multiple periods; expense otherwise.
6. **Inventory methods:** FIFO (old cost → COGS, newer cost in inventory), LIFO (new cost → COGS, older in inventory, U.S. GAAP only), Weighted-avg (between). Rising prices + LIFO → higher COGS, lower NI, lower taxes, higher CFO, higher inventory turnover.
7. **Depreciation:** SL = (Cost − Salvage)/Life; DDB = 2×(1/Life)×BV (accelerated, conservative, higher early expense); Units-of-Production based on usage. Amortization of finite-lived intangibles

typically SL; indefinite-lived (goodwill) tested for impairment.

## Non-Recurring & Accounting Changes

8. **Discontinued ops:** below the line, net of tax. **Unusual/infrequent:** above the line, pre-tax. **Prior-period adjustments:** retrospective with restatement.
9. **Policy change:** retrospective. **Estimate change:** prospective. **Error correction:** retrospective + disclosure.

## EPS

10. **Basic EPS = (NI − Pref Div) / Wt-Avg Common Shares.** Stock splits & dividends applied retroactively. Common divs are NOT subtracted.
11. **Diluted EPS** = [NI + Conv Debt Int(1−t) − Pref Div + Conv Pref Div] / [Wt-Avg + New Shares]. **Treasury stock method** for options: Net new shares = Shares exercised − Proceeds/Avg Price.
12. **Antidilutive:** each potentially dilutive security tested in isolation; exclude if result > basic EPS. Options antidilutive when avg market price < exercise price.

## Common-Size & OCI

13. **Common-size IS:** each line ÷ revenue. Tax on common-size IS is effective rate (tax/pretax), not tax/revenue.
14. **Margin ratios:** gross margin = GP/Sales (manufacturing/purchasing); op margin = EBIT/Sales (operations, scale); net margin = NI/Sales (overall).
15. **TCI = NI + OCI.** OCI items: FX translation, hedge derivatives g/L, AFS (GAAP)/FVOCI (IFRS) g/L, DBPP costs, IFRS revaluation gains. OCI excludes owner transactions (dividends, share issues).

## Last-Minute Exam Checklist

**Revenue 5 steps:** Contract → Obligations → Price → Allocate → Recognize

**% Complete:** Costs-to-date / Total est costs × Contract price

**LIFO vs FIFO (rising P):** LIFO = higher COGS, lower NI, higher CFO, higher turnover

**DDB:** 2 × (1/Life) × BV — front-loads expense

**Disc Ops:** below/net of tax · **Unusual:** above/pre-tax

**Policy:** retrospective · **Estimate:** prospective · **Error:** retrospective

**Basic EPS:** (NI − Pref Div) / Wt-Avg Shares

**Treasury stock:** Net shares = Exercised − (Proceeds / Avg Price)

**TCI = NI + OCI** (FX, hedges, AFS/FVOCI, DBPP, IFRS revaluation)

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