soleadea

LEVEL 1:
FINANCIAL REPORTING & ANALYSIS

Reading 17 (3rd out of 12): INCOME STATEMENT

Difficulty: **medium**

Benchmark Study Time: **4.25h**

2022

THIS E-BOOK:

- is a selective summary of the corresponding Reading in your CFA® Program Curriculum,
- provides place for your own notes,
- helps you structure your study and revision time!

How to use this e-book to maximize your knowledge retention:

1. **Print** the e-book in duplex and bind it to keep all important info for this Reading **in one place.**
2. **Read** this e-book, best twice, to grasp the idea of what this Reading is about.
3. **Study** the Reading from your curriculum. **Here add** your notes, examples, formulas, definitions, etc.
4. **Review** the Reading using this e-book, e.g. write your summary of key concepts or revise the formulas at the end of this e-book (if applicable).
5. **Done?** Go to your study plan and change the Reading's status to **green**:
   (it will make your Chance-to-Pass-Score™ grow ☺).
6. **Come back** to this e-book from time to time to **regularly review for knowledge retention!**

NOTE: While studying or reviewing this Reading, you can use the tables at the end of this e-book and mark your study/review sessions to hold yourself accountable.

DEFINITIONS

income statement = statement of operations = profit and loss statement

The income statement:

- shows items that are used to calculate net income,
- contains information about the financial performance of the company over a period of time,
- indicates how much revenue and other income the company earned,
- Indicates what expenses the company incurred.

revenue = the amount received for the supply of goods or services in the ordinary course of business

expenses = depletions of assets, outflows and incurred liabilities that reduce owners' equity

other income = includes both profits that may or may not occur in the ordinary course of business

operating expenses = expense incurred as part of normal business operations, e.g. selling, general and administrative expenses (SG&A), research and development expenses (R&D), depreciation, amortization

net income = revenues – expenses = revenue + other income + gains* – expenses – losses

*gains are sometimes included in other income

gross profit = revenue – cost of sales

operating profit = revenue – operating expenses

Earnings measures

- gross profit = revenue less cost of sales,
- EBITDA (earnings before interest, taxes, depreciation and amortization) = presents earnings value before deducting interest on taken out loans, tax and depreciation and amortisation; EBITDA is often used to show the level of operating cash flows,
- operating profit = revenue less operating expenses,
- EBIT (earnings before interest and taxes) = presents earnings value before deducting interest on taken out loans and tax,
- EBT (earnings before tax) = presents earnings value before deducting tax,
- income from continuing operations = excludes extraordinary and special items or any effects of discontinued activity,
- net profit (net income, net earnings, bottom line) = takes into account all revenues, costs, as well as extraordinary and special items and non-operating activities results.

Operating profit is not always equal to EBIT.

HERE KNOWLEDGE RETENTION HAPPENS | WRITE: notes, examples, formulas, definitions, relations, etc.

PRINCIPLES OF REVENUE RECOGNITION

Revenue recognition may occur independently of cash movements.

Revenue is recognized in the period in which it is earned.

According to IFRS, the revenue from the sale of goods should be recognized if:

- the seller has transferred to the buyer the significant risks and rewards of ownership, and
- the seller retains neither continuing managerial involvement to the degree usually associated with ownership nor effective control over the goods sold, and
- the amount of revenue can be measured reliably, and
- it is probable that the economic benefits associated with the transaction will flow to the seller, and
- the costs incurred or to be incurred as a result of the transaction can be measured reliably.

According to IFRS, the revenue from the sale of services should be recognized if:

- the amount of revenue can be measured reliably, and
- it is probable that the economic benefits associated with the transaction will flow to the seller, and
- the stage of completion of the transaction at the end of the reporting period can be measured reliably, and
- the costs incurred for the transaction and the costs to complete the transaction can be measured reliably.

According to U.S. GAAP, revenue should be recognized when it is realized or realizable and earned.

SEC enumerates criteria to be met for revenue recognition:

- There is evidence of an arrangement between the buyer and the seller, and
- The product has been delivered or the service has been rendered, and
- The price is determined or determinable, and
- The seller is reasonably sure of collecting the money.

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SPECIFIC REVENUE RECOGNITION

Long-term contracts

long-term contract = contract that is carried out in more than one period

The revenue recognition methods for long-term contracts are:

- percentage-of-completion method,
- completed contract method (**U.S. GAAP only**).

Percentage-of-completion method is used when the outcome of a contract can be measured reliably.

According to percentage-of-completion method, in each period:

- revenue equals percentage-of-completion multiplied by the total contract revenue less revenue recognized in the previous periods.
- contract costs are expensed against the revenue.
- net income is reported.

Under IFRS when the outcome of a contract cannot be measured reliably, revenue in a given period can be recognized in the amount of costs incurred in this period (assuming that it is probable that costs will be recovered). So, the profit is recognized after all costs are recovered.

Under U.S. GAAP, the completed contract method is used when a reliable estimate of the total costs cannot be determined until the contract is finished.

Under the completed contract method, profit is only reported upon completion of the contract. The completed contract method is used if:

- we cannot reliably measure the outcome of the contract, or
- a company enters mainly into short-term contracts.

In both methods loss is reported immediately.

HERE KNOWLEDGE RETENTION HAPPENS | WRITE: notes, examples, formulas, definitions, relations, etc.

Installment Sales

When proceeds from sale are to be paid in installments, we say about installment sales.

According to IFRS, in the installment sales revenue attributable to:

- the sale price is recognized at the date of sale,
- the interest is recognized in future periods.

In the case of the sale of real estate, under both IFRS and U.S.GAAP, when cash collections are not assured, a company can use either:

- the installment method, or
- the cost recovery method.

According to the installment method:

$$\text{profit recognized in a given period} = \frac{\text{amount of the sale price paid by the buyer}}{\text{sale price}} \times (\text{total profit})$$

According to the cost recovery method, profit is recognized after the amount paid by the buyer exceeds the seller's costs.

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PRINCIPLES OF EXPENSE RECOGNITION

A company recognizes an expense in the period in which it uses up the economic benefits associated with the expenditure.

matching principle = costs are matched with revenues

Cost of goods sold vs Inventory

goods available for sale = beginning inventory + purchases of inventory in the period

ending inventory = beginning inventory + purchases of inventory in the period –

– cost of goods sold (COGS) = goods available for sale - COGS

the good (or inventory) is sold → revenue is recognized → COGS is recorded as an expense

inventory valuation methods = cost formulas under IFRS = cost flow assumptions under U.S. GAAP

The choice of an inventory valuation method exerts a direct impact on the income statement.

Cost formulas under IFRS:

- specific identification,
- weighted average cost,
- FIFO (first-in, first-out).

Cost flow assumptions under U.S. GAAP:

- specific identification,
- weighted average cost,
- FIFO (first-in, first-out),
- LIFO (last-in, first-out).

Specific identification is an inventory accounting method according to which cost of goods acquired or produced is reported at its purchase or production cost.

HERE KNOWLEDGE RETENTION HAPPENS | WRITE: notes, examples, formulas, definitions, relations, etc.

FIFO (first-in, first-out) reports inventory beginning with those units that were stored first.

LIFO (last-in, first-out) reports inventory beginning with those units that were stored last.

Weighted average cost takes into account the weighted average cost of acquired or produced inventories.

Prices in a given period are rising		
	COGS	**Ending inventory**
FIFO	Lowest	Highest
LIFO	Highest	Lowest

Depreciation vs PP&E

depreciation = the allocation of the purchase price or production cost throughout the useful life of a long-lived asset

expected useful life of a long-lived asset = an estimated period of time in which the asset is going to bring an economic benefit to the company

expected residual value = the value of a long-lived asset when its useful life is over

There are 3 basic methods of depreciation:

- the straight-line method,
- accelerated methods,
- the units of production method.

According to the **straight-line method**, all depreciation expenses have the same value:

$$\text{depreciation expense} = \frac{\text{historical cost} - \text{expected residual value of the asset}}{\text{expected useful life of the asset}}$$

According to **accelerated methods**, depreciation expenses are lower from period to period.

When calculating a depreciation expense by means of accelerated methods, don't take the expected residual value into account.

According to the **units of production method**, a depreciation expense in a given period relates to the estimated amount of the productivity of the long-lived asset in this period.

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EARNINGS PER SHARE

Types of earnings per share:

- basic earnings per share (basic EPS),
- diluted earnings per share (diluted EPS).

$$\text{basic EPS} = \frac{\text{net income} - \text{preferred dividends}}{\text{weighted average number of shares outstanding}}$$

If a company has potentially dilutive financial instruments, diluted earnings per share are often calculated.

Potentially dilutive financial instruments include:

- convertible preferred shares,
- convertible preferred debt,
- options.

Diluted EPS vs Convertible preferred stock

For convertible preferred stock the **if-converted method** is used.

The if-converted method tells us what would happen to EPS if we had converted the convertible preferred stock into common shares at the beginning of the period.

$$\text{diluted EPS} = \frac{\text{net income}}{\text{weighted average number of shares outstanding} + \text{new shares from conversion}}$$

Under the if-converted method (in comparison to basic EPS calculations):

- preferred dividends are not subtracted in the numerator (because preferred stock are assumed to be converted),
- weighted average number of shares outstanding in the denominator is increased by new shares from converting preferred stock.

HERE KNOWLEDGE RETENTION HAPPENS | WRITE: notes, examples, formulas, definitions, relations, etc.

Diluted EPS vs Convertible debt

For convertible debt the **if-converted method** is used.

The if-converted method tells us what would happen to EPS if we had converted the convertible debt into common shares at the beginning of the period.

$$\text{diluted EPS} = \frac{\text{net income} + (\text{interest on convertible debt}) \times (1 - \text{effective tax rate}) - \text{preferred dividends}}{\text{weighted average number of shares outstanding} + \text{new shares from conversion}}$$

Under the if-converted method (in comparison to basic EPS calculations):

- after-tax interest on convertible debt is added in the numerator because the company will pay less interest if the debt is converted,
- weighted average number of shares outstanding in the denominator is increased by new shares from converting convertible debt.

Diluted EPS vs Options

For options the **treasury stock method** (name under U.S. GAAP) is used.

The treasury stock method tells us what would happen to EPS if we had converted the stock options into common shares.

$$\text{diluted EPS} = \frac{\text{net income} - \text{preferred dividends}}{\text{WO} + (\text{NS} - \text{CS}) \times \frac{\text{M}}{12}}$$

Where:

- WO – weighted average number of shares outstanding,
- NS – number of new shares issued at option exercise,
- CS – number of shares that company could repurchase for proceeds from share issuance at option exercise,
- M – number of months during which options where outstanding.

HERE KNOWLEDGE RETENTION HAPPENS | WRITE: notes, examples, formulas, definitions, relations, etc.

Dilutive securities vs Antidilutive securities

dilutive securities = securities that, if included in a diluted EPS calculation →

→ EPS lower than the company's basic EPS

antidilutive securities = securities that, if included in a diluted EPS calculation →

→ EPS higher than the company's basic EPS

antidilutive securities are not used for the calculation of diluted EPS →

→diluted EPS < basic EPS

PROFITABILITY RATIOS

$$\text{gross profit margin} = \frac{\text{gross profit}}{\text{revenue}}$$

$$\text{operating profit margin} = \frac{\text{operating profit}}{\text{revenue}}$$

$$\text{pretax profit margin} = \frac{\text{pretax profit}}{\text{revenue}}$$

$$\text{net profit margin} = \text{return on sales (ROS)} = \frac{\text{net income}}{\text{revenue}}$$

HERE KNOWLEDGE RETENTION HAPPENS | WRITE: notes, examples, formulas, definitions, relations, etc.

STATEMENT OF COMPREHENSIVE INCOME

In accordance with the IFRS, comprehensive income statement may be presented as:

- a single statement of comprehensive income,
- in two statements:
    a. the income statement, and
    b. the statement of comprehensive income that begins with profit or loss from the income statement.

total comprehensive income = net income from the income statement +

+ other comprehensive income

Other comprehensive income (OCI)

Other comprehensive income includes all items that affect owners' equity, that:

- are not included in net income, and
- don't result from transactions with shareholders.

Examples of items included in OCI:

- foreign currency translation adjustments,
- unrealized gains or losses on hedging instruments,
- unrealized holding gains and losses on available-for-sale securities,
- part of costs related to an entity's defined benefit pension plan.

Nonrecurring items

Nonrecurring items:

- discontinued operations,
- unusual or infrequent items,
- extraordinary items (U.S. GAAP only).

HERE KNOWLEDGE RETENTION HAPPENS | WRITE: notes, examples, formulas, definitions, relations, etc.

Summarizing key concepts:

☐ Earnings measures

My summary:

☐ Principles of revenue recognition

My summary:

☐ Specific revenue recognition: long-term contracts

My summary:

☐ Specific revenue recognition: installment sales

My summary:

☐ Matching principle

My summary:

☐ Inventory: cost of goods sold

My summary:

☐ PP&E: depreciation

My summary:

☐ Earnings per share vs Diluted earnings per share

My summary:

☐ Profitability ratios

My summary:

☐ Statement of comprehensive income

My summary:

Reviewing formulas:

$$\text{profit recognized in a given period} = \frac{\text{amount of the sale price paid by the buyer}}{\text{sale price}} \times (\text{total profit})$$

Write down the formula:

goods available for sale = beginning inventory + purchases of inventory in the period

Write down the formula:

ending inventory = beginning inventory + purchases of inventory in the period –

– cost of goods sold (COGS) = goods available for sale - COGS

Write down the formula:

$$\text{depreciation expense} = \frac{\text{historical cost} - \text{expected residual value of the asset}}{\text{expected useful life of the asset}}$$

Write down the formula:

$$\text{basic EPS} = \frac{\text{net income} - \text{preferred dividends}}{\text{weighted average number of shares outstanding}}$$

Write down the formula:

$$\text{diluted EPS} = \frac{\text{net income}}{\text{weighted average number of shares outstanding} + \text{new shares from conversion}}$$

Write down the formula:

$$\text{diluted EPS} = \frac{\text{net income} + (\text{interest on convertible debt}) \times (1 - \text{effective tax rate}) - \text{preferred dividends}}{\text{weighted average number of shares outstanding} + \text{new shares from conversion}}$$

Write down the formula:

$$\text{diluted EPS} = \frac{\text{net income} - \text{preferred dividends}}{\text{WO} + (\text{NS} - \text{CS}) \times \frac{\text{M}}{12}}$$

Write down the formula:

$$\text{gross profit margin} = \frac{\text{gross profit}}{\text{revenue}}$$

Write down the formula:

$$\text{operating profit margin} = \frac{\text{operating profit}}{\text{revenue}}$$

Write down the formula:

$$\text{pretax profit margin} = \frac{\text{pretax profit}}{\text{revenue}}$$

Write down the formula:

$$\text{net profit margin} = \text{return on sales (ROS)} = \frac{\text{net income}}{\text{revenue}}$$

Write down the formula:

Keeping myself accountable:

TABLE 1 | STUDY

When you sit down to study, you may want to **try the Pomodoro Technique** to handle your study sessions: study for 25 minutes, then take a 5-minute break. Repeat this 25+5 study-break sequence all throughout your daily study session.

✓ Tick off as you proceed.

POMODORO TIMETABLE: study-break sequences (25' + 5')													
date		date		date		date		date		date		date	
25'		25'		25'		25'		25'		25'		25'	
5'		5'		5'		5'		5'		5'		5'	
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5'		5'		5'		5'		5'		5'		5'	
25'		25'		25'		25'		25'		25'		25'	
5'		5'		5'		5'		5'		5'		5'	

TABLE 2 | REVIEW

Never ever neglect revision! Though it's not the most popular thing among CFA candidates, regular revision is what makes the difference. If you want to pass your exam, **schedule & do your review sessions.**

REVIEW TIMETABLE: When did I review this Reading?													
date		date		date		date		date		date		date	
date		date		date		date		date		date		date	