

## R17 Understanding Income Statements

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## 1. Introduction

The income statement presents information on the financial results of a company's business activities over a period of time. It is also known as the 'statement of operations', 'statement of earnings', or 'profit and loss (P&L) statement'. The basic equation underlying the income statement is:

$$\text{Income} - \text{Expenses} = \text{Net Income}$$

Equity analysts carefully analyze a company's income statements for use in valuation models while fixed-income analysts analyze income statements to measure a company's debt servicing ability.

## 2. Components and Format of the Income Statement

### Components of the income statement

The components of an income statement are:

Revenues: Income generated from the sale of goods and services in the normal course of the business. Net revenue is the total revenue minus products that were returned and amounts that are unlikely to be collected.

Expenses: Costs incurred to generate revenues. Expenses may be grouped and reported in different formats, subject to some specific requirements.

Gains and losses: Amounts generated from non-operating activities.

Net income: Net income can be calculated as  $\text{Net income} = \text{Revenues} - \text{Expenses} + \text{Gains} - \text{Losses}$ .

Expenses can be grouped together either by their nature or function.

- Grouping by nature: For example, depreciation on manufacturing equipment and depreciation on administrative facilities can be grouped together into a single line item called "depreciation".
- Grouping by function: For example, labor and material costs, depreciation, salaries of sales peoples and other direct sales related expenses can be grouped together into a single line item called 'cost of goods sold'.

### Presentation formats

Income statements can be presented in the following two formats:

- Single-step: All revenues and all expenses are grouped together. There are no sub-totals.
- Multi-step: It includes subtotals such as gross profit and operating profit.

The table below shows samples for both formats.

Multi-step format			Single-step format		
\$ million	2018	2017	\$ million	2018	2017
Sales	35,310	31,600	Sales	35,310	31,600
Cost of sales	10,300	9,060	Cost of sales	10,300	9,060
<b>Gross Profit</b>	25,010	22,540	Gain from sale of equipment	900	860
			Administrative expenses	3,400	2,900
Gain from sale of equipment	900	860	Advertising expense	1,000	900
Administrative expenses	3,400	2,900	Depreciation	960	850
Advertising expense	1,000	900	Other expenses	6,500	6,100
Depreciation	960	850	<b>Operating Income (EBIT)</b>	14,050	12,650
Other expenses	6,500	6,100	Interest Expense	10	70
<b>Operating Income (EBIT)</b>	14,050	12,650	<b>Profit before tax (EBT)</b>	14,040	12,580
Interest Expense	10	70	Tax Expense	3,945	3,300
<b>Profit before tax (EBT)</b>	14,040	12,580			
Tax Expense	3,945	3,300	<b>Profit after tax</b>	10,095	9,280
<b>Profit after tax</b>	10,095	9,280			

### 3. Revenue Recognition

#### 3.1 General Principles

Under the accrual method of accounting, revenue should be recognized when earned and not necessarily when cash is received. Let us consider three simple examples to illustrate this point.

- If a company sells goods for \$100 cash in Period 1, can it recognize revenue in Period 1? The answer is yes. Revenue is recorded in the period it is earned, i.e., when goods or services are delivered.
- What if the company sells goods on credit in Period 1 and expects to receive cash in Period 2? Can revenue be recognized in Period 1? The answer is that revenue is recorded in Period 1. In addition, since the goods are sold on credit, an asset called accounts receivable is created.
- What if an advance payment is received in Period 1 but goods and services are to be delivered in Period 2. When will the revenue be recognized? The revenue will be recognized in Period 2 because that is when delivery of goods will take place. In this case, the company will record a liability called unearned revenue when the advance payment is received.

Companies must disclose their revenue recognition policies in the notes to their financial statements, and analysts should read these carefully to understand how and when a company recognizes revenue.

#### 3.2 Accounting Standards for Revenue Recognition

In May 2014, the IASB and FASB issued converged standards for revenue recognition. The standards take a principles-based approach to revenue recognition issues. The core principle

behind the converged standard is that revenue should be recognized to “depict the transfer of promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in an exchange for those goods or services.”

According to the standard, the following five steps must be followed in order to recognize revenue:

1. Identify the contract(s) with a customer.
2. Identify the performance obligations in the contract.
3. Determine the transaction price.
4. Allocate the transaction price to the performance obligations in the contract.
5. Recognize revenue when (or as) the entity satisfies a performance obligation.

When revenue is recognized, a contract asset is added to the balance sheet. If an advance is received but performance obligations have not been met, then a contract liability is added to the seller's balance sheet.

### **Treatment of related costs**

Specific accounting treatment for related costs is summarized below:

- Incremental costs of obtaining a contract or fulfilling a contract must be capitalized.
- If incremental costs were expensed in the years before adopting the converged standard, then the company's profitability will appear higher under the converged standards.

### **Disclosure requirements**

The converged standard mandates the following disclosure requirements:

- Companies must disclose information about contracts with customers after segregating them into different categories of contracts. The categories may be based on the geographic region, the type of product, the type of customer, pricing terms, etc.
- Companies must disclose information related to revenue recognition. For example, any change in judgments, remaining performance obligations, and transaction price allotted to those obligations, and balances of contract-related assets and liabilities.

## **4. Expense Recognition: General Principles**

Expenses are ‘decreases in economic benefit during the accounting period in the form of outflows or depletion of assets or incurrences of liabilities that result in decreases in equity.’ For example, if a company pays rent, its cash reduces and the rent is recognized as an expense.

### **4.1 General Principles**

#### **Matching principle**

The most important principle of expense recognition is the matching principle, under which the expenses incurred to generate revenue are recognized in the same period as revenue.

For example, if some goods bought in the current year remain unsold at the end of the year, they are not included in the cost of goods sold for the current year. If they are sold in the next year, they will be included in the cost of goods sold for the next year.

### Periodic costs

Expenses that cannot be tied directly to generation of revenues are called periodic costs. They are expensed in the period incurred. For example, the rent paid for office premises are simply expensed in the period for which the rent was paid.

### Inventory methods

Accounting standards permit the use of following methods to assign inventory expenses:

- 'First in, first out (FIFO)' assumes that the earliest items purchased are sold first.
- 'Last in, first out (LIFO)' assumes that the most recent items purchased are sold first.
- 'Weighted average cost' averages total cost over total units available.
- 'Specific identification' identifies each item in the inventory and uses its historical cost for calculating COGS, when the item is sold.

#### Instructor's Note:

We will learn more about these inventory valuation methods in a later reading.

## 5. Issues in Expense Recognition: Doubtful Accounts, Warranties

Some issues in expense recognition are:

### Doubtful accounts

When sales are made on credit, there is a chance that some customers will default. There are two methods of recognizing credit losses. The first one is to wait for a customer to default and then recognize a loss. This is called the 'direct write-off' method. The second is to record an estimate of credit losses (using historical data) at the time of revenue recognition. The matching principle requires the use of the second method.

### Warranties

When a company provides warranty, there is a chance that some defective product may need to be replaced or repaired. There are two methods of recognizing warranty expense. The first one is to recognize warranty expense when warranty is claimed. The second is to estimate a warranty expense (using historical data) at the time of revenue recognition. The matching principle requires the use of the second method.

## 6. Issues in Expense Recognition: Depreciation and Amortization

### Depreciation

It is the process of allocating costs of long-lived assets over the period during which the assets are expected to provide economic benefits. The first method is called the straight-line

method, where we expense an equal amount of depreciation in each year of the asset's useful life. The second method is the declining balance method, where a greater proportion of depreciation is allocated in the initial years and a lower proportion is allocated in later years.

### **Amortization**

It is the process of allocating costs of intangible assets (a non-physical asset) over its useful life. Intangible assets with identifiable useful lives (for example a patent that will expire in a few years) are amortized evenly over their lives. Intangible assets with indefinite lives (for example goodwill) are not amortized. They are tested for impairment annually. If the asset value has come down an expense is recorded in the income statement to bring its value down to the current value.

#### **Instructor's Note:**

We will learn more about depreciation and amortization in a later reading.

## **7. Implications for Financial Analysts: Expense Recognition**

A company's estimates for doubtful accounts, warranty expenses, and depreciation amounts can affect its net income. If a company's policies result in early recognition of expenses, it can be considered a conservative approach. On the other hand, if a company's policies delay the recognition of expenses, it can be considered an aggressive approach. Using this as well as other information contained in the footnotes or disclosures, an analyst can recognize whether a company's expense recognition policy is conservative or not. The analyst should also recognize that it is possible that two companies in the same industry have very different expense recognition policies.

## **8. Non-Recurring Items and Non-Operating Items: Discontinued Operations and Unusual or Infrequent Items**

Analysts are generally trying to estimate and assess future earnings of a company. Hence, reporting standards require firms to separate income and expense items that are likely to continue in the future, from items that are not likely to continue. (You will be more interested in items that will continue as compared to one-time items.)

### **8.1 Discontinued Operations**

A discontinued operation is an operation which a company has disposed of or plans to dispose of. Net income from discontinued operations is shown (as a separate line item on the income statement) net of tax after net income from continuing operations.

Since the discontinued operation will no longer provide earnings to the company, an analyst may exclude discontinued operations when forecasting future earnings.

### **8.2 Unusual or Infrequent Items**

Both IFRS and US GAAP allow recognition of items that are unusual or infrequent (but not both). These items are also called exceptional items i.e. items not "inherent" to the

company's current activities. Examples include restructuring charges and gains/losses from sale of equipment, receipts from a legal case, costs of integrating an acquisition, and impairment of intangible assets, etc. These items are shown as part of a company's continuing operations.

While forecasting future earnings, an analyst should assess whether the items reported as unusual or infrequent are likely to reoccur. Analysts should not simply ignore all unusual items.

## 9. Non-Recurring Items: Changes in Accounting Policy

At times, new accounting standards may require companies to change accounting policies. An example can be changing the inventory valuation method from last in, first out (LIFO) to first in, first out (FIFO). Companies are allowed to adopt standards prospectively (in the future) or retrospectively.

- Retrospective application means that the financial statements for previous years are presented as if the newly adopted accounting principle had been used throughout the period. A change in accounting policy is applied retrospectively. For example, if a company shifts from LIFO valuation method to FIFO valuation method, this change will require a retrospective application.
- Prospective application means that only the financial statements for the period of change and for future periods are changed. Financial statements for previous years are not changed. At times, new standards might require companies to change accounting estimates such as the useful life of a depreciable asset. Changes in accounting estimates are applied prospectively.
- Correction of an error for a prior period is another possible adjustment which requires a restatement of the four major financial statements. If a company is making corrections very often, this gives a negative signal and investors will avoid investing in such a company.

Modified retrospective approach: According to new revenue recognition standards, companies can also use "modified retrospective" method of adoption. Under this approach, companies can adjust opening balances of retained earnings (and other applicable accounts) for the cumulative impact of the new standard. They are not required to revise previously reported financial statements.

## 10. Non-Operating Items

Non-operating items are typically reported separately from operating income because they are material and/or relevant to the understanding of the company's financial performance.

Under IFRS, there is no definition of operating activities and companies need to use judgment about which items can be classified as operating and non-operating.

Under US GAAP, operating activities generally involve producing and delivering goods and providing services. All other transactions and events are defined as investing or financing activities. For example, interest expense would be an operating item for a bank but would be non-operating for a manufacturing firm.

In practice, investing and financing activities may be disclosed on a net basis. For example, a manufacturing firm may report net interest expense (interest expense minus interest revenue) in its income statement. The footnotes to the financial statements can provide further disclosure about the net interest expense. The figure below shows a visual depiction of an income statement for a manufacturing firm following US GAAP.

<b>Revenue or Income</b>
<b>Operating Expenses</b>
Cost of Goods Sold
SG&A
Depreciation
Unusual or Infrequent Items
<b>Operating Income</b>
<b>Non-Operating Expenses</b>
Interest Expense
Extraordinary Items
<b>EBT (continuing operations)</b>
<b>Taxes</b>
<b>NI (continuing operations)</b>
Earnings from discontinued operations net of taxes
<b>Net Earnings or Net Income</b>

## 11. Earnings per Share and Capital Structure and Basic EPS

### 11.1 Simple versus Complex Capital Structure

Earnings per share (EPS) is a very important profitability measure. It depicts the earnings per ordinary share. Some basic terminologies related to EPS are:

- Potentially dilutive securities: Securities that can be converted into ordinary shares are called potentially dilutive securities. This includes convertible bonds, convertible preferred stock, and employee stock options.
- Simple capital structure: If a company has no potentially dilutive securities it is said to have a simple capital structure.
- Complex capital structure: If a company has potentially dilutive securities it is said to have a complex capital structure.
- Dilutive securities: A potentially dilutive security that decreases EPS when exercised is called a dilutive security.



- **Antidilutive security:** A potentially dilutive security that increases EPS when exercised is called an antidilutive security.

## 11.2 Basic EPS

Basic EPS is the amount of income available to common shareholders divided by the weighted average number of common shares outstanding over a period. Basic EPS is calculated as:

$$\text{Basic EPS} = \frac{\text{Net income} - \text{Preferred dividends}}{\text{Weighted average number of shares outstanding}}$$

In this calculation we do not consider the effect of any potentially dilutive securities.

**Weighted average number of shares outstanding** is the number of shares outstanding during the year, weighted by the portion of the year they were outstanding. Stock splits and stock dividends are applied retroactively to the beginning of the year, so the old shares are converted to new shares for consistency.

### Example

During 2018, Company ABC had a net income of \$100,000. It paid \$22,000 as dividends to its preference shareholders and \$12,000 as dividends to its common shareholders. The number of common shares outstanding during 2018 was as follows:

Shares as of January 1, 2018: 10,000

Additional shares issue on July 1, 2018: 2,000

Calculate the basic EPS of the company for 2018.

### Solution:

We had 10,000 shares outstanding for the first 6 months and 12,000 shares outstanding for the last 6 months.

Therefore weighted average number of shares outstanding =  $10,000 \times 6/12 + 12,000 \times 6/12 = 11,000$  shares.

$$\text{Basic EPS} = \frac{\$100,000 - \$22,000}{11,000} = \$8$$

Note: We ignore dividend paid to common shareholders.

## 12. Diluted EPS: The IF-Converted Method

In this calculation, we consider the effect of potentially dilutive securities. If a firm has a complex capital structure it has to report both basic and diluted EPS. Diluted EPS is calculated as:

$$\text{Diluted EPS} = \frac{\text{Net Income} + \text{After tax interest} - \text{Preferred dividend} + \text{convertible preferred dividends}}{\text{Weighted Average Shares} + \text{New shares if convertible debt is converted}}$$

For **preference shares**, we need to subtract preference share dividends from the numerator and add new shares issued from conversion to the denominator.

**Example**

During 2018, Company ABC had a net income of \$100,000. It paid \$22,000 dividends to its preference shareholders and \$12,000 dividends to its common shareholders. It had 2,200 preference share and 11,000 common shares outstanding during 2018. Each preference share is convertible into 2 shares of common stock. Calculate the diluted EPS for the company.

**Solution:**

Number of common shares issued upon conversion =  $2,200 \times 2 = 4,400$

$$\text{Diluted EPS} = \frac{\text{NI} + \text{conv debt int} (1 - t) - \text{pref div} + \text{conv pref div}}{\text{Wt avg shares} + \text{New shares issued}}$$

$$\text{Diluted EPS} = \frac{\$100,000 + 0 - \$22,000 + \$22,000}{11,000 + 4,400} = \$6.5$$

For **convertible bonds**, we need to add the after tax interest cost savings to the numerator and new shares issued from conversion to the denominator.

**Example**

During 2018, Company ABC had a net income of \$100,000. The capital structure of the company for 2018 was as follows:

11,000 common shares

1,000 convertible bonds with par value of \$100 and 10% coupon; convertible to 5,000 shares

The tax rate of the company is 30%.

Calculate diluted EPS.

**Solution:**

Number of common shares issued upon conversion = 5,000

Interest payable on the bonds =  $100 \times \$1,000 \times 10\% = \$10,000$

$$\text{Diluted EPS} = \frac{\text{NI} + \text{conv debt int} (1 - t) - \text{pref div} + \text{conv pref div}}{\text{Wt avg shares} + \text{New shares issued}}$$

$$\text{Diluted EPS} = \frac{\$100,000 + \$10,000 \times 0.7 - \$0 + \$0}{11,000 + 5,000} = \$6.69$$

**13. Diluted EPS: The Treasury Stock Method**

For **stock options**, we use the 'Treasury Stock Method', which assumes that the hypothetical funds received by the company from the exercise of options are used to purchase shares of the company's common stock at the average market price over the reporting period. Thus, the numerator is unchanged and the number of shares to be added to

the denominator = the number of shares created by exercising the options – number of shares hypothetically repurchased with the proceeds of the exercise.

### Example

During 2018, Company ABC had a net income of \$100,000. It paid \$22,000 dividends to its preference shareholders and \$12,000 dividends to its common shareholders. The capital structure of the company for 2018 was as follows:

11,000 common shares

1,000 stock options outstanding, that have an exercise price of \$20.

During 2018, the average market price for the company's share was \$25.

Calculate the diluted EPS.

### Solution:

Number of common shares issued upon conversion = 1,000

Cash proceeds from the exercise of options =  $1,000 \times 20 = \$20,000$

Number of shares that can be purchased at the average market price with these funds =  $\$20,000 / 25 = 800$

Net increase in common shares outstanding =  $1,000 - 800 = 200$

$$\text{Diluted EPS} = \frac{\text{NI} + \text{conv debt int} (1 - t) - \text{pref div} + \text{conv pref div}}{\text{Wt avg shares} + \text{New shares issued}}$$

$$\text{Diluted EPS} = \frac{\$100,000 + \$0 - \$22,000 + \$0}{11,000 + 200} = \$6.96$$

## 14. Other Issues with Diluted EPS and Changes in EPS

Some potentially convertible securities could be antidilutive. Including them in the calculations would result in an EPS that is higher than the company's basic EPS. Such securities should not be included in the calculation of diluted EPS.

### Instructor's Note:

Assess each instrument individually and determine if it is dilutive or not. Only instruments which are dilutive must be included in the diluted EPS calculation.

### Changes in EPS

In general, an EPS can increase either due to an increase in net income, a decrease in the number of shares outstanding, or a combination of both.

## 15. Common-Size Analysis of the Income Statement

**Common-size income statement** presents each line item on the income statement as a percentage of revenue. This format standardizes the income statements and helps remove

the effects of company size. They are useful to comparisons across time periods and across companies.

## 16. Income Statement Ratios

The income statement is used to calculate **income statement ratios** to evaluate a firm's profitability. The commonly used ratios are:

Gross profit margin = Gross profit / Revenue

Operating profit margin = Operating profit / Revenue

Net profit margin = Net profit / Revenue

High margin ratios are desirable. A firm can increase its margins by either increasing selling price or by lowering costs, or both.

An example of a common size income statement is shown below.

	<b>2018</b>	<b>%</b>	<b>2017</b>	<b>%</b>
Revenue	\$100,000	100%	\$110,000	100%
Cost of goods sold	\$60,000	60%	\$65,000	59%
<b>Gross profit</b>	<b>\$40,000</b>	<b>40%</b>	<b>\$45,000</b>	<b>41%</b>
SG&A	\$10,000	10%	\$11,000	10%
Depreciation expense	\$10,000	10%	\$11,000	10%
<b>Operating profit</b>	<b>\$20,000</b>	<b>20%</b>	<b>\$23,000</b>	<b>21%</b>
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%
<b>Net income</b>	<b>\$13,500</b>	<b>13.5%</b>	<b>\$15,750</b>	<b>14.3%</b>

Looking at the above common-size statement, we can conclude that, the profitability margins of this company have improved in 2018 as compared to 2017.

## 17. Comprehensive Income

### Other comprehensive income

Other comprehensive income includes transactions that are not included in net income. Four types of items treated as other comprehensive income under both IFRS and U.S. GAAP are:

- Unrealized gain/losses from available for sale securities.
- Foreign currency translation adjustments.
- Unrealized gains/losses on derivative contracts used for hedging.
- Adjustments for minimum pension liability.

Besides the items stated above, under IFRS, other comprehensive income includes certain changes in the value of long-lived assets that are measured using the revaluation model rather than the cost model. Further, under IFRS, reclassification of items from OCI to P&L is not allowed.

**Instructors Note:** At Level I, you need to remember the above stated items; these are explained in detail at level II.

### **Comprehensive income**

Comprehensive income measures all changes to equity apart from those resulting from transactions with shareholders (For example, dividends paid and stocks repurchased are not included in comprehensive income.) Comprehensive income is conceptually same under both IFRS and US GAAP. It is the sum of net income and other comprehensive income.

### **Example**

Company ABC's beginning shareholder equity was \$100 million; its net income for the year was \$10 million. Cash dividends of \$2million were paid to shareholders during the year. The company's actual ending shareholder equity is \$113 million. Calculate OCI.

### **Solution:**

Amount that has bypassed the income statement = OCI =  $\$113 - (\$100 + \$10 - \$2) = \$5$  million.

## Summary

### **LO.a: Describe the components of the income statement and alternative presentation formats of that statement.**

The components of an income statement are:

- Revenue
- Expenses
- Gains and Losses
- Net income

There are two ways of presenting an income statement:

- Single step format - All revenues and all expenses are grouped together.
- Multi-step format - It includes subtotals such as gross profit and operating profit.

### **LO.b: Describe general principles of revenue recognition and accounting standards for revenue recognition.**

According to the accrual method of accounting, revenue is recognized when earned and expenses are recognized when incurred.

### **LO.c: Calculate revenue given information that might influence the choice of revenue recognition method.**

Firms can use any revenue recognition technique provided there is a rationale behind their choice. Firms using an aggressive revenue recognition method will most likely inflate the earnings of the current period and later periods. An analyst should consider the effects different revenue recognition methods can have on the financial statements of a company.

### **LO.d: Describe general principles of expense recognition, specific expense recognition applications, and implications of expense recognition choices for financial analysis.**

The most important principle of expense recognition is the matching principle, under which the expenses incurred to generate revenue are recognized in the same period as revenue.

Expenses that cannot be tied directly to generation of revenues are called periodic costs. They are expensed in the period incurred.

Inventory methods: Accounting standards permit the use of the following methods to assign inventory expenses:

- FIFO
- LIFO
- Weighted average cost
- Specific identification

Some issues in expense recognition are:

- Doubtful accounts: Record an estimate of credit losses (using historical data) at the time of revenue recognition.

- **Warranties:** Expense an estimated amount at the time of revenue recognition.
- **Depreciation:** It is the process of systematically allocating costs of long-lived assets over the period during which the assets are expected to provide economic benefits. Depreciation methods include:
  - Straight line method.
  - Declining balance method.

Using the above mentioned accounts and information contained in the footnotes or disclosures, an analyst can recognize whether a company's expense recognition policy is conservative or not.

**LO.e: Describe the financial reporting treatment and analysis of non-recurring items (including discontinued operations, unusual, or infrequent items) and changes in accounting standards.**

Net income from discontinued operations is shown net of tax after net income from continuing operations.

Both IFRS and U.S. GAAP allow recognition of unusual or infrequent (but not both) items.

Changes in accounting policies can be adopted retrospectively (the financial statements for all fiscal years are presented as if the newly adopted accounting principle had been used throughout the period) or prospectively (only the financial statements for the period of change and for future periods are changed).

**LO.f: Contrast operating and non-operating components of the income statement.**

Non-operating items are typically reported separately from operating income because they are material and/or relevant to the understanding of the company's financial performance. Under IFRS, there is no definition of operating activities so judgment is required to distinguish between operating and non-operating income. Under U.S. GAAP, operating activities generally involve producing and delivering goods and providing services. All other activities are non-operating.

**LO.g: Describe how earnings per share is calculated, and calculate and interpret a company's earnings per share (both basic and diluted earnings per share) for both simple and complex capital structures.**

When a company has simple capital structure, basic EPS is calculated using the formula:

$$\text{Basic EPS} = \frac{\text{Net Income} - \text{Preferred dividends}}{\text{Weighted Average Number of Shares Outstanding}}$$

When a company has complex capital structure, diluted EPS is calculated using the formula:

$$\text{Diluted EPS} = \frac{\text{Net Income} + \text{After tax interest} - \text{Preferred dividend} + \text{convertible preferred dividends}}{\text{Weighted Average Shares} + \text{New shares if convertible debt is converted}}$$

**LO.h: Contrast dilutive and antidilutive securities, and describe the implications of each for the earnings per share calculation.**

Dilutive securities are stock options, convertible debt, warrants, and convertible preferred stock that *decrease* EPS when converted to common stock.

Antidilutive securities are stock options, convertible debt, warrants, and convertible preferred stock that *increase* EPS when converted to common stock.

**LO.i: Formulate income statements into common-size income statements.**

Common-size analysis of the income statement can be performed by stating each line item on the income statement as a percentage of revenue. Common-size statements facilitate comparison across time periods as well as across companies because the standardization of each line item removes the effect of size.

**LO.j: Evaluate a company's financial performance using common-size income statements and financial ratios based on the income statement.**

Net profit margin is calculated as:  $\text{Net Income} / \text{Sales}$ . This indicates how much income a company was able to generate for each dollar of revenue.

Gross profit margin is calculated as:  $\text{Gross Profit} / \text{Sales}$ . Where gross profit is calculated as revenue minus cost of goods sold.

Operating profit margin is calculated as:  $\text{Operating Profit} / \text{Sales}$ .

Analysts can use these profit margins to compare over time and with industry peers.

**LO.k: Describe, calculate, and interpret comprehensive income.**

Comprehensive income = Net income + other comprehensive income (OCI)

It measures all changes in equity except for owner contributions and distributions.

**LO.l: Describe other comprehensive income, and identify major types of items included in it.**

Other comprehensive income includes transactions that are not included in net income. Four types of items treated as other comprehensive income under both IFRS and U.S. GAAP are:

- Unrealized gain/losses from available-for-sale securities.
- Foreign currency translation adjustments.
- Unrealized gains/losses on derivative contracts used for hedging.
- Certain costs of a company's defined benefit post-retirement plans.



## Practice Questions

1. The income statement *least likely* includes which of the following elements?
  - A. Depreciation.
  - B. Income tax payable.
  - C. Operating profit.
2. According to the converged accounting standards issued by IASB and FASB, which of the following is the first step in the revenue recognition process ?
  - A. Determine the transaction price.
  - B. Identify the performance obligation.
  - C. Identify the contract.
3. ITminds has a five year license to provide fund accounting services to an asset management company. The total amount of the IT accounting software fee that ITminds will receive is USD 30,000. Revenue is recognized on a prorated basis as it is a long term contract. What revenue would ITminds. recognize at the end of year 1?
  - A. USD 0.
  - B. USD 6,000.
  - C. USD 7,500.
4. Retrospective restatement of all prior period financial statements is *least likely* required for a change from:
  - A. FIFO to LIFO inventory valuation.
  - B. Zero salvage value to positive salvage value.
  - C. Capitalization of borrowing costs to expensing borrowing costs.
5. For a nonfinancial firm, which of the following would *most likely* be included in operating expenses in the income statement?
  - A. Interest expense.
  - B. Depreciation expense.
  - C. Both interest expense and depreciation expense.
6. An analyst has gathered the following information about a company:
  - Net income: \$250,000.
  - Average number of shares outstanding: 100,000.
  - 2,000, 8%, \$1,000 face value bonds convertible into 15 shares each, outstanding at the beginning of the year.
  - The tax rate is 40%.The company's diluted EPS is *closest* to:
  - A. \$2.2

- B. \$2.5
- C. \$2.8.

7. An analyst has gathered the following information about a company:

- 100,000 average shares outstanding during the year.
- 1,000 warrants outstanding with exercise price of \$10
- The stock is selling at year end at \$8.
- The average stock price during the year was \$15.

How many shares should be used in calculating the company's diluted EPS?

- A. 100,000.
- B. 100,333.
- C. 101,000.

8. A company has earnings of 12 million for 2018. The preferred dividend for the year is 3 million and the common stock dividend is 2 million. The number of shares outstanding for the year is 15 million. What is the basic EPS?

- A. 0.60.
- B. 0.67.
- C. 0.75.

9. In a vertical common-size income statement, each category of the income statement is expressed as a percentage of:

- A. gross profit.
- B. assets.
- C. revenue.

10. Which of the following would be *least likely* included in comprehensive income?

- A. Dividends paid to common shareholders.
- B. Gains and loss from foreign currency translation.
- C. Unrealized gains and losses from cash flow hedging derivatives.

11. The following information is from a company's accounting records:

	\$ millions
Revenues for the year	5,500
Total expenses for the year	3,500
Gains from available-for-sale securities	425
Gain on foreign currency translation adjustments on a foreign subsidiary	655
Dividends paid	230

The company's total comprehensive income (in USD millions) is closest to

- A. 1,080.

- B. 2,850.
- C. 3,080.

## Solutions

1. B is correct. Income tax payable is a balance sheet element. Both depreciation and operating profit are included in the income statement.
2. C is correct. Under the converged standards, the five steps in the revenue recognition process are:
  - Identify the contract(s) with a customer
  - Identify the performance obligations in the contract
  - Determine the transaction price
  - Allocate the transaction price to the performance obligations in the contract
  - Recognize revenue when (or as) the entity satisfies a performance obligation
3. B is correct. The revenue recognized will be the total amount divided by the time period. Therefore,  $\text{USD } 30,000 / 5 = \text{USD } 6,000$ . (The revenue for each period will be USD 6,000, adding up to USD 30,000 over five years.)
4. B is correct. Changes in accounting principle require retrospective restatement of all prior-period financial statements. A change in the salvage value of an asset is a change in accounting estimate, which does not apply retrospectively.
5. B is correct. Depreciation expense is included in operating expenses. Interest expense is excluded from operating expenses because it is a financing cost.
6. B is correct.
 
$$\text{Basic EPS} = \frac{\text{Net Income} - \text{Preferred dividends}}{\text{weighted average number of common shares outstanding}}$$

$$\text{Basic EPS} = \$250,000 / 100,000 = \$2.5$$
 Check if the convertible bonds are dilutive
 
$$\text{Diluted EPS} = \frac{(\text{NI} - \text{Preferred dividends}) + (\text{convertible debt interest})(1 - t)}{\text{wt avg common shares} + \frac{\text{convertible debt interest}(1 - t)}{\text{convertible debt shares}}}$$

$$\text{Numerator impact} = (2,000 \times 1,000 \times 0.08) \times (1 - 0.4) = 96,000$$

$$\text{Denominator impact} = 2,000 \times 15 = 30,000$$

$$\text{Per share impact} = 96,000 / 30,000 = \$3.2$$
 Since \$3.2 is greater than the basic EPS of \$2.5, the bonds are antidilutive. Thus, diluted EPS = Basic EPS = \$2.5.
7. B is correct. Since the exercise price of the warrants is less than the average stock price, the warrants are dilutive. The year-end stock price is not relevant. With warrants, the

treasury stock method is used. Under this method the company would receive  $1,000 \times \$10 = \$10,000$  and would repurchase  $\$10,000 / 15 = 667$  shares. Therefore, the number of shares used in calculating the company's EPS would be

Shares outstanding	100,000
Warrants exercised	1,000
Treasury shares purchased	-667
Total	100,333

8. A is correct. Basic EPS =  $\frac{(\text{Net Income} - \text{Preferred Dividend})}{\text{Number of shares outstanding}} = \frac{12-3}{15} = 0.60$ .
9. C is correct. In a vertical common-size income statement, each category of the income statement is expressed as a percentage of revenue.
10. A is correct. Comprehensive income includes all changes to equity except transactions with shareholders. Therefore, dividends paid to common shareholders are not included in it.
11. C is correct. Total comprehensive income = Net income + other comprehensive income  
 Net income = Revenues – Expenses  
 Other comprehensive income includes gains or losses on available-for-sale securities and translations adjustments on foreign subsidiaries.  
 $(\text{Revenues} - \text{Expenses}) + \text{Gain on AFS} + \text{Gain on FX translation}$   
 $(5500 - 3500) + 425 + 655 = 3,080$ .