

## R18 Understanding Balance Sheets

1. Introduction and Components of the Balance Sheet.....	2
1.1 Components and Format of the Balance Sheet.....	2
2. Current and Non-Current Classification.....	2
3. Liquidity-Based Presentation.....	3
4 & 5. Current Assets .....	4
6. Current Liabilities .....	4
7. Non-Current Assets: Property, Plant and Equipment and Investment Property .....	5
7.1 Property, Plant, and Equipment .....	5
7.2 Investment Property .....	5
8. Non-Current Assets: Intangible Assets .....	5
9. Non-Current Assets: Goodwill.....	5
10. Non-Current Assets: Financial Assets.....	6
11. Non-Current Assets: Deferred Tax Assets.....	8
12. Non-Current Liabilities.....	8
13. Components of Equity.....	8
14. Statement of Changes in Equity .....	8
15. Common Size Analysis of Balance Sheet.....	9
16. Balance Sheet Ratios .....	10
Summary .....	12
Practice Questions .....	16

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## 1. Introduction and Components of the Balance Sheet

The balance sheet (also called the statement of financial position) provides information on a company's resources (assets) and its sources of capital (liabilities and equity). The basic equation underlying the balance sheet is  $\text{Assets} = \text{Liabilities} + \text{Equity}$ . In this reading, we look at the different components and presentation formats of the balance sheet, assets, and liabilities in detail, and how to analyze a balance sheet.

### 1.1 Components and Format of the Balance Sheet

The balance sheet presents the financial position of a company on a particular date, in terms of three elements: assets, liabilities, and equity.

- **Assets (A)** are what the company owns. They are the resources controlled by the company as a result of past events and they are expected to provide future economic benefits.
- **Liabilities (L)** are what the company owes. They represent the obligations of a company arising from past events, the settlement of which is expected to result in a future outflow of economic benefits from the entity.
- **Equity (E)** represents the owners' residual interest in the company's assets after deducting its liabilities. It is also known as shareholders' equity. The accounting equation for determining equity is:  $E = A - L$

#### Limitations of the balance sheet in financial analysis

- Some assets and liabilities are measured based on historical cost while some are measured based on fair value, which represents its current value as of the balance sheet date. These differences can have significant impact on reported figure.
- The value of an item reported on the balance sheet is the value at the end of the reporting period. If we are analyzing the company at a later date, these values may have changed.
- Some assets and liabilities are difficult to quantify and are not reported on the balance sheet. For example, brand, customer loyalty, human capital, etc.

#### Presentation formats

A balance sheet may be presented as either a classified or a liquidity-based balance sheet.

## 2. Current and Non-Current Classification

In this format, assets are separated into current assets and non-current assets. Similarly, liabilities are separated into current liabilities and non-current liabilities. Both IFRS and U.S. GAAP require this format.

Example:

<b>Assets</b>				<b>Liabilities</b>			
<b>Current assets</b>				<b>Current liabilities</b>			
Cash	\$100,000			Accounts payable	\$80,000		
Short-term investments	50,000			Salaries payable	10,000		
Accounts receivable	75,000			Interest payable	15,000		
Inventories	200,000			Taxes payable	5,000		
Prepaid insurance	<u>25,000</u>	\$450,000		Current portion of note	<u>40,000</u>	\$150,000	
<b>Long-term investments</b>				<b>Long-term liabilities</b>			
Stock investments	\$40,000			Notes payable	\$110,000		
Cash value of insurance	<u>10,000</u>	50,000		Bank loan	35,000		
				Mortgage obligation	75,000		
				Deferred income taxes	<u>80,000</u>	<u>300,000</u>	
<b>Property, plant &amp; equip.</b>				Total Liabilities		\$450,000	
Land	\$25,000						
Buildings and equipment	\$150,000						
Less: Accum. depreciation	<u>(50,000)</u>	<u>100,000</u>	125,000				
<b>Intangible assets</b>				<b>Stockholders' equity</b>			
Goodwill		275,000		Capital stock	\$300,000		
				Retained earnings	<u>160,000</u>		
<b>Other assets</b>				Total stockholders' equity		<u>460,000</u>	
Receivable from employee	<u>10,000</u>			Total liabilities and equity		<u>\$910,000</u>	
<b>Total</b>	<u>\$910,000</u>						

**3. Liquidity-Based Presentation**

In this format, the assets and liabilities are presented in a decreasing order of liquidity. This method is often used in the banking industry. Only IFRS permits this method.

Example:

<b>Assets</b>	<b>2009</b>	<b>2008</b>
Cash and deposits with central banks	1,458,648	1,247,450
Deposits with banks and non-bank financial institutions	101,163	33,096
Precious metals	9,229	5,160
Placements with banks and non-bank financial institutions	22,217	16,836
Financial assets at fair value through profit or loss	18,871	50,309
Positive fair value of derivatives	9,456	21,299
Financial assets held under resale agreements	589,606	208,548
Interest receivable	40,345	38,317
Loans and advances to customers	4,692,947	3,683,575
Available-for-sale financial assets	651,480	550,838
Held-to-maturity investments	1,408,873	1,041,783
Debt securities classified as receivables	499,575	551,818
Interests in associates and jointly controlled entities	1,791	1,728
Fixed assets	74,693	63,957
Land use rights	17,122	17,295
Intangible assets	1,270	1,253
Goodwill	1,590	1,527
Deferred tax assets	10,790	7,855
Other assets	<u>13,689</u>	<u>12,808</u>
<b>Total assets</b>	<b>9,623,355</b>	<b>7,555,452</b>

## 4 & 5. Current Assets

**Current assets** are those assets that are expected to be used up or converted to cash within one year or in one operating business cycle, whichever is greater. When the entity's normal operating cycle cannot be clearly identifiable, its duration is assumed to be one year.

A few examples of current assets are:

- **Cash and Cash Equivalents** – Highly liquid, low-risk securities with maturity less than 90 days. They are reported at either fair value or amortized cost. Examples of cash equivalents include: Treasury bills, commercial paper, and money market funds.
- **Accounts receivable** – Amount owed to a company for goods and services sold. They are reported at net realizable value based on estimates of collectability. Allowance for doubtful accounts is a contra account that reduces the balance of accounts receivable.
- **Inventories** – Items held for sale or to be used for manufacturing. Inventories are measured at the lower of cost or net realizable value under IFRS, and at the lower of cost or market under U.S. GAAP.
- **Marketable securities** – Liquid securities which are publically traded in market. For example, bonds and stocks.

## 6. Current Liabilities

**Current liabilities** are those liabilities which are expected to be settled within one year or in one operating business cycle, whichever is greater.

A few examples of current liabilities are:

- **Accounts payable** - Amount that a company owes to its vendors for goods/services purchased on credit.
- **Financial liabilities** – borrowings such as bank loans, notes payable, and commercial paper.  
Any portions of long-term liabilities that are due within one year appear in the current liability section of the balance sheet.
- **Income taxes payable** - Taxes recognized in the income statement but have not yet been paid.
- **Accrued expenses** - Expenses that have been recognized on a company's income statement but which have not yet been paid as of the balance sheet date.
- **Unearned revenue** - Revenue for which cash has been collected but goods or services are yet to be provided. For example, receipt of advance rent payments, will fall under this category.

## 7. Non-Current Assets: Property, Plant and Equipment and Investment Property

**Instructor's Note:** This material will be covered in detail in the reading on Long-Lived Assets.

Non-current assets include all assets that cannot be classified as current assets. Some common examples of non-current assets are discussed below:

### 7.1 Property, Plant, and Equipment

Property, plant, and equipment (PPE) are tangible assets that are used in the company's operations. They are expected to be used over more than one fiscal period. Examples of PPE include land, machinery, equipment, etc. PPE is measured differently under IFRS and US GAAP:

- IFRS permits companies to report PPE using either a cost model or a revaluation model.
- US GAAP permits only the cost model for reporting PPE.

### 7.2 Investment Property

IFRS defines investment property as property that is not used in the regular operations of a company. Instead, it is used to earn rental income or capital appreciation. US GAAP has no separate definition for investment property. Similar to PPE, investment property is valued using either the cost model or the fair value model.

## 8. Non-Current Assets: Intangible Assets

These are long-term assets that lack physical substance. Examples include patents, licenses, and trademarks. IFRS allows companies to report intangible assets using either a cost model or a revaluation model. US GAAP allows only the cost model.

## 9. Non-Current Assets: Goodwill

Goodwill is an unidentifiable intangible asset. It is created when one company is purchased by another company. If the purchase price is greater than fair value at acquisition, then the excess amount is recognized as an asset on the acquirer's balance sheet and referred to as goodwill.

Let us consider a simple example. Company A buys Company T for \$100 million. The book value of Company T's assets and liabilities are \$125 million and \$75 million respectively. The fair value of Company T's assets and liabilities are \$160 million and \$75 million respectively. What is the goodwill? In this case, the purchase price is \$100 million and the net fair value is  $\$160 - \$75 \text{ million} = \$85 \text{ million}$ . Hence, goodwill is  $(\$100 \text{ million} - \$85 \text{ million})$  \$15 million. Note that the book values of assets and liabilities are not used in the goodwill calculation.

Under both IFRS and US GAAP, goodwill is capitalized (i.e., shown as an asset on the balance sheet). Goodwill is not amortized but is tested for impairment annually. If goodwill is impaired, it is written down and the impairment loss is shown on the income statement.

## 10. Non-Current Assets: Financial Assets

IFRS defines a financial instrument as a contract that gives rise to a financial asset of one company and a financial liability or equity instrument of another entity. Financial assets include stocks and bonds, derivatives, loans and receivables.

Financial assets can be measured either at fair value or amortized cost. The measurement basis depends on how financial asset is categorized. The major categories for financial assets are:

- Measured at Cost or Amortized Cost: Under IFRS, financial assets are measured at amortized cost if the asset's cash flows occur on specified dates and consist solely of principal and interest, and if the business model is to hold the asset to maturity. For example, investment in a long-term bond. Unrealized gains and losses are not recorded anywhere.
- Measured at Fair value through profit or loss (FVTPL) under IFRS or Held-for-Trading under US GAAP: This category of asset is acquired primarily for the purpose of selling in the near term and is likely to be held for only a short period of time. Unrealized gains and losses are shown in the income statement.
- Measured at Fair value through other comprehensive income (FVTOCI) under IFRS or available-for-sale under US GAAP: This category of asset is expected neither to be held till maturity nor traded in the near term. Unrealized gains and losses are shown in other comprehensive income.

Unlike IFRS, the US GAAP category available-for-sale applies only to debt securities and is not permitted for investments in equity securities.

The table below summarizes where gains and losses associated with the financial asset are recognized in the financial statements of the company.

Asset Category	Treatment
Measured at Fair Value through Profit and Loss	<ul style="list-style-type: none"> <li>• Measured at fair value.</li> <li>• Unrealized gains shown on Income Statement.</li> </ul>
Measured at Fair Value through Other Comprehensive Income	<ul style="list-style-type: none"> <li>• Measured at fair value.</li> <li>• Unrealized gains/losses shown in other comprehensive income (OCI).</li> </ul>
Measured at Cost or Amortized Cost	<ul style="list-style-type: none"> <li>• Measured at cost or amortized cost.</li> <li>• Unrealized gains not recorded anywhere.</li> </ul>

Realized gains for all categories are shown on the income statement of the company. An important concept related to these assets is **mark-to-market**. It is the process whereby the value of a financial instrument is adjusted to reflect current value based on market prices. Let us illustrate the different accounting treatments for each of these categories through a simple example.

### Example

Company owners contribute \$100,000, which is invested in a 20-year bond with a 5% coupon paid semi-annually. After six months, the company receives the first coupon payment of \$2,500. At this stage, the market price has increased to \$102,000. Show the balance sheet and income statement treatment under each of the three categorizations.

### Solution:

The accounting treatment under the three categories is summarized below:

	Measured at Fair Value through Profit and Loss	Measured at Fair Value through Other Comprehensive Income	Measured at Cost or Amortized Cost
<b>Balance Sheet</b>			
Cash	\$2,500	\$2,500	\$2,500
Cost of securities	\$100,000	\$100,000	\$100,000
Unrealized gains/losses	\$2,000	\$2,000	
PIC	\$100,000	\$100,000	\$100,000
RE	Up by \$4,500	Up by \$2,500	Up by \$2,500
OCI		Up by \$2,000	
<b>Income Statement</b>			
Interest income	\$2,500	\$2,500	\$2,500
Unrealized gain	\$2,000		

For Measured at Fair Value through Profit and Loss, unrealized gains and cash from coupon payments are shown on the asset side of the balance sheet. On the equity side, paid-in capital remains the same at \$100,000. Retained earnings increase by \$4,500 (sum of coupon payment of \$2,500 and unrealized gain of 2,000). On the income statement unrealized gain of \$2,000 and interest income of \$2,500 is recognized.

For Measured at Fair Value through Other Comprehensive Income, the accounting treatment is the same as HFT except for unrealized gains. For AFS, the unrealized gain is shown as part of other comprehensive income (OCI). It is not shown on the income statement.



For Measured at Cost or Amortized Cost, the asset is valued at amortized cost. Therefore, the unrealized gain of \$2,000 is not shown on the balance sheet or income statement. Only the coupon payment of \$2,500 is shown on the balance sheet as cash and on the income statement as interest income.

## 11. Non-Current Assets: Deferred Tax Assets

Deferred tax assets (DTA) arise when income tax payable based on income for tax purposes is temporarily greater than income tax expense based on reported financial statement income. In other words, taxable income is higher than accounting profit. Any deferred tax asset is the result of a temporary difference that is expected to reverse in the future. Deferred tax asset reverses when tax benefits are realized in the future resulting in lower cash outflows.

## 12. Non-Current Liabilities

All liabilities that are not classified as current are considered to be non-current or long-term liabilities.

**Long-term financial liabilities** - Include loans, notes and bonds payable. These are usually reported at amortized cost on the balance sheet.

**Deferred tax liabilities** - Result from temporary timing difference between a company's taxable income and reported income. They are defined as the amounts of income taxes payable in future periods in respect of taxable temporary differences.

## 13. Components of Equity

Equity is the owners' residual claim on a company's assets after subtracting its liabilities.

The six components of equity are:

- **Contributed capital:** Total amount paid in by common and preferred shareholders.
- **Treasury shares:** These are shares that have been repurchased by the company, but not yet retired. Treasury shares do not have voting rights and do not receive dividends.
- **Retained earnings:** Cumulative income of firm since inception that has not been distributed as dividends.
- **Accumulated other comprehensive income:** These include items which lead to changes in equity but are not part of the income statement or from issuing stock, reacquiring stock, and paying dividends.
- **Non-controlling interest (minority interest):** It is the portion of a subsidiary not owned by the parent company. For example, if a firm owns 80% of a subsidiary, then it will report 20% of net assets of the subsidiary as minority interest.

## 14. Statement of Changes in Equity

The statement of changes in equity presents information about the increases or decreases in



a company's equity over a period of time. IFRS requires the following information in the statement of changes in equity:

- total comprehensive income for the period;
- the effects of any accounting changes that have been retrospectively applied to previous periods;
- capital transactions with owners and distributions to owners; and
- reconciliation of the carrying amounts of each component of equity at the beginning and end of the year.

U.S. GAAP requirement is for companies to provide an analysis of changes in each component of equity as shown in the balance sheet.

#### Sample Statement of Changes in Stockholders' Equity

	Common Stock		Retained Earnings	Accumulated Other Comprehensive Income	Total Shareholders' Equity
	Shares	Amount			
<b>Balances as of 27 September 2008</b>	<b>888,326</b>	<b>\$ 7,177</b>	<b>\$ 15,129</b>	<b>\$ (9)</b>	<b>\$ 22,297</b>
Components of comprehensive income:					
Net income	—	—	8,235	—	8,235
Change in foreign currency translation	—	—	—	(14)	(14)
Change in unrealized loss on available-for-sale securities, net of tax	—	—	—	118	118
Change in unrealized gain on derivative instruments, net of tax	—	—	—	(18)	(18)
Total comprehensive income					8,321
Stock-based compensation	—	707	—	—	707
Common stock issued under stock plans, net of shares withheld for employee taxes	11,480	404	(11)	—	393
Tax benefit from employee stock plan awards, including transfer pricing adjustments	—	(78)	—	—	(78)
<b>Balances as of 26 September 2009</b>	<b>899,806</b>	<b>\$ 8,210</b>	<b>\$ 23,353</b>	<b>\$ 77</b>	<b>\$ 31,640</b>

## 15. Common Size Analysis of Balance Sheet

Balance sheet analysis can help us evaluate a company's liquidity and solvency. A balance sheet can be used to analyze a company's capital structure and ability to pay liabilities.

In a vertical common-size balance sheet, all balance sheet items are expressed as a percentage of total assets. Common-size statements are useful in comparing a company's balance sheet composition over time (time-series analysis) and across companies in the same industry. An example of a common-size balance sheet is shown in the figure below for Everest Inc.

ASSETS	2015	2014
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Cash and cash equivalents	10.81%	13.12%
Short-term marketable securities	1.24%	0.62%
Other financial assets	1.24%	1.21%
Accounts receivable	7.50%	4.80%
Inventory	25.32%	25.97%
Other current assets	3.37%	2.14%
Property, plant and equipment	38.76%	40.06%
Investment property	6.18%	6.22%
Intangible assets	0.22%	0.35%
Deferred tax assets	0.11%	0.08%
Goodwill	0.91%	1.09%
Long-term loans	4.32%	4.32%
Other non- current assets	0.03%	0.02%
Total	100.00%	100.00%
<b>EQUITY and LIABILITIES</b>		
Short-term borrowing	0.46%	0%
Accounts payable	6.49%	6.22%
Accrued expenses	4.22%	3.38%
Deferred revenue	1.30%	1.21%
Other current liabilities	24.29%	24.42%
Long-term borrowings	0.23%	0.31%
Deferred tax liabilities	4.01%	4.20%
Other long-term liabilities	0.12%	0.13%
Stockholder's equity	58.88%	60.13%
<b>Equity and Liabilities</b>	100.00%	100.00%

## 16. Balance Sheet Ratios

Balance sheet ratios are those involving balance sheet items only. Liquidity ratios tell us about a company's ability to meet current liabilities, while solvency ratios tell us about a company's ability to meet long-term and other obligations. They also help us evaluate a company's financial risk and leverage. The following table summarizes some liquidity ratios. The last column shows the relevant ratios for Everest Inc. for 2015.

<b>Liquidity Ratios</b>	<b>Calculation</b>	<b>Ratios for Everest Inc. for 2015</b>
Current	Current assets ÷ Current liabilities	1.35
Quick (acid test)	(Cash + Marketable securities + Receivables) ÷ Current liabilities	0.53
Cash	(Cash + Marketable securities) ÷ Current liabilities	0.33

Solvency ratios help to evaluate:

- a company's ability to meet long-term and other liabilities.
- a company's financial risk and leverage. The following table summarizes some solvency ratios:

<b>Solvency Ratios</b>	<b>Calculation</b>	<b>Ratios for Everest Inc. for 2015</b>
Long-term debt-to-equity	Total long-term debt ÷ Total equity	0.004
Debt-to-equity	Total debt ÷ Total equity	0.012
Total debt-to-assets	Total debt ÷ Total assets	0.007
Financial leverage	Total assets ÷ Total equity	1.69

It is important for analysts to remember that ratio analysis requires judgment. For example, current ratio is only a rough measure of liquidity. In addition, ratios are sensitive to end of period financing and operating decisions that can potentially impact current asset and current liability amounts. Analysts should also evaluate ratios in the context of a company's industry. This requires an examination of the entire operations of a company, its competitors, and the external economic and industry setting.

## Summary

### **LO.a: Describe the elements of the balance sheet: assets, liabilities, and equity.**

- Assets are the resources controlled by the company as a result of past events and from which future economic benefits are expected to flow to the entity.
- Liabilities are the obligations of a company arising from past events, the settlement of which is expected to result in a future outflow of economic benefits from the entity.
- Equity represents the owner's residual interest in the company's assets after deducting its liabilities.  $E = A - L$ .

### **LO.b: Describe the uses and limitations of the balance sheet in financial analysis.**

An understanding of the balance sheet enables an analyst to evaluate the liquidity, solvency, and overall financial position of a company. However, the elements of a balance sheet cannot be viewed as a measure of either the market or the intrinsic value of a company's equity for the following reasons:

- Some assets and liabilities are measured based on historical cost while some are measured based on fair value, which represents its current value as of the balance sheet date. These differences can have significant impact on reported figure.
- The value of an item reported on the balance sheet is the value at the end of the reporting period. If we are analyzing the company at a later date, these values may have changed.
- Some assets and liabilities are difficult to quantify and are not reported on the balance sheet. For example, brand, customer loyalty, human capital, etc.

### **LO.c: Describe alternative formats of balance sheet presentation.**

There are two ways of presenting balance sheet:

Classified balance sheet: Firms report their current and non-current assets, and current and non-current liabilities, separately. Both IFRS and U.S. GAAP require this format.

Liquidity-based format: The assets and liabilities are presented in the order of liquidity. Under IFRS, firms can choose this method. This method is usually used by the banking industry.

### **LO.d: Contrast current and non-current assets, and current and non-current liabilities.**

Current assets are assets held primarily for trading or expected to be sold, used up, or otherwise realized in cash within one year or in one operating business cycle. When the entity's normal operating cycle cannot be clearly identifiable, its duration is assumed to be one year. Examples: Cash and cash equivalents, marketable securities, trade receivables, inventories.

Non-current assets include all assets other than those classified as current assets. Examples: Property, plant and equipment, investment property, intangible asset, goodwill, financial assets.

Current liabilities are liabilities that are expected to be settled within one year or in one operating business cycle. Examples: Accounts payable, banks loans, trade creditors, income tax payable, accrued expense, deferred income.

Non-current liabilities include all liabilities that are not classified as current liabilities. Examples: long-term financial liabilities, deferred tax liabilities.

**LO.e: Describe different types of assets and liabilities and the measurement bases of each.**

Current assets:

- Cash equivalents are highly liquid, short-term investments that are very close to maturity. They are reported at either fair value or amortized cost.
- Marketable securities are also financial assets and include publically traded debt and equity instruments. Examples include treasury bills, notes, and bonds.
- Trade receivables are amounts owed to a company by its customers for products and services already delivered. These are typically reported at net realizable value.
- Inventories are physical products that include raw materials, finished goods, and work in process. Inventories are measured at the lower of cost or net realizable value under IFRS, and at the lower of cost or market under U.S. GAAP.

Non-current assets:

- Property, plant, and equipment are tangible assets that are used in a company's operations and expected to be used over more than one fiscal period. IFRS permits companies to report PPE using either a cost model or a revaluation model. U.S. GAAP permits only the cost model.
- Investment property refers to property not used in the regular operations of a company. This concept only exists under IFRS and it is valued using either the cost model or the fair value model.
- Intangible assets are identifiable non-monetary assets without physical substance. Under IFRS, the cost model or revaluation model can be used. U.S. GAAP permits only the cost model. Internally created identifiable intangibles are expensed rather than reported on the balance sheet under IFRS and U.S. GAAP.
- Goodwill arises when one company is purchased by another company. If the purchase price is greater than fair value at acquisition, then the excess amount is recognized as an asset on the acquirer's balance sheet and referred to as goodwill. Under both IFRS and U.S. GAAP, accounting goodwill is capitalized.
- Financial assets include investment securities, derivatives, loans, and receivables. The following table summarizes measurement of different categories of financial assets:

Asset Category	Treatment
Measured at Fair Value through Profit and Loss	<ul style="list-style-type: none"> <li>Measured at fair value.</li> <li>Unrealized gains shown on Income Statement.</li> </ul>
Measured at Fair Value through Other Comprehensive Income	<ul style="list-style-type: none"> <li>Measured at fair value.</li> <li>Unrealized gains/losses shown in other comprehensive income (OCI).</li> </ul>
Measured at Cost or Amortized Cost	<ul style="list-style-type: none"> <li>Measured at cost or amortized cost.</li> <li>Unrealized gains not recorded anywhere.</li> </ul>

- Deferred tax assets (DTA) arise when income tax payable based on income for tax purposes is temporarily greater than income tax expense based on reported financial statement income.

#### Current Liabilities:

- Accounts payable is the amount that a company owes to its vendors.
- Financial liabilities or borrowings such as bank loans, notes payable (i.e. trade creditors), and commercial paper.
- Any portions of long-term liabilities that are due within one year. Income taxes payable reflect taxes that have not yet been paid.
- Accrued expenses are expenses that have been recognized on a company's income statement but which have not yet been paid as of the balance sheet date.
- Deferred income arises when a company receives payment in advance of delivery of the goods and services associated with the payment.

#### Non-Current Liabilities:

- Long-term financial liabilities include loans, notes, and bonds payable. These are usually reported at amortized cost on the balance sheet.
- Deferred tax liabilities result from temporary timing difference between a company's taxable income and reported income. They are defined as the amounts of income taxes payable in future periods in respect of taxable temporary differences.

#### **LO.f: Describe the components of shareholders' equity.**

The six components of equity are:

- Contributed capital: The amount paid in by common shareholders.
- Preferred shares: These are classified as equity or financial liabilities depending on their characteristics.
- Treasury shares: These are shares in the company that have been repurchased by the company.
- Retained earnings: This is the cumulative amount of earnings recognized in the company's income statements which have not been paid to the owners of the company as dividends.

- Accumulated other comprehensive income: This includes net income and other comprehensive income which is not recognized as part of net income.
- Non-controlling interest (minority interest): It is the portion of a subsidiary not owned by parent company.

**LO.g: Demonstrate the conversion of balance sheets to common-size balance sheets and interpret common-size balance sheets.**

In a common-size balance sheet, all balance sheet items are expressed as a percentage of total assets. Common-size statements are useful in comparing a company's balance sheet composition over time and across companies in the same industry.

**LO.h: Calculate and interpret liquidity and solvency ratios.**

Balance sheet ratios are those involving balance sheet items only. Liquidity ratios tell us about a company's ability to meet current liabilities while solvency ratios tell us about a company's ability to meet long-term and other obligations. The following table summarizes these ratios:

<b>Liquidity Ratios</b>	<b>Calculation</b>
Current	Current assets ÷ Current liabilities
Quick (acid test)	(Cash + Marketable securities + Receivables) ÷ Current liabilities
Cash	(Cash + Marketable securities) ÷ Current liabilities
<b>Solvency Ratios</b>	<b>Calculation</b>
Long-term debt-to-equity	Total long-term debt ÷ Total equity
Debt-to-equity	Total debt ÷ Total equity
Total debt-to-assets	Total debt ÷ Total assets
Financial leverage	Total assets ÷ Total equity



## Practice Questions

1. Resources controlled by a firm as a result of past transactions are:
  - A. assets.
  - B. liabilities.
  - C. equity.
2. Company A's balance sheet distinguishes between current and non-current items and presents a subtotal for current assets and liabilities. It is *most likely* a(n):
  - A. classified balance sheet.
  - B. unclassified balance sheet.
  - C. liquidity based balance sheet.
3. Which of the following is *least likely* a current asset?
  - A. Cash.
  - B. Inventories.
  - C. Good will.
4. Company B received money from customers for products to be delivered in the future. It will record this transaction as:
  - A. revenue and asset.
  - B. revenue and liability.
  - C. an asset and a liability.
5. The carrying value of inventories reflects:
  - A. their current value.
  - B. their historical cost.
  - C. the lower of historical cost or net realizable value.
6. Company ABC has created goodwill in the market by an advertising campaign. The value of this goodwill is estimated to be \$1 million. Also, ABC recently purchased a patent from a competitor for \$500,000. Should ABC report the goodwill and patent on its balance sheet?

	<b>Goodwill</b>	<b>Patent</b>
A.	Yes	Yes
B.	Yes	No
C.	No	Yes
7. Company A purchased company B for \$10 million. Just before the acquisition date, B's balance sheet reported net assets of \$8 million. Company A determined that fair value of

- B's net asset is \$9 million. What amount of goodwill should A report on its balance sheet as a result of this acquisition?
- A. \$0.
  - B. \$1 million.
  - C. \$2 million.
8. If a financial asset has been classified as 'Measured at amortized cost', how will an unrealized gain or loss in the asset be reflected in shareholder's equity?
- A. It is not recognized.
  - B. It will flow through income into retained earnings.
  - C. It is a component of accumulated other comprehensive income.
9. A company bought back shares of its own stock to be held in treasury. This transaction will reduce:
- A. both assets and liabilities.
  - B. both assets and shareholders' equity.
  - C. assets and increase shareholders' equity.
10. Which of the following statements is *least likely correct*?
- A. Treasury shares are non-voting.
  - B. Treasury shares do not receive dividends.
  - C. A treasury stock operation increases equity.
11. Which of the following is *least likely* a component of equity?
- A. Goodwill.
  - B. Contributed capital.
  - C. Non-controlling interest.
12. In a vertical common-size balance sheet each category of the balance sheet is expressed as a percentage of total:
- A. assets.
  - B. equity.
  - C. revenue.
13. The most rigorous test of a company's liquidity is its:
- A. current ratio.
  - B. quick ratio.
  - C. cash ratio.
14. An investor is concerned about a company's long-term solvency. He would *most likely* examine its:

- A. quick ratio.
- B. return on equity.
- C. debt-to-equity ratio.

**Solutions**

1. A is correct. Assets are resources controlled by a firm as a result of past transactions that are expected to provide future economic benefits.
2. A is correct. A classified balance sheet is one that classifies assets and liabilities as current or non-current and provides a subtotal for current assets and current liabilities. A liquidity-based balance sheet broadly presents assets and liabilities in order of liquidity.
3. C is correct. Goodwill is a long-term asset, and the others are all current assets.
4. C is correct. The cash received from customers represents an asset. The obligation to provide a product in the future is a liability called “unearned revenue.” As the product is delivered, revenue will be recognized and the liability will be reduced.
5. C is correct. Under IFRS, inventories are carried at historical cost unless the net realizable value of the inventory is less. Under US GAAP, inventories are carried at the lower of cost or market.
6. C is correct. Goodwill developed internally is not reported on the balance sheet, it is expensed as incurred. Intangible assets that are purchased are reported on the balance sheet.
7. B is correct. Good will = Purchase price – Fair value of net assets = \$10 million - \$ 9 million = \$ 1 million.
8. A is correct. Gains and losses for financial assets classified as ‘measured at amortized cost’ are recognized only when realized.
9. B is correct. Share repurchases reduce the company’s cash (an asset). Shareholders’ equity is reduced because there are fewer shares outstanding. Treasury stock is an offset to owners’ equity.
10. C is correct. A treasury stock operation reduces equity. A and B are true statements.
11. A is correct. Goodwill is an unidentifiable intangible asset.  
The six components of equity are:
  - Contributed capital: The amount paid in by common shareholders.
  - Preferred shares: These are classified as equity or financial liabilities depending on their characteristics.

- Treasury shares: These are shares in the company that have been repurchased by the company.
- Retained earnings: This is the cumulative amount of earnings recognized in the company's income statements which have not been paid to the owners of the company as dividends.
- Accumulated other comprehensive income: This includes net income and other comprehensive income which is not recognized as part of net income.
- Non-controlling interest (minority interest): It is the portion of a subsidiary not owned by parent company.

12. A is correct. In a vertical common-size balance sheet each category of the balance sheet is expressed as a percentage of assets.

13. C is correct. The cash ratio determines how much of a company's near-term obligations can be settled with existing amounts of cash and marketable securities. It is the most rigorous among the three ratios.

$$\text{Current ratio} = \frac{\text{Current assets}}{\text{Current liabilities}}$$

$$\text{Quick ratio} = \frac{\text{Cash} + \text{Marketable securities} + \text{Receivables}}{\text{Current liabilities}}$$

$$\text{Cash ratio} = \frac{\text{Cash} + \text{Marketable securities}}{\text{Current liabilities}}$$

14. C is correct. The debt-to-equity ratio, a solvency ratio, measures the firm's ability to satisfy its long-term obligations.