

## **Learning Module 3: Analyzing Balance Sheet**

### **LOS 3a: explain the financial reporting and disclosures related to intangible assets**

Intangible assets are **non-monetary assets** without physical substance. They are identifiable, which implies that they are either separable (capable of being separated and sold, transferred, licensed, rented, or exchanged) or arise from contractual or other legal rights. Examples include patents, trademarks, copyrights, and goodwill. However, it's important to note that goodwill is **not** separately identifiable.

### **Intangible Assets Reporting**

Under IFRS, intangible assets may be reported either using the cost or revaluation model (in the presence of an active market). In the cost model, an asset is carried at its cost less any accumulated amortization and any accumulated impairment losses.

On the other hand, in the revaluation model, an asset is carried at a revalued amount, being its fair value at the date of revaluation less any subsequent accumulated amortization and any subsequent accumulated impairment losses. The revaluation model is chosen if there exists an active market for an intangible asset.

The US GAAP permits intangible assets to be measured using only the cost model.

### **Useful Life and Amortization of Intangible Assets**

A company assesses whether its intangible assets' useful life is finite or indefinite. Indefinite life implies that the asset has no foreseeable limit to the period over which the asset is expected to generate net cash inflows for the entity. On the other hand, having a finite life implies an intangible asset has a limited period of benefit to the entity.

Based on the useful life information, impairment and amortization principles apply as follows:

- Finite useful life intangible assets are amortized on a systematic basis over the best

estimate of their useful life. The useful life estimate and amortization should be reviewed at least annually.

- An intangible asset with a finite useful life has a similar impairment principle to PP&E.
- Indefinite useful life intangible assets are not amortized. A review of the reasonableness of assuming an indefinite useful life and asset impairment testing is done at least annually.

## **Valuation and Analysis**

Traditionally, financial analysts approach the reported values of intangible assets, especially goodwill, with a degree of skepticism. As a result, when evaluating financial statements, some analysts choose to disregard the book value of intangibles, thereby lowering net equity by a corresponding amount to achieve a "tangible book value" and adjusting pretax income to account for any associated amortization expenses or impairments.

It is generally not recommended to assign a zero value to intangibles arbitrarily; rather, analysts should individually assess each intangible asset to determine if any adjustments are warranted. Disclosures in the notes regarding intangible assets can offer valuable insights to analysts, including details about their useful lives, amortization methods and rates, and any recognized or reversed impairment losses.

Additionally, a company may possess internally developed intangible assets that are only recognized under specific conditions. There may also be assets that never appear on the balance sheet because they are not easily identifiable, and the company lacks adequate control over its future economic benefits. Examples of these assets include the management and technical skills of employees, market share, brand recognition, and a strong customer reputation.

Although not recorded on the balance sheet, these assets are valuable and theoretically reflected in the market price of the company's equity securities and the potential sale price of the company's equity in an acquisition. In the event of a sale, these assets may be classified as goodwill by the acquiring entity.

## **Identifiable Intangible Assets**

According to IFRS, identifiable intangible assets are recorded on the balance sheet when there is a likelihood that they will bring future economic benefits to the company and when their cost can be reliably determined.

Identifiable intangible assets, such as patents, trademarks, copyrights, franchises, licenses, and other rights, can be either internally developed within the company or purchased by the company.

## **Internally Created Identifiable Intangibles**

Establishing the value of internally developed intangible assets can be challenging and open to interpretation. Consequently, under both IFRS and US GAAP, the standard practice is to expense internally created identifiable intangibles instead of including them on the balance sheet.

Under both IFRS and GAAP, the treatment of internally generated intangible assets involves strict criteria that must be met for an asset to be recognized on the balance sheet. This recognition process is separated into two phases: the research phase and the development phase.

The research phase involves endeavors to acquire new knowledge or develop new products. Following this, the development phase takes place, which is focused on the design and testing of prototypes and models.

## **IFRS**

Under IFRS, the treatment of internally generated intangible assets is slightly different. IAS 38, which is the standard governing intangible assets under IFRS, requires that all costs incurred in the research phase be expensed as incurred. However, costs incurred in the development phase of an internally generated intangible asset may be capitalized if, and only if, an entity can demonstrate all of the following:

- The technical feasibility of completing the intangible asset so that it will be available for use or sale.
- Its intention to complete the intangible asset and use or sell it.
- Its ability to use or sell the intangible asset.
- How the intangible asset will generate probable future economic benefits.
- The availability of adequate technical, financial, and other resources to complete the development and to use or sell the intangible asset.
- Its ability to measure reliably the expenditure attributable to the intangible asset during its development.

## US GAAP

Under U.S. GAAP, the costs incurred during the research phase and the development phase of an internally generated intangible asset are typically expensed as incurred. Capitalizing such costs is **prohibited**.

The following categories of expenses are expensed under US GAAP (as well as under IFRS):

- Internally created mastheads, brands, customer lists, and publishing titles.
- Training cost.
- Start-up cost.
- General overheads and administration costs.
- Promotion and advertising.
- Reorganization and relocation expenses.
- Redundancy and termination costs.

## **Acquired or Purchased Intangibles**

Unlike internally generated intangibles, acquired or purchased intangible assets are capitalized and recorded as distinct identifiable intangibles, provided they originate from contractual rights such as licensing agreements, other legal rights such as patents or can be separated and sold such as customer lists.

## Question

McGill Corp. has been developing a product for the past five years, but they lack the funds to finish the product and start its sale. Which of the following would be the *most appropriate* action to take under IFRS.

- A. Capitalize all costs related to the development of the product.
- B. Expense the costs related to the development of the product.
- C. Do nothing.

## Solution

The correct answer is **B**.

Since the company lacks the ability to complete the product, they have failed to meet the criteria necessary to capitalize the product as an intangible asset; thus, the cost will be expensed to the income statement.

## **LOS 3b: explain the financial reporting and disclosures related to goodwill**

When a company acquires another, the acquisition price is allocated to all identifiable assets (both tangible and intangible) and liabilities based on their fair value. If the acquisition price exceeds the fair value of these identifiable assets and liabilities, the surplus is recognized as goodwill on the balance sheet.

The acquirer may be willing to pay more to purchase a company than the fair value of the target company's identifiable assets net of liabilities for the following reasons:

- Factors not reflected in the acquiree's financial statements, such as its reputation, established distribution system, and trained employees.
- The target company's research and development efforts may have created value even if they haven't resulted in a separately identifiable asset.
- The acquisition might bring strategic advantages or synergies, like cost-saving opportunities.

The recognition of goodwill in financial statements is a topic of debate. Proponents argue that goodwill represents the present value of future excess returns expected from the acquisition, similar to the valuation of other assets based on future cash flows. Opponents, however, contend that acquisition prices are frequently based on overly optimistic expectations, leading to future write-downs of goodwill.

### **Distinguishing Accounting and Economic Goodwill**

**Economic goodwill** pertains to intangible aspects that enhance a business' value beyond the total of its tangible assets and liabilities. These factors encompass brand recognition, customer loyalty, employee morale, management expertise, and relationships with suppliers. Economic goodwill reflects a business's capacity to generate profits in the future beyond the expected returns on its tangible and intangible assets. Unlike accounting goodwill, economic goodwill doesn't appear on the balance sheet. It's typically assessed based on the company's market

value, representing the price an investor is willing to pay above its book value.

**Accounting goodwill**, on the other hand, is related to accounting standards and is reported only when an acquisition is involved. Both IFRS and US GAAP require capitalizing accounting goodwill that arises from acquisitions. It is, however, not amortized. Instead, it is tested for impairment on an annual basis. Impairment losses are charged against income in the current reporting period and result in the reduction of current earnings and total assets. Accounting goodwill must be disclosed in the financial statements with detailed notes explaining changes in the goodwill balance, methodology, and assumptions used for impairment testing.

The following steps are used to recognize goodwill, as required by the accounting standards:

**Step 1:** Determine the total cost to purchase the target company (the acquiree).

**Step 2:** Measure the target's identifiable net assets at fair value. The liabilities and contingent liabilities of the acquired company are assessed at their fair value. The net identifiable assets acquired are determined by calculating the difference between the fair value of the identifiable assets and the fair value of the liabilities and contingent liabilities

**Step 3:** The goodwill is the excess of (I) the cost to purchase the target company over (II) the net identifiable assets acquired. Occasionally, a bargain purchase occurs, and any gain from the bargain purchase is recognized in the profit and loss statement.

Sometimes, a transaction may involve acquiring net identifiable assets whose value exceeds the purchase cost. This type of transaction is referred to as a "bargain purchase." The gain resulting from a bargain purchase is recorded in the profit and loss statement in the period it occurs.

## **Disclosures Regarding Goodwill**

Companies must also provide disclosures that allow users to assess the characteristics and financial impact of business combinations. These disclosures include, among others, the fair value of the total acquisition cost on the acquisition date, the amounts recognized for each significant class of assets and liabilities at the acquisition date, and a qualitative explanation of the elements contributing to the recognized goodwill.



## Challenges and Adjustments in Goodwill Valuation

Despite existing accounting standards, analysts should note that fair value estimates are heavily reliant on management's discretion. Valuing intangible assets, like computer software, can be challenging during acquisition analysis. This discretion in valuation impacts both present and future financial statements, as identifiable intangible assets with fixed lives undergo amortization. However, goodwill and identifiable intangible assets with indefinite lives are not subject to amortization but are subject to annual impairment tests.

The recognition and impairment of goodwill can greatly influence the comparability of financial statements across companies. As a result, analysts frequently modify companies' financial statements by eliminating the effects of goodwill. These adjustments typically involve:

- **Excluding goodwill from balance sheet data:** This involves removing goodwill from total assets, equity, and other relevant balance sheet items before calculating financial ratios. This approach helps in analyzing a company's financial position and performance based on its tangible assets and equity.
- **Excluding goodwill impairment losses from income data:** This involves adding back the goodwill impairment losses to the net income before analyzing operating trends. This approach helps in examining a company's operating performance without the distortion caused by the non-cash expense of goodwill impairment.

## Question

Which of the following is *least* likely correct regarding accounting goodwill?

- A. Amortized.
- B. Capitalized.
- C. Tested annually for impairment.

## Solution

The correct answer is **A**.

Accounting goodwill is not amortized. Instead, it is tested at least annually for impairment under both GAAP and IFRS. This means that the carrying value of goodwill is compared to its recoverable amount, and an impairment loss is recognized if the carrying amount exceeds the recoverable amount.

## **LOS 3c: explain the financial reporting and disclosures related to financial instruments**

According to the IFRS, a **financial instrument** is a contract that gives rise to a financial asset of one entity and a financial liability or equity instrument of another.

Financial assets include investments in stocks of other companies or in notes, bonds, or other fixed-income securities issued by other companies or government entities. Financial liabilities, such as notes payable and bonds payable issued by the company, will be covered later.

Certain financial instruments can be categorized as either an asset or a liability based on the contractual terms and current market conditions. For example, derivatives are financial instruments whose value is determined by an underlying factor, such as an interest rate, exchange rate, commodity price, security price, or credit rating, and typically require minimal or no initial investment.

## **Recognition and Measurement of Financial Instruments**

Financial instruments are typically recognized when the entity enters into the contract's terms. Following the initial acquisition, financial instruments are measured using either **fair value** or **amortized cost**.

Recall that fair value is defined as the price that would be received to sell an asset or paid to transfer a liability in an orderly market transaction. On the other hand, the amortized cost of a financial asset (or liability) is the amount at which it was initially recognized, minus any principal repayments, plus or minus any amortization of discount or premium, and minus any reduction for impairment.

### **Financial Assets Measurement at Amortized Cost**

Under IFRS, financial assets are measured at amortized cost if their cash flows are fixed and occur on specific dates, comprising solely principal and interest payments, and if the business model is to hold the asset until maturity. Under the US GAAP, financial assets measured at

amortized cost are described as **held-to-maturity** assets. An example is a long-term bond investment issued by another company or government; its value may fluctuate with interest rate changes, but if classified as held-to-maturity, it will be recorded at amortized cost on the investor's balance sheet.

Other financial assets measured at amortized cost are loans to other companies.

## **Financial Assets Measured at Fair Value**

For financial instruments measured at fair value, there are two primary methods for recognizing net changes in fair value:

1. as profit or loss on the income statement, or
2. (2) as other comprehensive income (loss), which does not affect the income statement.

These alternatives pertain to unrealized changes in fair value, meaning changes in the value of a financial asset that has not been sold and is still held at the end of the period. These unrealized gains and losses are also known as holding period gains and losses. In contrast, realized gains or losses from a sale are reported on the income statement.

### **1. As Other Comprehensive Income (or Loss)**

Under IFRS, financial assets are measured at fair value through other comprehensive income (meaning any unrealized holding gains or losses are recorded on other comprehensive income) if the business model aims to both collect contractual cash flows and sell the financial assets. This IFRS category is relevant to debt investments, which have cash flows on specified dates and consist solely of principal and interest. Additionally, IFRS allows for equity investments to be measured at fair value through other comprehensive income if a company makes an irrevocable choice to measure the asset in this way at the time of acquisition.

Under the US GAAP, financial assets measured at fair value are referred to as **available-for-sale**. It applies the same concept as IFRS in that any unrealized gains or losses are recognized in other comprehensive income. However, unlike IFRS, the US GAAP category for available-for-sale securities is limited to debt instruments and does not extend to equity investments.

## 2. As Profit or Loss on the Income Statement

Under IFRS, financial assets that do not fall into the other two measurement categories are measured at fair value through profit or loss, meaning unrealized gains or losses are recognized in the income statement. Additionally, companies can choose to irrevocably classify a financial asset in this category at the time of acquisition.

In contrast, under US GAAP, all equity investments except those that provide significant influence over the investee are measured at fair value, with unrealized gains or losses reported in the income statement. For debt securities, those designated as **trading securities** are also measured at fair value with unrealized gains or losses recognized in the income statement. Trading securities are those acquired with the intention to sell rather than hold for collecting interest and principal payments.

## Summary of Measurement of Financial Assets

Sure, here is the table formatted to match the original number of words per line:

Measurement at Amortized Cost	Fair Value through Other Comprehensive Income	Fair Value Through Profit and Loss
<ul style="list-style-type: none"> <li>- Debt instruments intended for hold-to-maturity.</li> <li>- Receivable loans and notes.</li> <li>- Non-quoted equity instruments (cost used as an estimate for fair value in certain situations).</li> </ul>	<ul style="list-style-type: none"> <li>- Debt securities categorized as "available-for-sale" (US GAAP); debt instruments for which the strategy involves both earning from interest and principal and selling the security (IFRS).</li> <li>- Equity investments for which a firm chooses this measurement method at acquisition (IFRS only).</li> </ul>	<ul style="list-style-type: none"> <li>- All equity securities, except those providing the investor with significant influence (US GAAP only).</li> <li>- "Trading" debt securities (US GAAP).</li> <li>- Securities not allocated to either of the other two categories, or investments for which a firm chooses this measurement method at acquisition (IFRS only).</li> </ul>



## Question

A financial asset is classified as "available for sale," and it has unrealized gains. How are these unrealized gains *most likely* reflected in shareholders' equity?

- A. There is no recognition.
- B. They are recognized in the income statement.
- C. They are recognized in other comprehensive income statement.

## Solution

The correct answer is **C**.

Gains for financial assets classified as available for sale are recognized in the other comprehensive income.

**A is incorrect.** Under both IFRS and US GAAP, unrealized gains on financial assets classified as "available for sale" are recognized. They are not ignored or left unrecognized in the financial statements.

**B is incorrect.** Unrealized gains on "available for sale" financial assets are not recognized in the income statement. Instead, they are recognized in other comprehensive income, which is a separate component of shareholders' equity, until they are realized (e.g., when the asset is sold). Only at that point are they transferred from other comprehensive income to the income statement as realized gains.

## **LOS 3d: explain the financial reporting and disclosures related to non-current liabilities**

Non-current liabilities refer to all liabilities that are not classified as current. Common types of non-current liabilities are long-term financial liabilities and deferred tax liabilities.

### **Long-Term Financial Liabilities**

Common types of long-term financial liabilities are bank loans and fixed-income securities issued to investors, such as notes or bonds payable.

These liabilities, including loans payable and bonds payable, are typically reported at amortized cost on the balance sheet. When a bond reaches maturity, its amortized cost (carrying amount) will match its face value.

#### **Examples: Illustrating Reporting of Long-Term Liabilities**

**Bonds Issued at par value:** if a corporation issue bonds worth USD 8,000,000 at face value, they are recorded as a long-term liability of USD 8 million. From the issuance date to the maturity date, the carrying amount (amortized cost) remains at USD 8 million.

**Bonds issued at a discount:** if a company issues bonds worth USD 8,000,000 at 98 percent of face value (at a discount), the bonds are recorded as a liability of USD 7,840,000 ( $= \frac{8,000,000}{100} \times 98$ ) at the issuance date. Throughout the bond's life, the discount of USD 160,000 ( $= 8,000,000 - 7,840,000$ ) is amortized, so the bond will be reported as a liability of USD 8,000,000 at maturity. Similarly, any bond premium would be amortized for bonds issued at a price above par value.

In some situations, liabilities like company-issued bonds are reported at fair value. These situations include financial liabilities held for trading, derivatives that are liabilities for the company, and certain non-derivative instruments, such as those hedged by derivatives.

### **Deferred Tax Liabilities**



Deferred tax liabilities arise from temporary differences in timing between taxable income (company's reported income for tax purposes) and its reported income (reported income for financial statement purposes). In other words, deferred liabilities occur when the taxable income and the corresponding income tax payable are less than the reported financial statement income before taxes and the related income tax expense.

Deferred tax liabilities represent the amounts of income taxes that will be payable in future periods due to taxable temporary differences. Recall that the deferred tax asset is a prepaid tax created when unearned revenue is included in taxable income earlier than in reported income.

Typically, deferred tax liabilities emerge when certain expenses are recognized in taxable income earlier than in the financial statement net income leading to taxable income that is less than income before taxes in earlier periods, and thus resulting in taxes payable based on taxable income being less than the income tax expense based on accounting income before taxes. The difference between taxes payable and income tax expense creates a deferred tax liability.

For instance, deferred tax liability may occur when companies apply accelerated depreciation methods for tax purposes and straight-line depreciation methods for financial statement purposes. Additionally, deferred tax liabilities can also arise when some income is included in taxable income in later periods, such as undistributed profits from a company's subsidiary that have not yet been taxed.

## Question

Which of the following is *least likely* a way through which deferred tax liabilities may arise?

- A. A company has prepaid its taxes.
- B. Including profits from subsidiaries have not yet been distributed and not taxed yet at later periods.
- C. Some expenses are included in taxable income in earlier periods than for financial statement net income.

## Solution

**A is correct.** If a company has prepaid its taxes, this will result in a deferred tax asset.

**B and C are incorrect.** Both these scenarios will result in a deferred tax liability.

## **LOS 3e: calculate and interpret common-size balance sheets and related financial ratios**

Examining a company's balance sheet can reveal information about its liquidity and solvency at the time the balance sheet is prepared, as well as the economic resources under the company's control. Recall that liquidity is defined as the company's ability to meet its short-term financial commitments. In other words, analysis of liquidity concentrates on the company's ability to liquidate assets into cash to cover operating expenses.

On the other hand, solvency refers to a company's ability to meet its financial obligations over the longer term. As such, solvency emphasizes the company's financial framework and its capacity to service long-term debts.

The main tools of analyzing balance sheets are common-size analysis and balance sheet ratios.

### **Common-Sizing the Balance Sheet**

Common-size balance sheets are valuable for analyzing the composition of a company's balance sheet both over time (time-series analysis) and in comparison with other companies within the same industry (cross-sectional analysis).

Two primary methods for common-sizing the balance sheet are vertical common-size analysis and horizontal common-size analysis.

The vertical common-size analysis states each balance sheet item as a percentage of total assets. In contrast, the horizontal common-size analysis reflects quantities on the balance sheet regarding a base-year value of choice. However, the vertical common-size analysis is the more popular of the two methods.

#### **Example: Vertical Common-size Analysis (Time-Series Analysis)**

Assets	Dec 31, 2016 (\$)	Common? size balance- sheet (%)
Current Assets		
Cash and cash equivalents	100,000	0.8
Short-term marketable securities	1,234,678	9.7
Accounts receivable	52,000	0.4
Inventory	1,170,356	9.2
Total current assets	2,557,034	20.0
Property, plant, and equipment	6,834,190	53.6
Intangible assets	3,370,041	26.4
Total assets	12,761,265	100.0
Liabilities and shareholders' equity		
Current liabilities		
Accounts payable	3,825,396	30.0
Total current liabilities	3,825,396	30.0
Bonds payable	3,771,894	29.6
Total liabilities	7,597,290	59.5
Total shareholders' equity	5,163,975	40.5
Total liabilities and shareholders' equity	12,761,265	100.0

An analysis of data in the table above reveals that property, plant, and equipment, at 53.6%, make up the lion's share of the company's assets. The company does not have much cash and cash equivalents (0.8%), and most of its debt is in the form of accounts payable (30.0%). Also, there is no working capital as current assets (20.0%) are less than current liabilities (30.0%).

### **Example: Vertical Common-size Analysis (Cross-Sectional Analysis Analysis)**

Emma Stone is analyzing two companies in the electronics industry to assess their financial health as shown on their balance sheets. She has prepared the following vertical common-size balance sheets for Sony and Panasonic (hypothetical values):

	Sony	Panasonic
ASSETS:	31 March 2023	31 March 2023
Current assets:		
Cash and cash equivalents	6.2	4.5
Short-term marketable securities	12.7	48.0
Accounts receivable	5.3	9.1
Inventories	1.5	1.2
Other current assets	3.9	2.5
Total current assets	29.6	65.3
Long-term marketable securities	47.1	3.0
Property, plant, and equipment, net	10.2	10.5
Goodwill	2.0	15.2
Acquired intangible assets, net	0.8	4.5
Other assets	25.3	2.9
Total assets	100.0	100.0
LIABILITIES AND SHAREHOLDERS' EQUITY:		
Current liabilities:		
Accounts payable	14.0	3.5
Short-term debt	3.5	4.0
Current portion of long-term debt	1.8	0.5
Accrued expenses	7.2	2.9
Deferred revenue	2.1	13.5
Other current liabilities	0.0	2.7
Total current liabilities	28.6	27.1
Long-term debt	26.5	32.4
Deferred revenue non-current	0.9	4.6
Other non-current liabilities	11.2	7.5
Total liabilities	67.2	71.6
Total shareholders' equity	32.8	28.4
Total liabilities and shareholders' equity	100.0	100.0

Based on the common-size balance sheet data for Sony and Panasonic, what insights can be drawn about the liquidity, cash, and marketable securities, accounts receivable, inventories, and capital structure of these two companies?

### Solution

**Liquidity:** Both companies have a significant portion of their assets in current assets, indicating liquidity. Sony has 29.6% of its assets in current assets, while Panasonic has a higher proportion at 65.3%. This suggests that Panasonic might have a better ability to meet short-term obligations compared to Sony.

**Cash and Marketable Securities:** Sony has a higher percentage of cash and cash equivalents (6.2%) compared to Panasonic (4.5%). However, Sony has a lower allocation in short-term marketable securities (12.7%) than Panasonic (48.0%). This indicates that Panasonic is holding more liquidity in cash, while Sony is investing more in short-term securities.

**Accounts Receivable:** Panasonic has a higher percentage of accounts receivable (9.1%) compared to Sony (5.3%), which could imply that Panasonic extends more credit to its customers or takes longer to collect payments.

**Inventories:** Both companies have a small portion of their assets in inventories, with Sony at 1.5% and Panasonic at 1.2%, suggesting efficient inventory management.

**Capital Structure:** The total liabilities to total assets ratio differs between the two companies, with Sony having 67.2% and Panasonic having 71.6%. This indicates that Panasonic has a higher level of leverage compared to Sony, suggesting a greater reliance on debt financing in its capital structure.

**Shareholders' Equity:** Sony has a slightly higher proportion of shareholders' equity (32.8%) compared to Panasonic (28.4%), suggesting that Sony has a slightly stronger equity position.

## Balance Sheet Ratios

Ratio analysis can assist with the conduct of time series and cross-sectional analysis of a company's financial position. Balance sheet ratios are those ratios that involve balance sheet items only. In a vertical common-size balance sheet, each line item represents a ratio, as it expresses a balance sheet figure as a percentage of total assets. Additionally, other balance sheet ratios are used to compare one balance sheet item to another.

Balance ratios are classified into: (i) liquidity ratios, which measure a company's ability to meet short-term obligations; and (ii) solvency ratios, which measure financial risk, financial leverage and a company's ability to satisfy its long-term and other obligations.

### Liquidity Ratios

Ratio Name	Calculation	Indication
Current Ratio	$\frac{\text{Current assets}}{\text{Current liabilities}}$	A company's ability to meet its short-term obligations
Quick Ratio (Acid Test)	$\frac{\text{Cash} + \text{Marketable securities} + \text{Receivables}}{\text{Current liabilities}}$	It satisfies the same purpose as the current ratio but is considered a stricter measure as inventory is excluded.
Cash Ratio	$\frac{\text{Cash} + \text{Marketable securities}}{\text{Current liabilities}}$	Test a company's ability to meet its short-term obligations using highly liquid assets.

## Solvency Ratios

Ratio Name	Calculation	Indication
Long term debt-to-equity	$\frac{\text{Total long term debt}}{\text{Total equity}}$	Financial leverage and financial risk
Debt-to-equity	$\frac{\text{Total debt}}{\text{Total equity}}$	Financial leverage and financial risk
Total debt	$\frac{\text{Total debt}}{\text{Total assets}}$	Financial leverage and financial risk
Financial leverage	$\frac{\text{Total assets}}{\text{Total equity}}$	Financial leverage and financial risk

## Issues with Ratio Analysis

The effectiveness of cross-sectional financial ratio analysis can be constrained by variations in accounting practices. Furthermore, comparability can be hindered by the lack of uniformity in a company's operational activities. To circumvent this limitation, diversified companies active in multiple industries can employ industry-specific ratios for distinct business segments can enhance comparison.

Conducting ratio analysis involves considerable judgment. One critical aspect of this judgment is recognizing the limitations of any given ratio. Additionally, it requires judgment to determine whether a ratio indicates a long-term trend or merely a short-term situation. For instance, a

drawback of the current ratio is its susceptibility to changes in end-of-period financing and operational decisions that can impact the amounts of current assets and liabilities



## Question 1

The following balance sheet information is given for company XYZ.

Company XYZ Balance Sheet	
Assets	Dec 31, 2016(\$)
Current Assets	
Cash and cash equivalents	100,000
Short-term marketable securities	1,234,678
Accounts receivable	52,000
Inventory	1,170,356
Total current assets	2,557,034
Property, plant, and equipment (PPE)	6,834,190
Intangible assets	3,370,041
Total assets	12,761,265
Liabilities and shareholders' equity	
Current Liabilities	
Accounts payable	3,825,396
Total current liabilities	3,825,396
Bonds payable	3,771,894
Total liabilities	7,597,290
Total shareholders' equity	5,163,975
Total liabilities and shareholders' equity	12,761,265

The current ratio for company XYZ is *closest to*:

- A. 0.34.
- B. 0.67.
- C. 1.20.

### Solution

The correct answer is **B**.

$$\text{Current ratio} = \frac{\text{Current assets}}{\text{Current liabilities}} = \frac{2,557,034}{3,825,396} = 0.67$$

## Question 2

To convert a regular balance sheet into a common-size balance sheet, each line item is stated as a percentage of:

- A. Total assets.
- B. Total equity.
- C. Total liabilities.

**Solution**

The correct answer is **A**.

Making a common-size balance sheet requires stating each line item as a percentage of total asset.