

# Introduction to Accounting: Lecture Notes

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# 1 Definition of Accounting

**Accounting** is the formal collection, aggregation, analysis, and reporting of financial and non-financial data about a company to various end users.

- **Mandated Reporting:** Public companies are required to release data periodically (typically quarterly and annually).
- **End Users:** Data is provided to both internal parties (managers) and external parties (investors, creditors).

# 2 The Three Types of Accounting

The field of accounting is broadly categorized into three distinct branches based on the target audience and purpose:

Type	Primary Audience	Purpose & Characteristics
Financial	External (Investors, Banks)	Assess performance, health, and credit risk.
Managerial	Internal (Management)	Decision making: pricing, product mix, and budgeting.
Tax	Tax Authorities (IRS)	Compliance and estimation of tax liabilities.

Table 1: Comparison of Accounting Branches

## 2.1 Financial Accounting

- **Primary Purpose:** To inform outsiders (equity investors, investment banks) for valuation and credit risk assessment.
- **Secondary Purpose:** To monitor managers and ensure responsible use of company resources.
- **Compliance:** Reports must follow specific rules and are audited by external parties for accuracy.

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## 2.2 Managerial Accounting

- **Purpose:** Capacity planning, determining production volumes, and evaluating product profitability.
- **Format:** No fixed formats; reports are not audited.

# 3 Accrual Accounting

## 3.1 Meaning of Accrual Basis of Accounting

Under the **accrual basis of accounting**: A key element of financial accounting is the concept of **Accruals**. Financial statements are prepared on an accrual basis rather than a cash basis.

- Income is recognized when it is earned, irrespective of when cash is received.
- Expenses are recognized when they are incurred, irrespective of when cash is paid.

Thus, transactions are recorded at the time when the economic activity occurs, not when cash flows take place.

## 3.2 Meaning of Cash Basis of Accounting

Under the **cash basis of accounting**:

- Income is recorded only when cash is actually received.
- Expenses are recorded only when cash is actually paid.

This method ignores outstanding receivables, payables, and other non-cash adjustments.

## 3.3 Why Accrual Basis is Preferred for Financial Statements

### 3.3.1 True and Fair View

Accrual accounting follows the matching principle, whereby expenses are matched with the revenues earned during the same accounting period. This results in a true and fair view of financial performance.

### 3.3.2 Correct Measurement of Profit

Cash receipts and payments may relate to different accounting periods. Accrual accounting ensures that only the income and expenses pertaining to the current period are considered.

### 3.3.3 Better Assessment of Financial Position

Assets such as receivables and liabilities such as outstanding expenses are recognized, providing a realistic picture of the financial position of the entity.

### 3.3.4 Comparability and Consistency

Financial statements prepared on an accrual basis are comparable across different periods and entities, facilitating better decision-making by users.

## 3.4 Key Principles

Transactions are recognized when the *economic event* occurs, not necessarily when cash changes hands.

1. **Revenue Recognition:** Revenue is reported when earned (delivery of product/service), measurable, and collection is reasonably certain.
2. **Matching Principle:** Expenses related to revenues must be recognized in the same period as the revenue itself.

## 3.5 The Fundamental Difference

The distinction between earnings and cash flow is often summarized by the adage:

$$\text{Cash Flow} = \text{Fact} \longleftrightarrow \text{Earnings} = \text{Opinion}$$

## 3.6 Pros and Cons of Accrual Accounting

- **Advantages:** Provides timelier, decision-relevant information by reflecting economic reality.
- **Disadvantages:** Relies on managerial judgment and estimates, making it potentially less reliable than raw cash flow data.

### 3.7 Summary of Financial Statements

Accrual accounting directly results in the creation of two primary statements:

- **Income Statement:** Also known as the Profit and Loss (P&L) statement.
  - **Balance Sheet:** Reflects the net financial position of the company.
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## 4 Introduction to the Balance Sheet

The **Balance Sheet** captures the financial position of a company as of a *particular date* (e.g., the end of a quarter or the end of a fiscal year). It acts as a snapshot in time, showing what a company owns and what it owes.

### 4.1 The Accounting Equation

The balance sheet derives its name from the fact that it must always balance. This relationship is expressed through the fundamental accounting equation:

$$\text{Assets} = \text{Liabilities} + \text{Shareholders' Equity} \quad (1)$$

- **Assets:** Represent how the company *uses* its resources.
- **Liabilities & Equity:** Represent *where* the company gets its resources from.

### 4.2 Components of the Balance Sheet

#### 4.2.1 Assets

Assets are resources owned by the company used to generate future economic benefits (higher cash inflows or lower cash outflows).

- **Classification:**
  - **Current Assets:** Expected to be converted to cash, sold, or consumed within **one year**. (Examples: Cash, equivalents, inventory).
  - **Non-current Assets:** Expected to be realized after one year. (Examples: Property, Plant, and Equipment [PP&E], Patents, Trademarks).

#### 4.2.2 Liabilities

Liabilities represent the company's economic obligations to outsiders.

- **Classification:**
  - **Current Liabilities:** Obligations expected to be paid within **one year**. (Examples: Accounts payable, short-term borrowing).
  - **Non-current Liabilities:** Obligations expected to be settled after one year. (Example: Long-term debt).

#### 4.2.3 Shareholders' Equity

This represents the owners' claims on the total assets of the company.

- **Contributed Capital:** Investments made by the owners.
- **Retained Earnings:** The aggregate undistributed profits of the company over time.

### 4.3 Key Characteristics

- **Historical Cost:** Items are recorded at their original purchase price. They are generally **not** updated to reflect current market values.
  - **Presentation:**
    - Typically, Assets are on the left (or top), while Liabilities and Equity are on the right (or bottom).
    - Formats may vary internationally based on local accounting standards.
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## 5 Overview of Assets

Assets represent how a company uses its resources to generate future economic benefits. On the balance sheet, assets are categorized based on their liquidity and expected lifespan.

### 5.1 Current Assets

Current assets are resources expected to be sold, converted to cash, or consumed within **one year**.

#### 5.1.1 Cash and Cash Equivalents

This is the most liquid category. It includes:

- Currency, coins, and petty cash.
- Checks received but not yet deposited.
- Checking/savings accounts and money market accounts.
- Short-term, highly liquid investments with maturities of **three months or less** at the time of purchase.
- *Example:* Amazon (2015) held \$15.89 billion.

#### 5.1.2 Marketable Securities

Investments in financial securities like stocks and bonds. While easily convertible to cash, they are considered less liquid than cash equivalents.

- *Example:* Amazon (2015) held \$3.92 billion.

#### 5.1.3 Inventories

Includes physical goods at various stages of production:

- **Raw Materials:** Unprocessed materials.
- **Work in Progress (WIP):** Partially finished goods.
- **Finished Goods:** Products ready for sale.
- *Note:* Service industries may only have supplies, while retailers like Amazon hold massive finished goods (\$10.24 billion in 2015).

#### 5.1.4 Accounts Receivable

Money owed to the company by its clients/customers. This occurs when a company extends credit by delivering a product or service before receiving payment.

- Represents a legal obligation from the client to the company.

- *Example:* Amazon (2015) had \$6.42 billion due from customers, vendors, and sellers.

## 5.2 Non-Current Assets

Non-current assets are long-term investments and resources that are expected to provide value for more than one year.

### 5.2.1 Property, Plant, and Equipment (PP&E)

The largest component of non-current assets for most physical businesses.

- **Meaning of "Plant":** Refers to industrial facilities (e.g., factories, warehouses).
- **Tangible Items:** Land, buildings, machinery, office furniture, vehicles, and fixtures.
- **Technology:** Servers, networking equipment, and internal-use software.
- *Example:* Amazon (2015) held \$21.84 billion in PP&E (including capital leases).

### 5.2.2 Intangible Assets

Non-physical assets that contribute to a company's future value.

- **Intellectual Property:** Patents, trademarks, and copyrights.
- **Goodwill:** The value of a company's brand recognition and reputation (Amazon 2015: \$3.76 billion).
  - *Calculation:* Recorded only during an acquisition.
  - Goodwill = Purchase Price – (Fair Value of Assets – Fair Value of Liabilities)

## 5.3 Total Asset Summary: Case Study Amazon (2015)

The total value of assets must be funded by either liabilities or equity.

- **Total Current Assets:** \$36.47 billion
  - **Total Non-Current Assets:** \$28.97 billion
  - **Total Assets:** \$65.44 billion
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## 6 Overview of Liabilities

Liabilities represent where the company gets some of its resources from, specifically the obligations to outsiders. Like assets, they are classified based on when they are due.

### 6.1 Current Liabilities

Obligations that are due within the next **one year**.

#### 6.1.1 Accounts Payable

The amount the company owes its vendors and suppliers for products and services that have already been provided or delivered on credit.

- *Example:* Amazon (2015) owed \$20.40 billion.

### **6.1.2 Accrued Expenses**

Expenses the company has incurred but has not yet received an invoice for (e.g., wages, interest, utilities).

- *Example:* Amazon (2015) had \$10.38 billion (related to unredeemed gift cards, leases, and asset retirement obligations).

### **6.1.3 Unearned Revenue**

Money paid by customers in advance for products or services. It remains a liability until the company delivers the promised product/service.

- *Example:* Amazon (2015) had \$3.12 billion (primarily Prime memberships and AWS prepayments).

**Total Current Liabilities (Amazon 2015):** \$33.90 billion.

## **6.2 Non-Current Liabilities**

Obligations due to be paid **after one year**.

### **6.2.1 Long-Term Debt**

Includes loans and bonds.

- *Example:* Amazon (2015) had \$8.23 billion.

### **6.2.2 Other Long-Term Liabilities**

Includes long-term lease obligations, tax contingencies, and deferred tax liabilities.

- *Example:* Amazon (2015) had \$9.93 billion.

**Total Non-Current Liabilities (Amazon 2015):** \$18.16 billion.

## **6.3 Total Liability Summary: Case Study Amazon (2015)**

- **Total Current Liabilities:** \$33.90 billion
- **Total Non-Current Liabilities:** \$18.16 billion
- **Total Liabilities:** \$52.06 billion

Comparing this to Total Assets (\$65.44 billion), the remaining balance (\$13.37 billion) represents the resources provided by Shareholders' Equity.

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## **7 Overview of Shareholders' Equity**

Shareholders' Equity (also referred to as Net Worth) represents the total equity interest of all shareholders. It is the residual value of assets after deducting liabilities.

### **7.1 Components of Shareholders' Equity**

#### **7.1.1 Common Stock**

Represents the primary ownership of the company.

- **Voting Rights:** Shareholders can select the Board of Directors.

- **Par Value (Capital Stock):** A nominal value assigned to each share (e.g., \$0.01). This represents the legal capital.
- **Accounting Split:** When Common Stock is issued, the proceeds are split between "Capital Stock" (par value) and "Additional Paid-in Capital" (excess over par).
- *Example:* Amazon (2015) had 500 million shares outstanding at \$0.01 par value (\$5 million total).

### 7.1.2 Additional Paid-in Capital

The amount of capital the company raises above the par value (Capital Stock) of the shares when they are sold to the public.

- *Example:* Amazon (2015) had \$13.39 billion.

### 7.1.3 Treasury Stock

Common stock that the company has bought back from shareholders or authorized but never sold.

- Recorded at cost and deducted from total equity (contra-equity).
- These shares have no voting rights and receive no dividends.
- *Example:* Amazon (2015) held \$1.84 billion.

### 7.1.4 Preferred Stock

A class of stock that has priority over common stock regarding dividends.

- **Priority:** Dividends must be paid to preferred stockholders before common stockholders.
- **No Voting Rights:** Preferred stockholders generally do not vote.
- *Example:* Amazon (2015) had not issued any preferred stock (\$0).

### 7.1.5 Retained Earnings

The aggregate of undistributed profits across all years.

- Represents profits not paid out as dividends but reinvested in the company.
- *Example:* Amazon (2015) had \$2.55 billion.

### 7.1.6 Other Accumulated Comprehensive Loss

Includes unrealized gains and losses from investments in cash equivalents and marketable securities.

- *Example:* Amazon (2015) had a loss of \$0.72 billion.

## 7.2 Total Equity Summary: Case Study Amazon (2015)

Adding the components together yields the total shareholders' equity.

- **Total Shareholders' Equity:** \$13.38 billion.

## 7.3 Balance Sheet Equation Check

$$\text{Liabilities}(\$52.06 \text{ B}) + \text{Equity}(\$13.38 \text{ B}) = \text{Total Assets}(\$65.44 \text{ B})$$

This confirms that Amazon's uses of resources (Assets) exactly match its sources of resources (Liabilities + Equity).

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## 8 Introduction to the Income Statement

The **Income Statement** (also known as the Profit and Loss statement or P&L) reports a company's operating results for a specific period. It primarily details revenues and costs.

- **Amazon Terminology:** Referred to as "Consolidated Statements of Operations".
- **Purpose:** Tells analysts and investors how profitable a company is.
- **Basic Formula:**

$$\text{Net Income (Profit/Loss)} = \text{Revenues} - \text{Expenses}$$

### 8.1 Expensing vs. Capitalizing

Assets and expenses both require the use of company resources, but they are treated differently based on *when* the benefits are realized.

#### 8.1.1 Expensing

If the benefits of the resource use result in the **same period** as the use itself:

- The use is categorized as an **Expense**.
- The entire amount appears on that period's Income Statement.

#### 8.1.2 Capitalizing

If the benefits are expected to accrue in **future time periods**:

- The use is **Capitalized**.
- The amount is shown as an **Asset** on the Balance Sheet (e.g., PP&E, purchased patents).

### 8.2 Converting Capitalized Costs to Expenses

Capitalized expenditures are eventually charged as expenses to the Income Statement through two processes:

1. **Amortization:** The process of allocating an asset's value to future periods when its benefits are earned (typically over the asset's useful life). It is a periodic charge.
  - *Depreciation:* The specific terminology used for amortizing Property, Plant, and Equipment (PP&E).
2. **Impairment:** A write-down of an asset's value to its current fair market value due to substantial value destruction (by market forces or nature). It is a one-time event.

### 8.3 Revenues (Sales)

Often called the "Top Line" because it is the first item on the Income Statement.

- Includes income only from **primary lines of business** (excludes investment income).
- **"Net" Sales:** Revenues minus returns and discounts.
- **Amazon (2015) Case Study:**
  - Net Product Sales (own inventory): \$76.27 billion.
  - Net Service Sales (3rd party commissions, AWS): \$27.74 billion.
  - **Total Net Sales:** \$107.01 billion.

## 9 Common Expenses and Profit Measures

This section covers the common expenses a company incurs while generating revenues, such as Cost of Goods Sold (COGS) and Operating Expenses. It also introduces intermediate profit measures.

### 9.1 Cost of Goods Sold (COGS)

COGS refers to the direct costs a company incurs to generate products ready strictly for sale.

- **Includes:** Raw material costs and direct labor costs involved in production.
- **Excludes:** Distribution costs and sales force costs.
- **Amazon Case Study (2015):** Reported as "Cost of Sales" (\$71.65 billion).
  - Includes purchase price of consumer products, digital media content, packaging, and shipping costs (inbound/outbound).
  - Essentially all costs incurred to deliver products to customers.

### 9.2 Gross Profit

Gross Profit is the difference between specific Revenues and COGS.

$$\text{Gross Profit} = \text{Net Sales} - \text{COGS}$$

- Represents profit after deducting costs directly associated with producing/selling the product or service.
- **Amazon (2015):** \$107.01 B (Sales) - \$71.65 B (COGS) = \$35.36 B.

### 9.3 Operating Expenses

Operating expenses are deducted from Gross Profit to determine Operating Income. The major component is often SG&A.

#### 9.3.1 Selling, General, and Administrative (SG&A)

Non-production costs related to selling products and general operations, including executive salaries and general support.

- **Amazon (2015):** Total SG&A of \$20.41 billion.
  - *Fulfillment* (\$13.41 B): Primarily includes costs incurred in operating and staffing fulfillment and customer service centers, as well as payment processing centers.
  - *Marketing* (\$5.25 B): Costs incurred in marketing and selling products and services.
  - *General & Administrative* (\$1.75 B): Includes payroll expenses, professional and litigation expenses, other corporate costs, as well as depreciation expenses.

#### 9.3.2 Depreciation and Amortization (D&A)

Expenses related to the usage of capitalized assets over their useful life.

- **Depreciation:** Related to PP&E (tangible assets).
- **Amortization:** Related to intangible assets (goodwill, trademarks).
- **Non-Cash Expense:** No cash is paid out when this expense is recorded.
- **Reporting:** Often embedded within SG&A components (as done by Amazon). Amazon's Cash Flow statement reported \$6.28 B in D&A for 2015.

### 9.3.3 Research and Development (R&D)

Costs incurred in developing new products or services.

- **Amazon (2015):** Reported as "Technology and Content" (\$12.54 billion). Includes payroll for application/platform development and technology infrastructure.

## 9.4 Operating Profit (EBIT)

Operating Profit, or Earnings Before Interest and Taxes (EBIT), represents the company's profit from core operations.

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

#### Amazon (2015) Calculation:

- **Total Operating Expenses:** \$20.41 B (SG&A) + \$12.54 B (Tech) + \$0.17 B (Other) = \$33.12 B.
- **Operating Profit:** \$35.36 B (Gross Profit) - \$33.12 B (Op Expenses) = \$2.24 B.

## 9.5 EBITDA

Earnings Before Interest, Taxes, Depreciation, and Amortization.

$$\text{EBITDA} = \text{EBIT} + \text{Depreciation \& Amortization}$$

- A more relevant measure of core profitability as it adds back non-cash expenses.
- **Amazon (2015):** \$2.24 B (EBIT) + \$6.28 B (D&A) = \$8.52 B.