THE ROLE OF ACCOUNTING INFORMATION

A. Financial information is the HEARTBEAT OF COMPETITIVE BUSINESS MANAGEMENT.
   1. You have to know something about accounting if you want to understand business.
   2. You need to LEARN BASIC ACCOUNTING TERMS and understand basics of how accounts are kept.
   3. To run a business effectively you need to be able to read, understand, and analyze accounting reports and financial statements.
   4. Accounting reports and financial statements are as revealing of the HEALTH OF A BUSINESS as pulse rate and blood pressure reports are in revealing the health of a person.
   5. This chapter presents basic accounting information and explains the basic accounting statements and what they mean to business.

B. WHAT IS ACCOUNTING?
   1. ACCOUNTING is the recording, classifying, summarizing, and interpreting of financial events and transactions to provide management and other interested parties with the information they need to make good decisions.
      a. FINANCIAL TRANSACTIONS include
         i. buying and selling goods and services, acquiring insurance, paying employees, and using supplies.
      b. An ACCOUNTING SYSTEM is the method used to record and summarize accounting data into reports.
   2. PURPOSES OF ACCOUNTING:
      a. To give managers basic financial information so they may make better decisions.
      b. To report financial information to PEOPLE OUTSIDE THE FIRM such as owners, creditors, suppliers, employees, investors, and the government.

Accounting has been called the LANGUAGE OF BUSINESS.
   1. Accounting is also the language used to report financial information about nonprofit organizations

Five key areas of the accounting profession are:
   a. Managerial accounting
   b. Financial accounting
   c. Auditing
   d. Tax accounting
   e. Governmental and not-for-profit accounting
MANAGERIAL ACCOUNTING

1. **MANAGERIAL ACCOUNTING** is accounting used to provide information and analyses to managers within the organization to assist them in decision making.

2. Managerial accounting is concerned with:
   a. **MEASURING AND REPORTING COSTS** of production, marketing, and other functions
   b. **PREPARING BUDGETS** (planning)
   c. Checking whether or not units are **STAYING WITHIN THEIR BUDGETS** (controlling)
   d. **DESIGNING STRATEGIES TO MINIMIZE TAXES**

3. A **CERTIFIED MANAGEMENT ACCOUNTANT (CMA)** is a professional accountant who has met certain educational and experience requirements, passed a qualifying exam in the field, and been certified by the Institute of Certified Management Accountants.

FINANCIAL ACCOUNTING

1. **FINANCIAL ACCOUNTING** is accounting information and analyses prepared for people outside the organization (owners and prospective owners, creditors and lenders, employee unions, customers, suppliers, governmental units, and the general public.)
   a. These **EXTERNAL USERS** are interested in the organization’s profits and other financial information.
   b. Much of this information is contained in the company’s **ANNUAL REPORT**, a yearly statement of the financial condition, progress, and expectations of an organization.

2. It is critical for firms to keep accurate financial information.
   a. A **PRIVATE ACCOUNTANT** is an accountant who works for a single firm, government agency, or nonprofit organization.
   b. A **PUBLIC ACCOUNTANT** is an accountant who provides his or her accounting services to individuals or businesses on a fee basis.
   c. **PUBLIC ACCOUNTANTS** help firms by:
      i. Designing an accounting system for a firm. Helping select the correct computer and software to run the system, and analyzing the financial strength of an organization

3. A **CERTIFIED PUBLIC ACCOUNTANT (CPA)** is an accountant who has passed a series of examinations established by the American Institute of Certified Public Accountants (AICPA.)

4. Professional accounting assures users of financial information that financial reports of organizations are accurate.
   a. The independent financial accounting standards board (FASB) defines what are **GENERALLY ACCEPTED ACCOUNTING PRINCIPLES (GAAP)** that accountants must follow.
Michael Thomas, MBA – BBA 131 – Notes on Chapter 16 – Accounting and Financial Ratios

b. If financial reports are prepared “in accordance with GAAP,” users know the information is reported professionally.

5. In the early 2000s, several SCANDALS rocked the accounting industry.
a. After scandals involving companies including WorldCom, Enron, and Tyco, the public has lost faith in corporate integrity. Arthur Andersen was convicted of obstruction of justice for its actions in the Enron case.

6. Scrutiny of the accounting industry is becoming more intense.

7. In response, Congress passed the SARBANES-OXLEY ACT that created:
a. New government reporting standards for publicly traded companies
b. The Public Company Accounting Oversight Board (PCAOB), charged with overseeing professional accountants.

9. Now, CPAs must:
a. Take 40 hours of continuing education - Qualify for recertification - Undergo ethics training requirements - Pass an ethics exam

AUDITING

1. **AUDITING** is the job of reviewing and evaluating the records used to prepare the company’s financial statements.
a. Private accountants within the organization often perform INTERNAL AUDITS to ensure proper accounting procedures and reporting are carried on within the organization.
b. Public accountants also conduct INDEPENDENT AUDITS of accounting records.

2. An **INDEPENDENT AUDIT** is an evaluation and unbiased opinion about the accuracy of company’s financial statements.

3. A **CERTIFIED INTERNAL AUDITOR (CIA)** is an accountant who has a bachelor’s degree and two years of experience in internal auditing, and who has passed an exam administered by the Institute of Internal Auditors.

TAX ACCOUNTING

1. A **TAX ACCOUNTANT** is an accountant trained in tax law and responsible for preparing tax returns and developing tax strategies.

GOVERNMENT AND NOT-FOR-PROFIT ACCOUNTING

1. **GOVERNMENT AND NOT-FOR-PROFIT ACCOUNTING** is the accounting system for organizations whose purpose is not generating a profit but serving ratepayers, taxpayers, and others according to a duly approved budget.

2. Governmental standards are set by the Governmental Accounting Standards Board (GASB).

3. **NOT-FOR-PROFIT ORGANIZATIONS** have a growing need for trained accountants since contributors want to see exactly how and where the funds are being spent.
The **ACCOUNTING CYCLE** is a six-step procedure that results in the preparation and analysis of the major financial statements.

The six-step accounting cycle includes:

- **Step 1.** ANALYZING and CATEGORIZING documents
- **Step 2.** Putting the information into JOURNALS
- **Step 3.** Posting that information into LEDGERS
- **Step 4.** Preparing a **TRIAL BALANCE** (a summary of all the data in the account ledgers to show whether the figures are correct and balanced.)
- **Step 5.** PREPARING an income statement, balance sheet, and statement of cash flows
- **Step 6.** ANALYZING the financial statements and determine financial health of company

**UNDERSTANDING KEY FINANCIAL STATEMENTS**

A. A **FINANCIAL STATEMENT** is the summary of all transactions that have occurred over a particular period.

1. These indicate a firm’s financial health and stability.

2. THE KEY FINANCIAL STATEMENTS are:
   - The **BALANCE SHEET**, which reports the firm’s financial condition on a specific date.
   - The **INCOME STATEMENT**, which summarizes revenues, cost of goods, and expenses for a specific period and highlights the total profit or loss the firm experienced during that period.
   - The **STATEMENT OF CASH FLOWS**, which provides a summary of money coming into and going out of the firm.

3. The **DIFFERENCES** among the financial statements:
   - The **BALANCE SHEET** details what the company owns and owes on a certain day.
   - The **INCOME STATEMENT** shows the revenue a firm earned selling its products compared to its selling costs over a specific period of time.
   - The **STATEMENT OF CASH FLOWS** shows the difference between cash coming in and cash going out of a business.

B. **THE FUNDAMENTAL ACCOUNTING EQUATION**

1. Your assets are equal to WHAT YOU OWE plus WHAT YOU OWN.
   - This equation must always be balanced.
   - Each business transaction is a recording of two transactions.

2. The **FUNDAMENTAL ACCOUNTING EQUATION**

   * assets = liabilities + owners’ equity; this is the basis for the balance sheet.*
C. BALANCE SHEET

1. A **BALANCE SHEET** is the financial statement that reports a firm’s financial condition at a specific time and is composed of three major accounts, assets, liabilities, and owners’ equity.

2. The term *balance sheet* implies that the report shows a **BALANCE BETWEEN TWO FIGURES**—a firm’s assets and its liabilities and owners equity.

3. It is important to follow **GENERALLY ACCEPTED ACCOUNTING PRINCIPLES (GAAP.)**

D. CLASSIFYING ASSETS

1. **ASSETS** are economic resources (things of value) owned by the company.
   a. Examples: equipment, buildings, land, patents, copyrights, and goodwill

2. **LIQUIDITY** refers to how fast an asset can be converted into cash.
   a. Speedier conversion means higher liquidity.
   b. An **ACCOUNT RECEIVABLE** is the amount of money owed to the firm that it expects to receive within one year—it is considered a **LIQUID ASSET**.
   c. **LAND** is considered a **FIXED** or **LONG-TERM ASSET**, because it takes time, effort, and paperwork to sell.

3. **ASSETS ARE CHARACTERIZED BASED ON LIQUIDITY.**
   a. **CURRENT ASSETS** are items that can or will be converted to cash within one year (examples: cash, accounts receivable, and inventory.)
   b. **FIXED ASSETS** are assets that are relatively permanent, such as land, buildings, and equipment.
   c. **INTANGIBLE ASSETS** are long-term assets (e.g., patents, trademarks, copyrights) that have no real physical form but do have value.

E. LIABILITIES AND OWNERS’ EQUITY ACCOUNTS

1. **LIABILITIES** are what the business owes to others (DEBTS.)
   a. **CURRENT LIABILITIES** are debts due in one year or less.
   b. **LONG-TERM LIABILITIES** are debts not due for one year or longer.
   c. Common liabilities:
      i. **ACCOUNTS PAYABLE** are current liabilities or bills the company owes to others for merchandise or services purchased on credit but not yet paid for.
      ii. **NOTES PAYABLE** are short-term or long-term liabilities that a business promises to repay by a certain date.
      iii. **BONDS PAYABLE** are long-term liabilities that represent money lent to the firm that must be paid back.

2. **EQUITY** is the value of things you **OWN** (assets) minus the amount of money you **OWE** others (liabilities.)
a. The value of what stockholders own in a firm (minus liabilities) is called **STOCKHOLDERS’ EQUITY** (or **SHAREHOLDERS’ EQUITY**.)

b. **OWNERS’ EQUITY** is the amount of the business that belongs to the owners minus any liabilities owned by the business.

c. The formula for **OWNERS’ EQUITY**:

\[
\text{owners’ equity} = \text{assets} - \text{liabilities}
\]

d. Businesses that are not incorporated identify this as a **CAPITAL ACCOUNT**.

e. For corporations, the **OWNERS’ EQUITY** account records the owners’ claims to funds they have invested in the firm plus retained earnings.

f. **RETAINED EARNINGS** are the accumulated earnings from a firm’s profitable operations that were reinvested in the business and not paid out to stockholders in dividends.

### THE INCOME STATEMENT

1. The **INCOME STATEMENT** is the financial statement that shows a firm’s profit after costs, expenses, and taxes; it summarizes all of the resources that have come into the firm (revenue), all the resources that have left the firm, and the resulting net income.

2. **NET INCOME OR NET LOSS** is revenue left over after all costs and expenses, including taxes, are paid.

3. The income statement reports the results of operations over a particular period of time.

4. This statement includes valuable financial information for stockholders, lenders, investors, and employees.

5. The income statement is arranged according to **GENERALLY ACCEPTED ACCOUNTING PRINCIPLES** (GAAP):

\[
\begin{align*}
\text{revenue} & \quad \text{cost of goods sold} \\
\text{gross profit (gross margin)} & \quad \text{operating expenses} \\
\text{net income before taxes} & \quad \text{taxes} \\
\text{net income (or loss)} &
\end{align*}
\]

G. **REVENUE** is the value of what is received for goods sold, services rendered, and other financial sources.

1. There is a difference between revenue and sales.

2. Most revenue comes from **SALES**, but other sources of revenue include rents earned, interest earned, and so forth.

3. **GROSS SALES** are the total of all sales the firm completed.

4. **NET SALES** are gross sales minus returns, discounts, and allowances.
NET PROFIT OR LOSS

1. After all expenses are deducted, the firm’s **NET INCOME BEFORE TAXES** is determined.
   a. Net income can also be referred to as **NET EARNINGS** or **NET PROFIT**.
   b. After allocating for taxes, you get to the bottom line, the **NET INCOME** (or perhaps **NET LOSS**) the firm incurred from revenue minus sales returns, costs, expenses, and taxes.

THE INCOME STATEMENT AND BALANCE SHEET

Income Statement

The income statement communicates the inflows and outflows of assets, where inflows are the revenues generated and outflows are the expenses. An excess of inflows over outflows is called net income, and an excess of outflows over inflows is called a net loss.

The income statement can be expressed as an equation:

**Revenue** – **Expenses** = **Net Income** (Loss)

The income statement is a summary of the sources of revenues and expenses that result in a profit or a loss for a specified accounting period. Typically that period is one year but it can be a month or a quarter as well. Income statements are always prepared for a period of time and the term “for the period ended…” is included in the title.

**Revenue:** The sources of revenue for any business depend on the type of business being operated. A company that manufactures or resells a product would generate sales revenue. A service company on the other hand might generate fees revenue or service revenue.

**Expense:** Examples of typical expenses encountered are salaries, utilities, rent, insurance, and office supplies. Here again, each entity will have its own unique set of expenses depending on the type of business being operated.

**Net Income (Loss):** The difference between revenues and expenses is expressed as a positive or negative depending on whether revenues were greater or less than expenses.

If revenues for the month are $5000 and expenses are $3500, then the entity has a net income of $1500. If the expenses were instead $5500, then the entity would have a net loss of $500.

Balance Sheet

The balance sheet communicates what the entity owns in terms of assets, what it owes in terms of liabilities, and the difference between those two which represents what the owners of the company are entitled to. The owner’s portion is called equity.

The balance sheet can be expressed as the fundamental accounting equation:

**Assets** = **Liabilities** + **Equity**
The balance sheet shows a snapshot of an organization’s assets, liabilities, and equity at one point in time and it demonstrates the accounting equation. Balance sheets are always prepared for a point in time and the term “as at …” is included in the title.

**Assets:** The assets of a company represent the resources owned by the company. These assets can be in the form of cash or things that can be converted to cash like accounts receivable and they can also be fixed assets like cars and office equipment.

**Liabilities:** What a company owes to creditors is reported in the liabilities section of the balance sheet. Creditors are banks and other lending institutions as well as suppliers that are owed money in the form of accounts receivable as well as money that is owed but not yet paid (accruals). A common example of an accrued liability is yearly taxes.

**Equity:** The difference between what the entity owns and what it owes represents the owners’ share of the company. For sole proprietorships this equity is usually called capital and for public companies it is often referred to as common stock or share capital. The equity in a company is the owners’ claim against the assets owned.

The income statement and balance sheet of a company are linked through the net income for a period and the subsequent increase, or decrease, in equity that results. The income that an entity earns over a period of time is transcribed to the equity portion of the balance sheet. The income represents an increase in the owners’ claim against the assets: Income is NOT a cash asset. It is through the income and equity accounts that the balance sheet and income statement reflect the total financial picture of the entity.

**Statement Example:**

<table>
<thead>
<tr>
<th>ABC Accounting Services</th>
<th>ABC Accounting Services</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Income Statement</strong></td>
<td><strong>Balance Sheet</strong></td>
</tr>
<tr>
<td>For the month ended July 31, 20XX</td>
<td>As at July 31, 20XX</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Revenue</th>
<th>Assets</th>
<th>Liabilities</th>
<th>Equity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Service Revenue $6,000</td>
<td>Cash $5,000</td>
<td>Bank Loan $3,000</td>
<td>Common Stock $2,450</td>
</tr>
<tr>
<td></td>
<td>A/R 1,000</td>
<td>A/P 1,750</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Equipment 2,500</td>
<td>Liabilities $4,750</td>
<td></td>
</tr>
<tr>
<td>Expenses</td>
<td>Equity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rent $700</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Salaries 3,000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Supplies 500</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Travel 500</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Expenses 4,700</td>
<td>Total Equity 3,750</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Net Income $1,300</td>
<td>Total Liabilities 8,500</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Equity $8,500</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Account Relationships:

↑ Net Income ⇒ ↑ equity
↑ Revenues ⇒ ↑ Assets (cash or accounts receivable) which ↑ Equity
↑ Expense ⇒ ↓ Assets (cash) and/or ↑ Liabilities (accounts payable) which ↓ Equity
Financial Ratios

Accountants use accurate financial information to prepare a financial analysis.

1. **RATIO ANALYSIS** is the assessment of a firm’s financial condition using calculations and interpretations of financial ratios developed from the firm’s financial statements.

2. **FINANCIAL RATIOS** are helpful in analyzing the actual performance of the company compared to its financial objectives. Ratios also provide key insights into the firm’s performance compared to other firms in the industry.

B. **LIQUIDITY RATIOS** measure the company’s ability to turn assets into cash to pay its short-term debts.

1. Short-term debts are expected to be repaid within one year.
2. The **CURRENT RATIO** is the ratio of a firm’s current assets to its current liabilities.
   a. current ratio = \( \frac{\text{current assets}}{\text{current liabilities}} \)
   b. Usually, a company with a current ratio of 2 or better is considered a safe credit risk. The ratio should be compared to that of competing firms within the industry and to the company’s current ratio in the previous year.

3. The **ACID-TEST RATIO** (or **QUICK RATIO**) measures the cash, marketable securities, and receivables of the firm, to its current liabilities.
   a. acid-test ratio = \( \frac{\text{cash} + \text{accounts receivable} + \text{marketable securities}}{\text{current liabilities}} \)
   b. This ratio is important to firms that have difficulty converting inventory into quick cash.

C. **LEVERAGE (DEBT) RATIOS** measure the degree to which a firm relies on borrowed funds in its operations.

1. The **DEBT TO OWNERS’ EQUITY RATIO** measures the degree to which the company is financed by borrowed funds that must be repaid.
   a. debt to owners’ equity ratio = \( \frac{\text{total liabilities}}{\text{owners’ equity}} \)
   b. A ratio above 1 (above 100%) shows that a firm has more debt than equity.

2. It is important to COMPARE RATIOS to those of other firms in the same industry and to the company’s ratios in previous years.

D. **PROFITABILITY (PERFORMANCE) RATIOS** measure how effectively a firm is using its various resources to achieve profits.

1. **EARNINGS PER SHARE (EPS)** is an important ratio because earnings help stimulate growth.
a. The Financial Accounting Standards Board requires companies to report their quarterly earning per share two ways: basic and undiluted.

**BASIC EARNINGS PER SHARE (BASIC EPS)** measures the amount of profit earned by a company for each share of common stock it has outstanding.

c. basic earnings per share =  
\[
\frac{\text{net income after taxes}}{\text{number of shares common stock outstanding}}
\]

2. **RETURN ON SALES** is calculated by comparing a company’s net income with its total sales.

   return on sales = \( \frac{\text{net income}}{\text{net sales}} \)

3. **RETURN ON EQUITY (ROE)** measures how much was earned for each dollar invested by owners.

   a. The higher the RISK involved in an industry, the higher the RETURN investors expect on their investment.
   
   b. It is calculated by comparing a company’s net income with its total owner’s equity.
   
   c. return on equity = \( \frac{\text{net income after taxes}}{\text{total owners’ equity}} \)

These and other profitability ratios are vital measurements of company growth and management performance.

E. **ACTIVITY RATIOS** measure the effectiveness of the firm’s management in using the assets that are available.

1. **INVENTORY TURNOVER RATIO** measures the speed of inventory moving through the firm and its conversion into sales.
   
   a. The more efficiently a firm manages its inventory, the higher the return.
   
   b. inventory turnover ratio = \( \frac{\text{cost of goods sold}}{\text{average inventory}} \)
   
   c. A lower than average inventory turnover ratio often indicates obsolete merchandise on hand or poor buying practices. Proper inventory control and expected inventory turnover should be monitored.

F. Finance professionals use many other specific ratios to learn more about a firm’s financial condition. This is an introduction course so all the ratios professionals use will not be reviewed.

**REMEMBER** - Financial ratios are useful indicators of a firm's performance and financial situation. Most ratios can be calculated from information provided by the financial statements. Financial ratios can be used to analyze trends and to compare the firm's financials to those of other firms. In some cases, ratio analysis can predict future bankruptcy.
What the heck are bulls and bears anyway, and what do they have to do with stocks?... You hear this term a lot on TV and in the newspapers, right? Well, here is the difference between a bull and a bear:

- **A Stock "Bull":**

  Someone who is known as a bull on a stock is "optimistic" or positive on the stock. If they are "bullish," they believe the stock will go up in price. "Bulls" also often promote the stock through newspaper articles, TV shows and website articles. Be careful believing what these people are saying. Just as with bears, you need to find out if they are bullish, predicting the stock will go up (and trying to push it up), because they hold a significant amount of shares of that stock.

- **A Stock "Bear":**

  If some is a "Bear" toward a stock, they are "pessimistic" or very negative about the future price of stock, and predict that it will go down. Exactly the opposite of a "Bull"...they often "knock down" a stock price, pushing their opinion that the stock will go down in price. Be careful believing what these people are saying. Just as with bulls, you need to find out if they are bearish, predicting the stock will go down (and trying to knock it down), because they hold a significant amount of shares of that stock but, in their case, they made hold these stocks "short" where they are betting that the stock price will go down, not up.
Financial Ratios

Financial ratios are useful indicators of a firm's performance and financial situation. Most ratios can be calculated from information provided by the financial statements. Financial ratios can be used to analyze trends and to compare the firm's financials to those of other firms. In some cases, ratio analysis can predict future bankruptcy.

Financial ratios can be classified according to the information they provide. The following types of ratios frequently are used:

- Liquidity ratios
- Asset turnover ratios
- Financial leverage ratios
- Profitability ratios
- Dividend policy ratios

Liquidity Ratios

*Liquidity ratios* provide information about a firm's ability to meet its short-term financial obligations. They are of particular interest to those extending short-term credit to the firm. Two frequently-used liquidity ratios are the *current ratio* (or *working capital ratio*) and the *quick ratio*.

The current ratio is the ratio of current assets to current liabilities:

\[
\text{Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}}
\]

Short-term creditors prefer a high current ratio since it reduces their risk. Shareholders may prefer a lower current ratio so that more of the firm's assets are working to grow the business. Typical values for the current ratio vary by firm and industry. For example, firms in cyclical industries may maintain a higher current ratio in order to remain solvent during downturns.

One drawback of the current ratio is that inventory may include many items that are difficult to liquidate quickly and that have uncertain liquidation values. The quick ratio is an alternative measure of liquidity that does not include inventory in the current assets. The quick ratio is defined as follows:

\[
\text{Quick Ratio} = \frac{\text{Current Assets} - \text{Inventory}}{\text{Current Liabilities}}
\]

The current assets used in the quick ratio are cash, accounts receivable, and notes receivable. These assets essentially are current assets less inventory. The quick ratio often is referred to as the *acid test*.

Finally, the *cash ratio* is the most conservative liquidity ratio. It excludes all current assets except the most liquid: cash and cash equivalents. The cash ratio is defined as follows:
Cash Ratio = \frac{\text{Cash} + \text{Marketable Securities}}{\text{Current Liabilities}}

The cash ratio is an indication of the firm's ability to pay off its current liabilities if for some reason immediate payment were demanded.

Asset Turnover Ratios

Asset turnover ratios indicate of how efficiently the firm utilizes its assets. They sometimes are referred to as efficiency ratios, asset utilization ratios, or asset management ratios. Two commonly used asset turnover ratios are receivables turnover and inventory turnover.

Receivables turnover is an indication of how quickly the firm collects its accounts receivables and is defined as follows:

\text{Receivables Turnover} = \frac{\text{Annual Credit Sales}}{\text{Accounts Receivable}}

The receivables turnover often is reported in terms of the number of days that credit sales remain in accounts receivable before they are collected. This number is known as the collection period. It is the accounts receivable balance divided by the average daily credit sales, calculated as follows:

\text{Average Collection Period} = \frac{\text{Accounts Receivable}}{\frac{\text{Annual Credit Sales}}{365}}

The collection period also can be written as:

\text{Average Collection Period} = \frac{365}{\text{Receivables Turnover}}

Another major asset turnover ratio is inventory turnover. It is the cost of goods sold in a time period divided by the average inventory level during that period:

\text{Inventory Turnover} = \frac{\text{Cost of Goods Sold}}{\text{Average Inventory}}

The inventory turnover often is reported as the inventory period, which is the number of days worth of inventory on hand, calculated by dividing the inventory by the average daily cost of goods sold:

\text{Inventory Period} = \frac{\text{Average Inventory}}{\frac{\text{Annual Cost of Goods Sold}}{365}}

The inventory period also can be written as:

\text{Inventory Period} = \frac{365}{...}
Inventory Turnover

Other asset turnover ratios include fixed asset turnover and total asset turnover.

Financial Leverage Ratios

Financial leverage ratios provide an indication of the long-term solvency of the firm. Unlike liquidity ratios that are concerned with short-term assets and liabilities, financial leverage ratios measure the extent to which the firm is using long term debt.

The debt ratio is defined as total debt divided by total assets:

\[
\text{Debt Ratio} = \frac{\text{Total Debt}}{\text{Total Assets}}
\]

The debt-to-equity ratio is total debt divided by total equity:

\[
\text{Debt-to-Equity Ratio} = \frac{\text{Total Debt}}{\text{Total Equity}}
\]

Debt ratios depend on the classification of long-term leases and on the classification of some items as long-term debt or equity.

The times interest earned ratio indicates how well the firm's earnings can cover the interest payments on its debt. This ratio also is known as the interest coverage and is calculated as follows:

\[
\text{Interest Coverage} = \frac{\text{EBIT}}{\text{Interest Charges}}
\]

where EBIT = Earnings Before Interest and Taxes

Profitability Ratios

Profitability ratios offer several different measures of the success of the firm at generating profits.

The gross profit margin is a measure of the gross profit earned on sales. The gross profit margin considers the firm's cost of goods sold, but does not include other costs. It is defined as follows:

\[
\text{Gross Profit Margin} = \frac{\text{Sales} - \text{Cost of Goods Sold}}{\text{Sales}}
\]

Return on assets is a measure of how effectively the firm's assets are being used to generate profits. It is defined as:

\[
\text{Return on Assets} = \frac{\text{Net Income}}{\text{Total Assets}}
\]
Return on equity is the bottom line measure for the shareholders, measuring the profits earned for each dollar invested in the firm's stock. Return on equity is defined as follows:

\[
\text{Return on Equity} = \frac{\text{Net Income}}{\text{Shareholder Equity}}
\]

**Dividend Policy Ratios**

Dividend policy ratios provide insight into the dividend policy of the firm and the prospects for future growth. Two commonly used ratios are the dividend yield and payout ratio.

The dividend yield is defined as follows:

\[
\text{Dividend Yield} = \frac{\text{Dividends Per Share}}{\text{Share Price}}
\]

A high dividend yield does not necessarily translate into a high future rate of return. It is important to consider the prospects for continuing and increasing the dividend in the future. The dividend *payout ratio* is helpful in this regard, and is defined as follows:

\[
\text{Payout Ratio} = \frac{\text{Dividends Per Share}}{\text{Earnings Per Share}}
\]

**Use and Limitations of Financial Ratios**

Attention should be given to the following issues when using financial ratios:

- A reference point is needed. To be meaningful, most ratios must be compared to historical values of the same firm, the firm's forecasts, or ratios of similar firms.
- Most ratios by themselves are not highly meaningful. They should be viewed as indicators, with several of them combined to paint a picture of the firm's situation.
- Year-end values may not be representative. Certain account balances that are used to calculate ratios may increase or decrease at the end of the accounting period because of seasonal factors. Such changes may distort the value of the ratio. Average values should be used when they are available.
- Ratios are subject to the limitations of accounting methods. Different accounting choices may result in significantly different ratio values.