# Financial Accounting

Principles of Accounting I, Lumen Learning



Developed in conjunction with Debra Porter, Tidewater Community College, www.tcc.edu, with contributions from Broward College.

# CONTENTS

# UNIT 1: WHAT IS ACCOUNTING

**LEARNING OBJECTIVES**

By the end of this lesson, you will be able to:

- Define accounting
- Describe the evolution of accounting
- Identify reasons for the study of accounting.
- List various types of accounting activities
- Identify users of accounting information.
- Explain the importance of Ethics in business and accounting and the reason for the enactment of the SARBANES OXLEY Act.

## Why do we need financial information?

Each business needs financial information to be able to answer the following questions:

- How much cash does the business need?
- What is the business' profit or loss?
- How much should the business sell?
- What is the cost of goods sold?
- What are the business' expenses?
- Do customers owe money to the business?
- How much money does the business owe to vendors (suppliers)?

The video below gives a brief overview of many of the topics in this lesson. Before you review the video, consider these questions:

- What is Accounting?
- What is Business?
- Who are the three people that want to know the story of your business?
- What language of Accounting does the government use?
- What language of Accounting do Investors use?
- What language of Accounting do internal users employ?

Watch this video online: https://youtu.be/Yj24JwZVd54

### Accounting is the Language of Business

Every business organization that has economic resources, such as money, machinery, and buildings, uses accounting information. For this reason, accounting is called the language of business. Accounting also serves as the language providing financial information about not-for-profit organizations such as governments, churches, charities, fraternities, and hospitals. However, these entities are not businesses because they do not operate in a for-profit manner. In this course we will focus on accounting for business firms.

The accounting process provides financial data for a broad range of individuals whose objectives in studying the data vary widely. Bank officials, for example, may study a company's financial statements to evaluate the company's ability to repay a loan. Prospective investors may compare accounting data from several companies to decide which company represents the best investment. Accounting also supplies management with significant financial data useful for decision making.

**Financial accounting** information appears in financial statements that are intended primarily for external use (although management also uses them for certain internal decisions). Stockholders and creditors are two of the outside parties who need financial accounting information. These outside parties decide on matters pertaining to the entire company, such as whether to increase or decrease their investment in a company or to extend credit to a company. Consequently, financial accounting information relates to the company as a whole, while managerial accounting focuses on the parts or segments of the company.

**Managerial accounting** information is for internal use and provides special information for the managers of a company. The information managers use may range from broad, long-range planning data to detailed explanations of why actual costs varied from cost estimates. Management accountants in a company prepare the financial statements. Thus, management accountants must be knowledgeable concerning financial accounting and reporting. The financial statements are the representations of management, not the CPA firm that performs the audit.

Answer the following questions to quiz your understanding of the video and the readings. Choose how confident you are, Maybe, Probably or Definitely, to check your answer!

## Accounting is the Language of Business

Every profit-seeking business organization that has economic resources, such as money, machinery, and buildings, uses accounting information. For this reason, accounting is called the language of business. Accounting also serves as the language providing financial information about not-for-profit organizations such as governments, churches, charities, fraternities, and hospitals. However, these entities are not businesses because they do not operate in a for-profit manner. In this course we will focus on accounting for business firms.

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Answer the following questions to quiz your understanding of the video, remember to choose how confident you are with your answer, Maybe, Probably or Definitely!

| NEW TERMS |
| --- |
| **Accounting** the language of business. The process of identifying, measuring, and communicating economic information to permit informed judgments and decisions by the users of the information. |

**Accounting process** provides financial data for a broad range of individuals whose objectives in studying the data vary widely.

**Managerial accounting** accounting that supplies managers and owners with significant financial data that is useful for decision making

**GAAP** generally accepted accounting principles



# ACCOUNTING DEFINED

## Definition of Accounting

We understand, from the prior video, that accounting is “the language of business”.

The American Accounting Association defines accounting as:

> the process of identifying, measuring, and communicating economic information to permit informed judgments and decisions by the users of the information.

This information is primarily financial—stated in money terms. Accounting, then, is a measurement and communication process used to report on the activities of profit-seeking business organizations. As a measurement and communication process for business, accounting supplies information that permits informed judgments and decisions by users of the data.

## Internal & External Users

Users of accounting information are separated into two groups, internal and external. Internal users are the people within a business organization who use accounting information. External users are people outside the business entity that use accounting information. Accounting information is valuable because decision makers both internally and externally can use it to evaluate the financial consequences of various alternatives. Accountants reduce uncertainty by using professional judgment to quantify the future financial impact of taking action or delaying action. Although accounting information plays a significant role in reducing uncertainty within an organization, it also provides financial data for persons outside the company.

## Bookkeeping vs. Accounting

Accounting is often confused with bookkeeping. Bookkeeping is a mechanical process that records the routine economic activities of a business. Accounting includes bookkeeping but goes well beyond it in scope. Accountants analyze and interpret financial information, prepare financial statements, conduct audits, design accounting systems, prepare special business and financial studies, prepare forecasts and budgets, and provide tax services.

## Why is it Important to Study Accounting?

You probably will find that of all the business knowledge you have acquired or will learn, the study of accounting will be the most useful. Your financial and economic decisions as a student and consumer involve accounting information. When you file income tax returns, accounting information helps determine your taxes payable.  Watch this video to get a better idea of why it is important to study accounting.

Watch this video online: https://youtu.be/4kIWqDK4j5Q

Understanding the discipline of accounting also can influence many of your future professional decisions. You cannot escape the effects of accounting information on your personal and professional life.

As you move through this course, keep in mind an important concept –  accounting has the OPPOSITE mindset of a bank account. A bank account is something you own but something the bank owes you. A debit card is called this because the bank will reduce the amount from your bank account making it less money the bank owes you if you were to close your account.

**Important Points to Remember**

- **Accounting** is a process of recording, organizing, summarizing, and analyzing financial information. Financial information is presented to owners, investors, managers, and other interested parties.
- **Accounting systems** help to gather all financial data and create periodic reports called financial statements.

Answer the following questions to assess your understanding of what you read. Remember to choose how confident you are: Maybe, Probably, Definitely!, to check your answer.

**NEW TERMS**

**Internal Users** the people within a business organization who use accounting information.

**External Users** people outside the business entity that use accounting information.

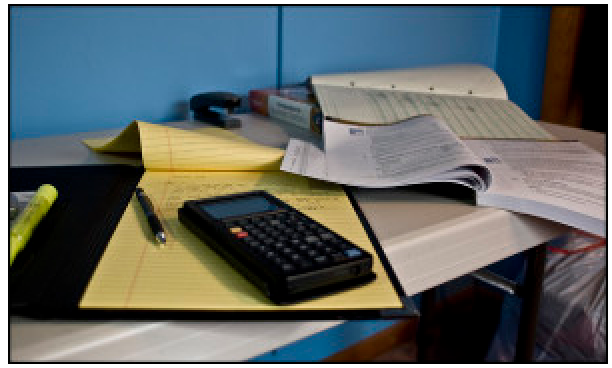
**Bookkeeping** a mechanical process that records the routine economic activities of a business.



# USERS OF ACCOUNTING INFORMATION

The accounting process provides financial data for a broad range of individuals whose objectives in studying the data vary widely.   Three primary users of accounting information were previously identified, Internal users, External users, and Government/ IRS.  Each group uses accounting information differently, and requires the information to be presented differently.

Internal Users



Accounting supplies managers and owners with significant financial data that is useful for decision making. This type of accounting in generally referred to as managerial accounting.

Some of the ways internal users employ accounting information include the following:

- Assessing how management has discharged its responsibility for protecting and managing the company's resources
- Shaping decisions about when to borrow or invest company resources
- Shaping decisions about expansion or downsizing

External Users

Typically called financial accounting, the record of a business' financial history for use by external entities is used for many purposes. The external users of accounting information fall into six groups; each has different interests in the company and wants answers to unique questions. The groups and some of their possible questions are:

- Owners and prospective owners. Has the company earned satisfactory income on its total investment? Should an investment be made in this company? Should the present investment be increased, decreased, or retained at the same level? Can the company install costly pollution control equipment and still be profitable?
- Creditors and lenders. Should a loan be granted to the company? Will the company be able to pay its debts as they become due?
- Employees and their unions. Does the company have the ability to pay increased wages? Is the company financially able to provide long-term employment for its workforce?
- Customers. Does the company offer useful products at fair prices? Will the company survive long enough to honor its product warranties?
- Governmental units. Is the company, such as a local public utility, charging a fair rate for its services?
- General public. Is the company providing useful products and gainful employment for citizens without causing serious environmental problems?

Some of the ways external users employ accounting information include the following:

- Stockholders have the right to know how a company is managing its investments
- Federal and State Governments require tax returns and other documents often prepared by accountants
- Banks or lending institutions may use accounting information to guide decisions such as whether to lend or how much to lend a business
- Investors will also use accounting information to guide investment decisions


General-purpose financial statements provide much of the information needed by external users of financial accounting. These financial statements are formal reports providing information on a company's financial position, cash inflows and outflows, and the results of operations. Many companies publish these statements in annual reports, also known as a 10-K or a 10-Q (quarterly report). The annual report contains the independent auditor's opinion as to the fairness of the financial statements, as well as information about the company's activities, products, and plans. Typically, the best place to find these reports for a public company can be on their website under the Investor relations section. Financial statements used by external entities are prepared using generally accepted accounting principles, or GAAP. We will discuss the language of GAAP further in later sections.

### Government / IRS

Government agencies that track and use taxes are interested in the financial story of a business. They want to know whether the business is paying taxes according to current tax laws. The language in which tax-related financial statements are prepared is called IRC or Internal Revenue Code. Tax preparation will be outside the scope of this course.

**Important Points to Remember**

- **Internal users** are people within a business organization who use financial information. Examples of internal users are owners, managers, and employees.
- **External users** are people outside the business entity (organization) who use accounting information. Examples of external users are suppliers, banks, customers, investors, potential investors, and tax authorities.



# TYPES OF BUSINESSES AND BUSINESS ACTIVITIES

## FORMS OF BUSINESS ORGANIZATIONS

Accountants frequently refer to a business organization as an **accounting entity** or a **business entity.** A business entity is any business organization, such as a hardware store or grocery store, that exists as an economic unit. For accounting purposes, each business organization or entity has an existence separate from its owner(s), creditors, employees, customers, and other businesses. This separate existence of the business organization is known as the **business entity concept**. Thus, in the accounting records of the business entity, the activities of each business should be kept separate from the activities of other businesses and from the personal financial activities of the owner(s).

As you will see shortly, the business entity concept applies to the four main forms of businesses—single proprietorships, partnerships, and corporations. Thus, for accounting purposes, all four business forms are separate from other business entities and from their owner(s).

- A **single proprietorship** is an unincorporated business owned by an individual and often managed by that same person. Single proprietors include physicians, lawyers, electricians, and other people in business for themselves. Many small service businesses and retail establishments are also single proprietorships. No legal formalities are necessary to organize such businesses, and usually business operations can begin with only a limited investment. The most attractive feature of a proprietorship is that there is **no** "double taxation". Both proprietorships and partnerships do not pay taxes on profits at the business level. The only taxes paid are at the personal level—this occurs when proprietors and partners pay taxes on their share of their company's income. On the other hand, a business owner is personally liable for all debts of his or her company. This is called unlimited liability. If you're a sole proprietorship and the debts of your business exceed its assets, creditors can seize your personal assets to cover the proprietorship's outstanding business debt.

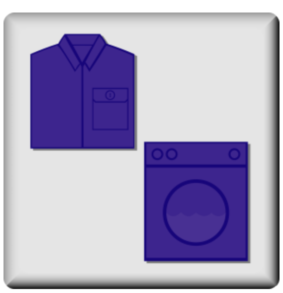
- A **partnership** is an unincorporated business owned by two or more persons associated as partners. Often the same persons who own the business also manage the business. Many small retail establishments and professional practices, such as dentists, physicians, attorneys, and many CPA firms, are partnerships. Unlimited liability is even riskier in the case of a partnership. Each partner is personally liable not only for his or her own actions but also for the actions of all the partners. If, through mismanagement by one of your partners, the partnership is forced into bankruptcy, the creditors can go after you for all outstanding debts of the partnership.

- A **corporation** is a business incorporated under the laws of a state and owned by a few stockholders or thousands of stockholders. Almost all large businesses and many small businesses are incorporated. The corporation is unique in that it is a separate legal business entity. The owners of the corporation are **stockholders**, or **shareholders.** Stockholders do not directly manage the corporation. They elect a board of directors to represent their interests.

Accounting is necessary for all forms of business organizations, and each company must follow generally accepted accounting principles (GAAP).

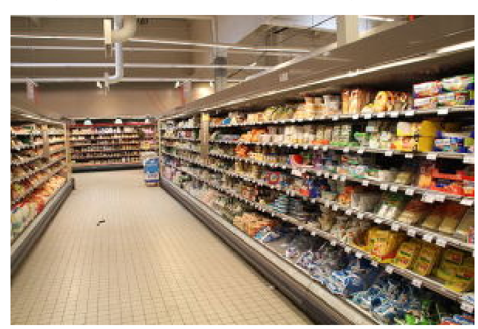
## TYPES OF ACTIVITIES PERFORMED BY BUSINESS ORGANIZATIONS

The forms of business entities discussed in the previous section are classified according to the type of ownership of the business entity. Business entities can also be grouped by the type of business activities they perform—service companies, merchandising companies, and manufacturing companies. Any of these activities can be performed by companies using any of the three forms of business organizations.



•**Service companies** perform services for a fee. This group includes accounting firms, law firms, and dry cleaning establishments.

•**Merchandising companies** purchase goods that are ready for sale and then sell them to customers. Merchandising companies include auto dealerships, clothing stores, and supermarkets.



•**Manufacturing companies** buy materials, convert them into products, and then sell the products to other companies or to the final consumers. Manufacturing companies include steel mills, auto manufacturers, and clothing manufacturers.

All of these companies produce financial statements as the final end product of their accounting process. These financial statements provide relevant financial information both to those inside the company—management—and to those outside the company—creditors, stockholders, and other interested parties. The next section introduces four common financial statements—the income statement, the statement of retained earnings, the balance sheet, and the statement of cash flows.

Test your understanding of the four types of businesses with this quiz. Remember to rate your confidence to check your answer: Maybe, Probably Definitely!

## Important Points to Remember

- **Business entity** is any business organization, such as super market, or accounting firm, that exists as an economic unit.
- **Business entity principle** states that a business must be keep accounting records separate from its owners or other businesses.
- **Ownership** in business entities can be a sole proprietorship, partnership, or corporation. From the accounting perspective and its purpose these types of business are considered separate entities from their owners. The corporation is only one considered as a separate legal entity.
- A business can be a service company, merchandising company, or a manufacturing company.

## NEW TERMS

**Asset** Things of value owned by the business. Examples include cash, machines, and buildings. To their owners, assets possess service potential or utility that can be measured and expressed in money terms.

**Business Entity** is any business organization that exists as an economic unit.

**Liabilities** Debts owed by a business—or creditors' equity. Examples: notes payable, accounts payable.

**Stockholders' equity** The owners' interest in a corporation.

**Sole Proprietorships** are business entities owned by one single person.

**Partnerships** are business entities owned by at least two people.

**Corporations** are business entities owned by one person or many people called shareholders.

**Service company** is a business entity that provides services to the public and does not sell a product.

**Merchandising companies** are business entities selling a product and possibly a service to the public. A merchandising company purchases the products to be sold from outside vendors.

**Manufacturing companies** are business entities selling a product to the public that is made by the company using raw materials, direct labor and overhead.

# *ETHICAL BEHAVIOR OF ACCOUNTANTS*

Most of those who write about ethics do not make a clear distinction between ethics and morality. The question of what is "right" or "morally correct" or "ethically correct" or "morally desirable" in any situation is variously phrased, but all of the words and phrases are after the same thing: what act is "better" in a moral or ethical sense than some other act? People sometimes speak of morality as something personal but view ethics as having wider social implications. Others see morality as the subject of a field of study, that field being ethics. Ethics would be morality as applied to any number of subjects, including journalistic ethics, business ethics, or the ethics of professionals such as doctors, attorneys, and accountants. We will venture a definition of *ethics*, but for our purposes, *ethics* and *morality* will be used as equivalent terms.

People often speak about the ethics or morality of individuals and also about the morality or ethics of businesses. There are clearly differences in the kind of moral responsibility that we can fairly ascribe to businesses and accountants; we tend to see individuals as having a soul, or at least a conscience, but there is no general agreement that businesses have either. Still, our ordinary use of language does point to something significant: if we say that some businesses are "evil" and others are "corrupt," then we make moral judgments about the quality of actions undertaken by the business. For example, if we conclude that WorldCom or Enron acted "unethically" in certain respects, then we are making judgments that their collective actions are morally deficient.

## Why Should a Business or Accountant Be Ethical?

The usual answer is that good ethics is good business. In the long run, businesses that pay attention to ethics do better; they are viewed more favorably by customers. But this is a difficult claim to measure scientifically, because "the long run" is an indistinct period of time and because there are as yet no generally accepted criteria by which ethical excellence can be measured. In addition, life is still lived in the short run, and there are many occasions when something short of perfect conduct is a lot more *profitable*.

Several accounting organizations have codes of ethics governing the behavior of their members. For instance, both the American Institute of Certified Public Accountants and the Institute of Management Accountants have formulated such codes. It is important to maintain ethical behavior both personally and professionally in business, therefore many business firms have also developed codes of ethics for their employees to follow.

Ethical behavior involves more than merely making sure you are not violating a code of ethics. Most of us sense what is right and wrong. Yet get-rich-quick opportunities can tempt many of us. Almost any day, newspaper headlines reveal public officials and business leaders who did not do the right thing. *Greed* won out over their sense of right and wrong. These individuals followed slogans such as: "Get yours while the getting is good"; "Do unto others before they do unto you"; and "You have done wrong only if you get caught". More appropriate slogans might be: "If it seems too good to be true, it usually is"; "There are no free lunches"; and the golden rule, "Do unto others as you would have them do unto you".

An accountant's most valuable asset is an honest reputation. Those who take the high road of ethical behavior receive praise and honor; they are sought out for their advice and services. They also like themselves and what they represent. Occasionally, accountants do take the low road and suffer the consequences. They sometimes find their names mentioned in *The Wall Street Journal* and news programs in an unfavorable light, and former friends and colleagues look down on them. Some of these individuals are removed from the profession. Fortunately, the accounting profession has many leaders who have taken the high road, gained the respect of friends and colleagues, and become role models for all of us to follow.

## Case Study: The Sarbanes-Oxley Act

Sarbanes–Oxley was named after sponsors U.S. Senator Paul Sarbanes and U.S. Representative Michael G. Oxley. As a result of SOX, top management must individually certify the accuracy of financial information. In addition, penalties for fraudulent financial activity are much more severe. Also, SOX increased the oversight role of boards of directors and the independence of the outside auditors who review the accuracy of corporate financial statements.

The bill, which contains eleven sections, was enacted as a reaction to a number of major corporate and accounting scandals, including those affecting Enron, Tyco International, Adelphia, Peregrine Systems, and WorldCom. These scandals cost investors billions of dollars when the share prices of affected companies collapsed and shook public confidence in the US securities markets.

The act contains eleven titles, or sections, ranging from additional corporate board responsibilities to criminal penalties, and requires the Securities and Exchange Commission (SEC) to implement rulings on requirements to comply with the law. "The mission of the SEC is to protect investors, maintain fair orderly, and efficient markets, and facilitate capital formation." (Note: The US Securities and Exchange Commission, http://www.sec.gov/about/whatwedo.shtml)

Harvey Pitt, the 26th chairman of the SEC, led the SEC in the adoption of dozens of rules to implement the Sarbanes–Oxley Act. It created a new, quasi-public agency, the Public Company Accounting Oversight Board, or PCAOB, charged with overseeing, regulating, inspecting, and disciplining accounting firms in their roles as auditors of public companies. The act also covers issues such as auditor independence, corporate governance, internal control assessment, and enhanced financial disclosure. The nonprofit arm of Financial Executives International (FEI), Financial Executives Research Foundation (FERF), completed extensive research studies to help support the foundations of the act.

Debate continued as of 2007 over the perceived benefits and costs of SOX. Opponents of the bill have claimed it has reduced America's international competitive edge against foreign financial service providers because it has introduced an overly complex regulatory environment into US financial markets. A study commissioned by NYC Mayor Michael Bloomberg and US Sen. Charles Schumer, cited this as one reason America's financial sector is losing market share to other financial centers worldwide.Proponents of the measure said that SOX has been a "godsend" for improving the confidence of fund managers and other investors with regard to the veracity of corporate financial statements.

*Sen. Paul Sarbanes (D–MD) and Rep. Michael G. Oxley (R–OH-4), the co-sponsors of the Sarbanes–Oxley Act.*

This information about the Sarbanes-Oxley Act was taken from Wikipedia, where you can learn more about it if you are interested.

## Important Points to Remember

- **Business ethics** can be described as a set of moral behaviors that influence principles within a business or organizational environment.
- **The Sarbanes-Oxley Act** was created to prevent and limit corporate accounting scandals after Enron financial crimes were revealed in 2001

# EXERCISES: UNIT 1

SHORT ANSWER QUESTIONS, EXERCISES AND PROBLEMS

A) Question
Accounting has often been called the language of business. In what respects would you agree with this description? How might you argue that this description is deficient?
B) Comprehensive Review Questions

- Why do we need financial information?
- What is accounting?
- What is Business?
- Who are the three people that want to know the story of your business?
- Describe the language of Accounting does the government use?
- Describe the language of Accounting do Investors use?
- Describe the language of Accounting do internal users employ?
- Describe the difference between Financial and Managerial Accounting.
- Define the Accounting Cycle.
- Identify  internal and external users of financial information?
- What is general purpose of financial statements?
- What are the most common types of business entities?
- How a corporation differ from a partnership in context of the ownership?
- Describe the Limited-Liability Company?
- What is the purpose of Sarbanes–Oxley Act?
- What is the role of the Securities and Exchange Commission?
- What is the role of ethics in accounting?

Exercises

Exercise A Match the descriptions in Column B with the appropriate terms in Column A.

| | Column A | | Column B |
|---|---|---|---|
| 1. | Corporation. | a. | An unincorporated business owned by an individual. |
| 2. | Merchandising company. | b. | The form of organization used by most large businesses. |
| 3. | Partnership. | c. | Buys raw materials and converts them into finished products. |
| 4. | Manufacturing company. | d. | Buys goods in their finished form and sells them to |

| | | | |
|---|---|---|---|
| 5. | Service company. | | customers in that same form. |
| 6. | Single proprietorship. | e. | An unincorporated business with more than one owner. |
| | | f. | Performs services for a fee. |

Beyond the numbers—critical thinking

Business decision case A Upon graduation from high school, Jim Crane went to work for a builder of houses and small apartment buildings. During the next six years, Crane earned a reputation as an excellent employee—hardworking, dedicated, and dependable—in the light construction industry. He could handle almost any job requiring carpentry, electrical, or plumbing skills.

Crane then decided to go into business for himself under the name Jim's Fix-It Shop, Inc. He invested cash, some power tools, and a used truck in his business. He completed many repair and remodeling jobs for homeowners and apartment owners. The demand for his services was so large that he had more work than he could handle. He operated out of his garage, which he had converted into a shop, adding several new pieces of power woodworking equipment.

Now, two years after going into business for himself, Crane must decide whether to continue in his own business or to accept a position as construction supervisor for a home builder. He has been offered an annual salary of $ 50,000 and a package of fringe benefits (medical and hospitalization insurance, pension contribution, vacation and sick pay, and life insurance) worth approximately $ 8,000 per year. The offer is attractive to Crane. But he dislikes giving up his business since he has thoroughly enjoyed being his own boss, even though it has led to an average workweek well in excess of the standard 40 hours

Suppose Crane comes to you for assistance in gathering the information needed to help him make a decision. He brings along the accounting records that have been maintained for his business by an experienced accountant. Using logic and your own life experiences, indicate the nature of the information Jim needs if he is to make an informed decision. Pay particular attention to the information likely to be found in his business accounting records. Does the accounting information available enter directly into the decision? Write a memorandum to Jim describing the information he will need to make an informed decision. The memo's headings should include Date, To, From, and Subject. (See the format in Group Project E below.)

Annual report analysis B Recall that in this chapter we showed that the equity ratio is calculated by dividing stockholders' equity by total equities (or total assets). Another format for analyzing solvency is to divide total debt by total equities. This latter calculation tells the proportion of assets financed by debt rather than the proportion of assets financed by stockholders' equity. These two ratios are complements and must add to 100 per cent. Thus, if 25 per cent of assets were financed by debt, 75 per cent were financed by stockholders' equity.

Using the following historical data from Gateway, calculate the "total-debt-to total-capital" ratio for each year.

| | 2003 | 2002 | 2001 | 2000 | 1999 | 1998 | 1997 |
|---|---|---|---|---|---|---|---|
| Total liabilities (000's) | $ 1,772,205 | $ 1,937,570 | $ 1,546,005 | $ 1,109,337 | $ 857,870 | $ 568,492 | $ 394,545 |
| Total stockholders equity | 2380339 | 2017118 | 1344375 | 930044 | 815541 | 555519 | 376035 |

Study these amounts and comment on the solvency of the company. Is there a trend in the company's solvency over time? Gateway has experienced tremendous growth in stockholders' equity during the past six years, but has also increased liabilities significantly. Could Gateway have grown this much without increasing liabilities?

Annual report analysis C Look at The Limited, Inc., annual report in the Annual report appendix. In that report you will find a letter outlining Management's responsibilities concerning the financial statements, as well as the report of the independent auditors.

Write answers to the following questions:

Who is responsible for preparing the financial statements?

Of what importance is the internal audit?

What is the role of the audit committee?

Why are no officers or employees on the audit committee?

What is the responsibility of the external independent auditor?

Does the independent auditor have absolute assurance that the financial statements are free of material misstatement?

To what extent does the independent auditor examine evidence?

Ethics case- writing experience D Refer to "An ethical perspective: State university". Write a short essay discussing the alternatives James Stevens could pursue and the likely outcomes of those alternatives. Which of the alternatives you have discussed would you recommend?

Group project E In teams of two or three students, interview a businessperson in your community. Ask how that person uses accounting information in making business decisions and obtain specific examples. Each team should write a memorandum to the instructor summarizing the results of the interview. Information contained in the memo should include:

Date:

To:

From:

Subject:

Content of the memo must include the name and title of the person interviewed, name of the company, date of the interview, examples of the use of accounting information for decision making, and any other pertinent information.

Group project F With a team composed of one or two other students, conceive of a business that you would like to form after graduation. Then describe approximately 15–20 transactions that the business might undertake in its first month of operations. Prepare a summary of transactions showing how each transaction affects the accounting equation. Identify each asset, liability, and stockholders' equity item in your summary of transactions. For instance, instead of grouping all assets in one number, show cash, accounts receivable, and so on in your accounting equation.

Group project G With a team of one or two other students and using library sources, write a paper on the American Institute of Certified Public Accountants, their services to members, and their activities. Be careful to cite sources for your information. Direct quotes should be labeled as such and should be single-spaced and indented if relatively long or in quote marks and not indented if relatively short. To quote without giving the source is plagiarism and should be avoided at all costs.

Using the Internet—A view of the real world

Visit the following website for Nokia:

http://www.nokia.com

Write a short paper describing company information, products and services, and support available for their products.

Visit the following website for Ford Motor Company:

http://www.ford.com

When the web page appears, search for Investor Information and then locate the Ford Motor Company Annual Report. Based on your investigation, write a short paper describing the general content of the annual report.



# GLOSSARY UNIT 1

## GLOSSARY

**Asset** Things of value owned by the business. Examples include cash, machines, and buildings. To their owners, assets possess service potential or utility that can be measured and expressed in money terms.

**Balance sheet** Financial statement that lists a company's assets, liabilities, and stockholders' equity (including dollar amounts) as of a specific moment in time. Also called a *statement of financial position.*

**Business entity concept (or accounting entity concept)** The separate existence of the business organization.

**Corporation** Business incorporated under the laws of one of the states and owned by a few stockholders or by thousands of stockholders.

**Entity** A business unit that is deemed to have an existence separate and apart from its owners, creditors, employees, customers, other interested parties, and other businesses, and for which accounting records are maintained.

**Going-concern (continuity) concept** The assumption by the accountant that unless strong evidence exists to the contrary, a business entity will continue operations into the indefinite future.

**Income statement** Financial statement that shows the revenues and expenses and reports the profitability of a business organization for a stated period of time. Sometimes called an *earnings statement.*

**Manufacturing companies** Companies that buy materials, convert them into products, and then sell the products to other companies or to final customers.

**Merchandising companies** Companies that purchase goods ready for sale and sell them to customers.

**Money measurement concept** Recording and reporting economic activity in a common monetary unit of measure such as the dollar.

**Partnership** An unincorporated business owned by two or more persons associated as partners.

**Periodicity (time periods) concept** An assumption that an entity's life can be meaningfully subdivided into time periods (such as months or years) for purposes of reporting its economic activities.

**Profitability** Ability to generate income. The income statement reflects a company's profitability.

**Service companies** Companies (such as accounting firms, law firms, or dry cleaning establishments) that perform services for a fee.

**Sole proprietorship** An unincorporated business owned by an individual and often managed by that individual.

**Stockholders or shareholders** Owners of a corporation; they buy shares of stock, which are units of ownership, in the corporation.

# UNIT 2: ACCOUNTING PRINCIPLES AND PRACTICES

## INTRODUCTION: ACCOUNTING PRINCIPLES AND PRACTICES

| LEARNING OBJECTIVES |
|---|

By the end of this section, you will be able to:

- Explain the meaning of the term Generally Accepted Accounting Principles (GAAP).
- Define assets, liabilities, and owner's equity.
- Describe the causes of change in owners' equity, specifically: Owner investments, Owner withdrawals, Net income, Net loss
- Explain the effect of various transactions on the accounting equation.
- Prepare a simple: Income Statement, Statement of Owner's Equity, Balance Sheet

## GAAP - GENERALLY ACCEPTED ACCOUNTING PRINCIPLES

Financial accounting information is historical in nature, reporting on what has happened in the past. To facilitate comparisons between companies, this information must conform to certain accounting standards or principles called generally accepted accounting principles (GAAP). These generally accepted accounting principles for businesses or governmental organizations have developed through accounting practice or been established by an authoritative organization.

The Financial Accounting Standards Board (FASB) develops the Generally Accepted Accounting Principles (GAAP). The process of developing GAAP include:

1. FASB members issue a discussion memorandum,
2. FASB collects all responses and suggestions from Securities and Exchange Commission (SEC), the American Institute of Certified Public Accountants (AICPA), the American Accounting Association (AAA), public accounting firms, and other involved parties.
3. FASB presents the exposure draft,

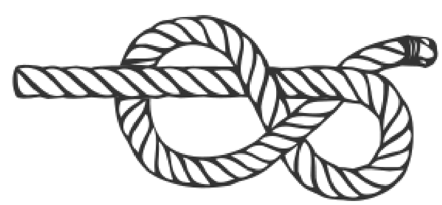
4. FASB obtains responses to the exposure draft from Securities and Exchange Commission (SEC), the American Institute of Certified Public Accountants (AICPA), the American Accounting Association (AAA), public accounting firms, and other involved parties.
5. FASB issues the final statement of principle, all principles are modified and refined as accountants respond to constantly changing business environment.

To achieve basic objectives and implement fundamental qualities GAAP has four basic *principles*, and four basic *constraints*.

## Principles

- **Historical cost principle** requires companies to account and report based on acquisition costs rather than fair market value for most assets and liabilities. This principle provides information that is reliable (removing opportunity to provide subjective and potentially biased market values), but not very relevant. Thus there is a trend to use fair values. Most debts and securities are now reported at market values.
- **Revenue recognition principle** holds that companies may not record revenue until (1) it is realized or realizable and (2) when it is earned. It does not matter if cash has been received or paid. This is the essence of accrual basis accounting. If a company or business believes that they may not receive payment for services or goods rendered, they may not record related revenue.
- **Matching principle**. Expenses have to be matched with revenues as long as it is reasonable to do so. Expenses are recognized not when the work is performed, or when a product is produced, but when the work has been done or the product has been delivered. Only if no connection with revenue can be established, cost may be charged as expenses to the current period (e.g. office salaries and other administrative expenses). This principle allows greater evaluation of actual profitability and performance (shows how much was spent to earn revenue).
- **Full disclosure principle**. Amount and kinds of information disclosed should be decided based on trade-off analysis as a larger amount of information costs more to prepare and use. Information disclosed should be enough to make a judgment while keeping costs reasonable. Information is presented in the main body of financial statements, in the notes or as supplementary information

## Constraints



- **Objectivity constraint**: the company financial statements provided by the accountants should be based on objective evidence.
- **Materiality constraint**: the significance of an item should be considered when it is reported. An item is considered significant when it would affect the decision of a reasonable individual.
- **Consistency constraint**: It means that the company uses the same accounting principles and methods from period to period.
- **Conservatism constraint**: when choosing between two solutions, the one which has the less favorable outcome is the solution which should be chosen (see convention of conservatism).

**Important Points to Remember!**

- The Securities and Exchange Commission has the final voice on all issues and matters related to financial reporting by publicly traded corporations. The SEC also requires all publicly owned companies to comply with Generally Accepted Accounting Principles (GAAP).
- In contrast FASB assists to private sector organizations, and its responsible for establishing accounting and reporting standards.



# ACCOUNT TYPES

## Account Types

Transactions can be summarized into similar group or accounts. A company compiles a list of accounts to make the chart of accounts. Need more information about what an account is? Watch this brief video.

Watch this video online: https://youtu.be/xEjWZndqK0E

The video explained that accounts are like file folders. What are some things a company might have? A company might have cash or a checking account, invoices for money we will receive from customers later, bills we have to pay, and we might own property like land, building or equipment. We have 5 basic categories for accounts:

- **Asset**: Something a business has or owns
- **Liability**: Something we owe to a non-owner
- **Equity**: Something we owe to the owners or the value of the investment to the owner
- **Revenue**: Value of the goods we have sold or the services we have performed
- **Expenses**: Costs of doing business

Let's look at each one individually. We will look at the broad picture of each category as you will learn the details later in the course.

Assets: Assets are something you own or have and they are resources you expect to gain a benefit from in the future. Depending on the nature of the business there are many things that can be classified as assets.

Some examples of assets are:

- Cash (refers to the business cash available but can also be a checking or savings account)
- Office Supplies or other prepaid expenses (any expenses the business pays in advance)
- Accounts receivable (amount we will receive from customers at a later date)
- Inventory (items we intend to sell later)
- Equipment (value of equipment purchased)
- Building (value of building purchased)
- Land (value of land purchased)

Liabilities: Liabilities are something that business owes to a non-owner (debt and business obligations). Liabilities can easily be identified as the account will most often end in the word "payable" since it is something we must pay someone in the future.

Some examples of liabilities are:

- Accounts Payable (bills the company must pay)

- Sales Tax Payable (sales tax obligations)
- Wages Payable (obligations to employees for work performed),
- Payroll Taxes Payable (obligations paid on a monthly or quarterly to state, local or federal agencies)
- Unearned Revenue (down payments received on work to be completed in the future)
- Mortgage Payable (for example mortgage on business property)
- Notes Payable (business financial obligations from signing a promissory note).

Equity: Equity accounts represent the value of the owner's investment in the company. The Equity accounts are different based on the type of company.

1. For sole-proprietorship and partnership, a **Capital** account is used to record the investment of the owners and income earned by the company. A **Withdrawal (or drawing)** account is used when the owner takes money out for personal use.
2. For corporations, a **Common Stock** account is used to record the investment of the owners. A **Retained Earnings** account is used to record the earnings of a corporation and to record when earnings are given back to the owners in the form of **dividends.**

Watch this video online: https://youtu.be/OO3pV3L7nFI

Revenues represent the value of the goods or services provided. Thanks to the revenue recognition principle, we record revenue when we actually do the work by performing a service or delivering a product. Examples of revenue accounts include:

- Service Revenue (revenue from completing a service, could be specific like plumbing service revenue, accounting service revenue, photography service revenue, etc.)
- Sales Revenue (value of products you sell)
- Interest Revenue (value of interest earned on investments or bank accounts)

Expenses are costs to the company and reflect the outflow of money. What matters is have we incurred or used the expense. These expenses represent the all costs of doing business and are used in order to generate the revenue. Examples of expenses accounts include (notice how most expense accounts end in the word "expense"):

- Cost of Goods Sold (what we paid for inventory we have sold)
- Utilities Expense (cost of utilities)
- Wages Expense (cost of employee's earnings)
- Rent Expense (cost of renting office space or equipment)
- Supplies Expense (cost of supplies used)
- Insurance Expense (cost of insurance used)
- Advertising Expense (cost of advertising)
- Bank Fees Expense (cost of bank fees charged by the bank)

Below is an example of a chart of accounts for Metro Courier, Inc. which is a corporation. Notice how the chart is listed in the order of Assets, Liabilities, Equity, Revenue and Expense. This order makes it easy to complete the financial statements. Click Metro COA for a printable copy.

| Metro Courier Inc. | |
|---|---|
| Chart of Accounts | |
| Account Name | Account Type |
| Cash | Asset |
| Supplies | Asset |
| Accounts Receivable | Asset |
| Prepaid Rent | Asset |

| | |
|---|---|
| Inventory | Asset |
| Office Equipment | Asset |
| Building | Asset |
| Land | Asset |
| Accounts Payable | Liability |
| Interest Payable | Liability |
| Wages Payable | Liability |
| Sales Tax Payable | Liability |
| Unearned Revenue | Liability |
| Income Tax Payable | Liability |
| Social Security Tax Payable | Liability |
| Mortgage Payable | Liability |
| Notes Payable | Liability |
| Common Stock | Equity |
| Retained Earnings | Equity |
| Service Revenue | Revenue |
| Interest Revenue | Revenue |
| Utilities Expense | Expense |
| Rent Expense | Expense |
| Supplies Expense | Expense |
| Wages Expense | Expense |
| Taxes Expense | Expense |
| Insurance Expense | Expense |
| Bank Fees Expense | Expense |

You can create your own master chart of accounts for use in this course and build on it as we go along. You should be able to complete the account type column and some of the account descriptions. Click Chart of Accounts to access a google spreadsheet that you can download and use during the course.

Answer the following questions about the types of accounts that used to record business activities. Remember to check your answer by rating your confidence: maybe? , probably. definitely!

# THE BASIC ACCOUNTING EQUATION

An accounting **transaction** is a business activity or event that causes a measurable change in the accounting equation. An exchange of cash for merchandise is a transaction. Merely placing an order for goods is not a recordable transaction because no exchange has taken place. In the coming sections, you will learn more about the different kinds of financial statements accountants generate for businesses.

In the previous section we described specific types of accounts that business activities fall into, namely:

1. Assets (what it owns)
2. Liabilities (what it owes to others)
3. Equity (the difference between assets and liabilities or what it owes to the owners)

These are the building blocks of the **basic accounting equation.** The accounting equation is:

ASSETS = LIABILITIES + EQUITY

For Example:

A sole proprietorship business owes $12,000 and you, the owner personally invested $100,000 of your own cash into the business. The assets owned by the business will then be calculated as:

$12,000 (what it owes) + $100,000 (what you invested) = $112,000 (what the company has in assets)

| Assets | = | Liabilities | + Equity |
|---|---|---|---|
| 112,000 | = | 12,000 | 100,000 |

In a sole-proprietorship, equity is actually Owner's Equity. If the business in question is a corporation, equity will be held by stockholders, which uses stockholder's equity but the basic equation is the same:

ASSETS = LIABILITIES + EQUITY

For Example:

A business owes $35,000 and stockholders (investors) have invested $115,000 by buying stock in the company. The assets owned by the business will then be calculated as:

$35, 000 (what it owes) + $115,000 (what stockholders invested) = $150,000 (what the company has in assets)

| Assets | = | Liabilities | + Equity |
|---|---|---|---|
| 150,000 | = | 35,000 | 115,000 |

Since each transaction affecting a business entity must be recorded in the accounting records based on a detailed account (remember, file folders and the chart of accounts from the previous section), analyzing a transaction before actually recording it is an important part of financial accounting. An error in transaction analysis could result in incorrect financial statements.

Watch this video online: https://youtu.be/E_Kw_pFHY2w

To further illustrate the analysis of transactions and their effects on the basic accounting equation, we will analyze the activities of Metro Courier, Inc., a fictitious corporation. Refer to the chart of accounts illustrated in the previous section.

1. Owners invested cash

Metro Courier, Inc., was organized as a corporation on January 1, the company issued shares (10,000 shares at $3 each) of common stock for $30,000 cash to Ron Chaney, his wife, and their son. The $30,000 cash was deposited in the new business account.

Transaction analysis:

- The new corporation received $30,000 cash in exchange for ownership in common stock (10,000 shares at $3 each).
- We want to increase the asset Cash and increase the equity Common Stock.

| | Assets | Equity |
|---|---|---|
| Transaction | Cash | Common Stock |
| 1. Owner invested cash | + 30,000 | + 30,000 |

Let's check the accounting equation: Assets $30,000 = Liabilities $0 + Equity $30,000

2. Purchased equipment for cash

Metro paid $ 5,500 cash for equipment (two computers).

Transaction analysis:

- The new corporation purchased new asset (equipment) for $5,500 and paid cash.
- We want to increase the asset Equipment and decrease the asset Cash since we paid cash.

| | Assets | | Equity |
|---|---|---|---|
| Transaction | Cash | Equipment | Common Stock |
| 1. Owner invested cash | + 30,000 | | + 30,000 |
| 2. Purchased equipment for cash | – 5,500 | +5,500 | — |
| Balance: | 24,500 | 5,500 | 30,000 |

Let's check the accounting equation: Assets $30,000 (Cash $24,500 + Equipment $5,500) = Liabilities $0 + Equity $30,000

3. Purchased truck for cash

Metro paid $ 8,500 cash for a truck.

Transaction analysis:

- The new corporation purchased new asset (truck) for $8,500 and paid cash.
- We want to increase the asset Truck and decrease the asset cash for $8,500.

| | Assets | | | Equity |
|---|---|---|---|---|
| Transaction | Cash | Equipment | Truck | Common Stock |
| 1. Owner invested cash | + 30,000 | | | + 30,000 |
| 2. Purchased equipment for cash | – 5,500 | +5,500 | | |
| 3. Purchased truck for cash | -8,500 | | + 8,500 | |
| Balance: | 16,000 | 5,500 | 8,500 | 30,000 |

Let's check the accounting equation: Assets $30,000 (Cash $16,000 + Equipment $5,500 + Truck $8,500) = Liabilities $0 + Equity $30,000

**4. Purchased supplies on account.**

Metro purchased supplies on account from Office Lux for $500.

Transaction analysis:

- The new corporation purchased new asset (supplies) for $500 but will pay for them later.
- We want to increase the asset Supplies and increase what we owe with the liability Accounts Payable.

| | Assets = | | | | Liabilities + | Equity |
|---|---|---|---|---|---|---|
| Transaction | Cash | Supplies | Equipment | Truck | Accounts Payable | Common Stock |
| 1. Owner invested cash | + 30,000 | | | | | + 30,000 |
| 2. Purchased equipment for cash | – 5,500 | | +5,500 | | | |
| 3. Purchased truck for cash | -8,500 | | | + 8,500 | | |
| 4. Purchased supplies on account. | | + 500 | | | + 500 | |
| Balance: | 16,000 | 500 | 5,500 | 8,500 | 500 | 30,000 |

Let's check the accounting equation: Assets $30,500 (Cash $16,000+ Supplies $500 + Equipment $5,500 + Truck $8,500) = Liabilities $500 + Equity $30,000

**5. Making a payment to creditor.**

Metro issued a check to Office Lux for $300 previously purchased supplies on account.

Transaction analysis:

- The corporation paid $300 in cash and reduced what they owe to Office Lux.
- We want to decrease the liability Accounts Payable and decrease the asset cash since we are not buying new supplies but paying for a previous purchase.

| | Assets = | | | | Liabilities + | Equity |
|---|---|---|---|---|---|---|
| Transaction | Cash | Supplies | Equipment | Truck | Accounts Payable | Common Stock |
| 1. Owner invested cash | + 30,000 | | | | | + 30,000 |
| 2. Purchased equipment for cash | – 5,500 | | +5,500 | | | |
| 3. Purchased truck for cash | -8,500 | | | + 8,500 | | |
| 4. Purchased supplies on account. | | + 500 | | | + 500 | |
| 5. Making a payment to creditor. | -300 | | | | -300 | |
| Balance: | 15,700 | 500 | 5,500 | 8,500 | 200 | 30,000 |

Let's check the accounting equation: Assets $30,200 (Cash $15,700 + Supplies $500 + Equipment $5,500 + Truck $8,500) = Liabilities $200 + Equity $30,000

**6. Making a payment in advance.**

Metro issued a check to Rent Commerce, Inc. for $1,800 to pay for office rent in advance for the months of February and March.

Transaction analysis (to save space we will look at the effects of each of the remaining transactions only):

- The corporation prepaid the rent for next two months making an advanced payment of $1,800 cash.
- We will increase an asset account called Prepaid Rent (since we are paying in advance of using the rent) and decrease the asset cash.

| | Assets | |
|---|---|---|
| Transaction | Cash | Prepaid Rent |
| Previous Balance | $ 15,700 | |
| 6. Making a payment in advance. | -1,800 | + 1,800 |
| Balance: | 13,900 | 1,800 |

The only account balances that changed from transaction 5 are Cash and Prepaid Rent. All other account balances remain unchanged. The new accounting equation would be: Assets $30,200 (Cash $13,900 + Supplies $500 + Prepaid Rent $1,800 + Equipment $5,500 + Truck $8,500) = Liabilities $200 + Equity $30,000

**7. Selling services for cash.**

During the month of February, Metro Corporation earned a total of $50,000 in revenue from clients who paid cash.

Transaction analysis:

- The corporation received $50,000 in cash for services provided to clients.
- We want to increase the asset Cash and increase the revenue account Service Revenue.

| | Assets | Revenues |
|---|---|---|
| Transaction | Cash | Service Revenue |
| Previous Balance | $ 13,900 | |
| 7. Selling services for cash . | + 50,000 | + 50,000 |
| Balance: | $ 63,900 | $ 50,000 |

Wait a minute…the accounting equation is ASSETS = LIABILITIES + EQUITY and it does not have revenue or expenses…where do they fit in? Revenue – Expenses equals **net income.** Net Income is added to Equity at the end of the period. Assets $80,200 (Cash $63,900 + Supplies $500 + Prepaid Rent $1,800 + Equipment $5,500 + Truck $8,500)= Liabilities $200)+ Equity $80,000 (Common Stock $30,000 + Net Income $50,000). *Note: This does not mean revenue and expenses are equity accounts!*

8. **Selling services on credit.**

Metro Corporation earned a total of $10,000 in service revenue from clients who will pay in 30 days.

Transaction analysis:

- Metro performed work and will receive the money in the future.
- We record this as an increase to the asset account Accounts Receivable and an increase to service revenue.

| | Assets | Revenues |
|---|---|---|
| Transaction | Accounts Receivable | Service Revenue |
| Previous Balance | | $ 50,000 |
| 8. Selling services on credit. | + 10,000 | + 10,000 |
| Balance: | $ 10,000 | $ 60,000 |

Remember, all other account balances remain the same. The only changes are the addition of Accounts Receivable and an increase in Revenue. Assets $90,200 (Cash $63,900 + Accounts Receivable $10,000 + Supplies $500 + Prepaid Rent $1,800 + Equipment $5,500 + Truck $8,500)= Liabilities $200 + Equity $90,000 (Common Stock $30,000 + Net Income $60,000).

9. **Collecting accounts receivable.**

Metro Corporation collected a total of $5,000 on account from clients who owned money for services previously billed.

Transaction analysis:

- Metro received $5,000 from customers for work we have already billed (not any new work).
- We want to increase the asset Cash and decrease (what we will receive later from customers) the asset Accounts Receivable.

| | Assets | |
|---|---|---|
| Transaction | Cash | Accounts Receivable |
| Previous Balance | $ 63,900 | $ 10,000 |

| | | |
|---|---|---|
| 9. Collecting accounts receivable. | + 5,000 | – 5,000 |
| Balance: | $ 68,900 | $ 5,000 |

Assets $90,200 (Cash $68,900 + Accounts Receivable $5,000 + Supplies $500 + Prepaid Rent $1,800 + Equipment $5,500 + Truck $8,500)= Liabilities $200 + Equity $90,000 (Common Stock $30,000 + Net Income $60,000).

**10. Paying office salaries.**

Metro Corporation paid a total of $900 for office salaries.

Transaction analysis:

- The corporation paid $900 to its employees.
- We will increase the expense account Salaries Expense and decrease the asset account Cash.

| | Assets | Expenses |
|---|---|---|
| Transaction | Cash | Salary Expense |
| Previous Balance | $ 68,900 | |
| 10. Paying Office Salaries. | – 900 | + 900 |
| Balance: | $ 68,000 | $ 900 |

Remember, net income is calculated as Revenue – Expenses and is added to Equity. The new accounting equation would show: Assets $89,300 (Cash $68,000 + Accounts Receivable $5,000 + Supplies $500 + Prepaid Rent $1,800 + Equipment $5,500 + Truck $8,500)= Liabilities $200 + Equity $89,100 (Common Stock $30,000 + Net Income $59,100 from revenue of $60,000 – expenses $900).

**11. Paying utility bill.**

Metro Corporation paid a total of $1,200 for utility bill.

Transaction analysis:

- The corporation paid $1,200 in cash for utilities.
- We will increase the expense account Utility Expense and decrease the asset Cash.

| | Assets | Expense |
|---|---|---|
| Transaction | Cash | Utilities Expense |
| Previous Balance | $ 68,000 | |
| 11. Paying Utility Bill | – 1,200 | + 1,200 |
| Balance: | $ 66,800 | $ 1,200 |

Click Transaction analysis to see the full chart with all transactions. The final accounting equation would be: Assets $88,100 (Cash $66,800 + Accounts Receivable $5,000 + Supplies $500 + Prepaid Rent $1,800 + Equipment $5,500 + Truck $8,500) = Liabilities $200 + Equity $87, 900 (Common Stock $30,000 + Net Income $57,900 from revenue of $60,000 – salary expense $900 – utility expense $1,200).

Answer the following questions about the accounting equation. Remember to rate your confidence to check your answer: Maybe? Probably. Definitely!

# FINANCIAL STATEMENTS

Financial statements are how companies communicate their story. Thanks to GAAP, there are four basic financial statements everyone must prepare . Together they represent the profitability and strength of a company. The financial statement that reflects a company's profitability is the **income statement**. The **statement of retained earnings – also called statement of owners equity** shows the change in retained earnings between the beginning and end of a period (e.g. a month or a year). The **balance sheet** reflects a company's solvency and financial position. The **statement of cash flows** shows the cash inflows and outflows for a company over a period of time.

There are several accounting activities that happen before financial statements are prepared. Financial statements are prepared in the following order:

1. Income Statement
2. Statement of Retained Earnings – also called Statement of Owners' Equity
3. The Balance Sheet
4. The Statement of Cash Flows

The following video summarizes the four financial statements required by GAAP.

Watch this video online: https://youtu.be/dqOCRIcapoI

Remember the transaction analysis we were working on for Metro Courier? Let's use those numbers to prepare the financial statements for Metro Courier Inc. The final balances for January were:

| | | |
|---|---|---|
| Cash | Asset | $ 66,800 |
| Accounts Receivable | Asset | $ 5,000 |
| Supplies | Asset | $ 500 |
| Prepaid rent | Asset | $ 1,800 |
| Equipment | Asset | $ 5,500 |
| Truck | Asset | $ 8,500 |
| Accounts Payable | Liability | $ 200 |
| Common Stock | Equity | $ 30,000 |
| Retained Earnings | Equity | $ 0 |
| Service Revenue | Revenue | $ 60,000 |
| Salary Expense | Expense | $ 900 |
| Utilities Expense | Expense | $ 1,200 |

## Income Statement

The **income statement**, sometimes called an earnings statement or profit and loss statement, reports the profitability of a business organization for a *stated period of time.* In accounting, we measure profitability for a period, such as a month or year, by comparing the revenues earned with the expenses incurred to produce these revenues. This is the *first* financial statement prepared as you will need the information from this statement for the remaining statements. The income statement contains:

- **Revenues** are the inflows of cash resulting from the sale of products or the rendering of services to customers. We measure revenues by the prices agreed on in the exchanges in which a business delivers goods or renders services.
- **Expenses** are the costs incurred to produce revenues. Expenses are costs of doing business (typically identified as accounts ending in the word "expense").
- **REVENUES – EXPENSES = NET INCOME.** Net income is often called the *earnings* of the company. When expenses exceed revenues, the business has a **net loss.**

| | | |
|---|---|---|
| Metro Courier Inc. | | |
| Income Statement | | |
| Month Ended January 31 | | |
| Revenue: | | |
| Service Revenue | $ 60,000 | |
| *Total Revenues* | | $ 60,000 |
| | | |
| Expenses: | | |
| Salary Expense | 900 | |
| Utility Expense | 1, 200 | |
| *Total Expenses* | | 2,100 |
| | | |
| **Net Income ($60,000 – 2,100)** | | **$ 57,900** |

The net income from the income statement will be used in the Statement of Equity.

## Statement of Retained Earnings (or Owner's Equity)

The **statement of retained earnings,** explains the changes in retained earnings between two balance sheet dates. We start with beginning retained earnings (in our example, the business began in January so we start with a zero balance) and add any net income (or subtract net loss) from the income statement. Next, we subtract any dividends declared (or any owner withdrawals in a partnership or sole-proprietor) to get the Ending balance in Retained Earnings (or capital for non-corporations)

| |
|---|
| Metro Courier Inc. |
| Statement of Retained Earnings |
| Month Ended January 31 |

| | | |
|---|---|---|
| Beginning Retained Earnings, Jan 1 | | $ 0 |
| Net income from month (from income statement) | | 57,900 |
| Total increase | | $ 57,900 |
| Dividends (or withdrawals for non-corporations) | | – $0 |
| Ending Retained Earnings, January 31 | | $ 57,900 |

The Ending balance we calculated for retained earnings (or capital) is reported on the balance sheet.

## Balance Sheet

The **balance sheet**, lists the company's assets, liabilities, and equity (including dollar amounts) as of a specific moment in time. That specific moment is the close of business on the date of the balance sheet. Notice how the heading of the balance sheet differs from the headings on the income statement and statement of retained earnings. A balance sheet is like a photograph; it captures the financial position of a company at a particular *point* in time. The other two statements are for a *period* of time. As you study about the assets, liabilities, and stockholders' equity contained in a balance sheet, you will understand why this financial statement provides information about the solvency of the business.

| Metro Courier Inc. | | | | |
|---|---|---|---|---|
| Balance Sheet | | | | |
| January 31 | | | | |
| Assets | | Liabilities and Equity | | |
| Cash | $ 66,800 | Accounts Payable | 200 | |
| Accounts Receivable | 5,000 | Total Liabilities | | 200 |
| Supplies | 500 | | | |
| Prepaid Rent | 1,800 | Common Stock | 30,000 | |
| Equipment | 5,500 | Retained Earnings | 57,900 | |
| Truck | 8,500 | Total Equity | | 87,900 |
| ***Total Assets*** | ***$ 88,100*** | ***Total Liabilities + Equity*** | | $ 88,100 |

Remember in the transaction analysis, our final accounting equation was: Assets $88,100 (Cash $66,800 + Accounts Receivable $5,000 + Supplies $500 + Prepaid Rent $1,800 + Equipment $5,500 + Truck $8,500) = Liabilities $200 + Equity $87,900 (Common Stock $30,000 + Net Income $57,900 from revenue of $60,000 – salary expense $900 – utility expense $1,200). The balance sheet is the same equation in an easier to read format.

## Statement of Cash Flows

The statement of cash flows shows the cash inflows and cash outflows from operating, investing, and financing activities. Operating activities generally include the cash effects of transactions and other events that enter into the determination of net income. Management is interested in the cash inflows to the company and the cash outflows from the company because these determine the company's cash it has available to pay its bills when due. We will examine the statement of cash flows in more detail later but for now understand it is a required financial statement and is prepared last. The statement of cash flows uses information from all previous financial statements.

You should be able to update the Financial Statements column of our chart of accounts spreadsheet (need another copy, click Chart of Accounts)

**Key Points**

There are four financial statements produced by accountants, including

- The income statement reports the revenues and expenses of a company and shows the profitability of that business organization for a stated period of time. The net income (or loss) calculated is used in the statement of retained earnings.
- The statement of retained earnings shows the change in retained earnings between the beginning of the period (e.g. a month) and its end. The ending retained earnings is used by the balance sheet.
- The balance sheet lists the assets, liabilities, and equity (including dollar amounts) of a business organization at a specific moment in time and proves the accounting equation.
- The statement of cash flows which shows the cash inflows and cash outflows for a company for a stated period of time. The statement of cash flows uses information from all previous financial statements.



# ACCOUNTING IN THE HEADLINES

## What impact do lower fuel costs and other changes have on an airline's net income?

American Airlines Group (AAL), the world's biggest airline, has been reporting record profits in recent quarters. United Continental Holdings and Southwest Airlines also reported record profits.


Part of what has contributed to the record profits has been the decline in the cost of oil. The price of oil has fallen during 2014; we are spending much less at the gas pump to fill our cars. The airlines are also experiencing the effects of lower oil prices; the price of jet fuel is down 18% since August 2014.

Increased revenues have also contributed to the high profits in the airline industry. Overall, airfares are up 3% for 2014 according to Airlines for America, an industry trade group. In addition, planes have been about 85% full in 2014, which is a record high for the airline industry.

On the other hand, airlines spent more on fuel in 2014 than in 2010. Airlines also spent more on labor due to higher renegotiated labor contracts.

Questions

Would each of the following changes INCREASE or DECREASE an airline's net income (consider each item independently)? What income statement account would be impacted by each item?

1. The 3% increase in airfare (ticket prices)
2. The 18% decrease in the price of per gallon of jet fuel
3. The increase in the number of seats sold
4. The increase in the total spent on jet fuel
5. The increase in the cost of labor contracts



# GLOSSARY: LESSON 2

## Glossary

**Accounting equation** Assets = Liabilities + Equity.

**Accounts payable** Amounts owed to suppliers for goods or services purchased on credit.

**Accounts receivable** Amounts due from customers for services already provided.

**Assets** Things of value owned by the business. Examples include cash, machines, and buildings. To their owners, assets possess service potential or utility that can be measured and expressed in money terms.

**Balance sheet** Financial statement that lists a company's assets, liabilities, and stockholders' equity (including dollar amounts) as of a specific moment in time. Also called a *statement of financial position.*

**Business entity concept (or accounting entity concept)** The separate existence of the business organization.

**Capital stock** The title given to an equity account showing the investment in a business corporation by its stockholders.

**Continuity** See *going-concern concept.*

**Corporation** Business incorporated under the laws of one of the states and owned by a few stockholders or by thousands of stockholders.

**Cost** Sacrifice made or the resources given up, measured in money terms, to acquire some desired thing, such as a new truck (asset).

**Dividend** Payment (usually of cash) to the owners of a corporation; it is a distribution of income to owners rather than an expense of doing business.

**Entity** A business unit that is deemed to have an existence separate and apart from its owners, creditors, employees, customers, other interested parties, and other businesses, and for which accounting records are maintained.

**Equities** Broadly speaking, all claims to, or interests in, assets; includes liabilities and stockholders' equity.

**Equity ratio** A ratio found by dividing stockholders' equity by total equities (or total assets).

**Exchange-price (or cost) concept (principle)** The objective money prices determined in the exchange process are used to record most assets.

**Expenses** Costs incurred to produce revenues, measured by the assets surrendered or consumed in serving customers.

**Going-concern (continuity) concept** The assumption by the accountant that unless strong evidence exists to the contrary, a business entity will continue operations into the indefinite future.

**Income statement** Financial statement that shows the revenues and expenses and reports the profitability of a business organization for a stated period of time. Sometimes called an *earnings statement.*

**Liabilities** Debts owed by a business—or creditors' equity. Examples: notes payable, accounts payable.

**Manufacturing companies** Companies that buy materials, convert them into products, and then sell the products to other companies or to final customers.

**Merchandising companies** Companies that purchase goods ready for sale and sell them to customers.

**Money measurement concept** Recording and reporting economic activity in a common monetary unit of measure such as the dollar.

**Net income** Amount by which the revenues of a period exceed the expenses of the same period.

**Net loss** Amount by which the expenses of a period exceed the revenues of the same period.

**Notes payable** Amounts owed to parties who loan the company money after the owner signs a written agreement (a note) for the company to repay each loan.

**Partnership** An unincorporated business owned by two or more persons associated as partners.

**Periodicity (time periods) concept** An assumption that an entity's life can be meaningfully subdivided into time periods (such as months or years) for purposes of reporting its economic activities.

**Profitability** Ability to generate income. The income statement reflects a company's profitability.

**Retained earnings** Accumulated net income less dividend distributions to stockholders.

**Revenues** Inflows of assets (such as cash) resulting from the sale of products or the rendering of services to customers.

**Service companies** Companies (such as accounting firms, law firms, or dry cleaning establishments) that perform services for a fee.

**Single proprietorship** An unincorporated business owned by an individual and often managed by that individual.

**Solvency** Ability to pay debts as they become due. The balance sheet reflects a company's solvency.

**Source document** Any written or printed evidence of a business transaction that describes the essential facts of that transaction, such as receipts for cash paid or received.

**Statement of cash flows** Financial statement showing cash inflows and outflows for a company over a period of time.

**Statement of retained earnings** Financial statement used to explain the changes in retained earnings that occurred between two balance sheet dates.

**Stockholders' equity** The owners' interest in a corporation.

**Stockholders or shareholders** Owners of a corporation; they buy shares of stock, which are units of ownership, in the corporation.

**Summary of transactions** Teaching tool to show the effects of transactions on the accounting equation.

**Transaction** A business activity or event that causes a measurable change in the items in the accounting equation, Assets = Liabilities + Equity.



# EXERCISES: UNIT 2

## SHORT ANSWER QUESTIONS, EXERCISES AND PROBLEMS

**Questions:**

➢ Accounting has often been called the language of business. In what respects would you agree with this description? How might you argue that this description is deficient?

➢ Define asset, liability, and stockholders' equity.

➢ How do liabilities and stockholders' equity differ? How are they similar?

➢ How do accounts payable and notes payable differ? How are they similar?

➢ Define revenues. How are revenues measured?

➢ Define expenses. How are expenses measured?

➢ What is a balance sheet? On what aspect of a business does the balance sheet provide information?

➢ What is an income statement? On what aspect of a business does this statement provide information?

➢ What information does the statement of retained earnings provide?

➢ Identify the three types of activities shown in a statement of cash flows.

➢ What is a transaction? What use does the accountant make of transactions? Why?

➢ What is the accounting equation? Why must it always balance?

➢ Give an example from your personal life that illustrates your use of accounting information in reaching a decision.

➢ You have been elected to the governing board of your church. At the first meeting you attend, mention is made of building a new church. What accounting information would the board need in deciding whether or not to go ahead?

- A company purchased equipment for $ 2,000 cash. The vendor stated that the equipment was worth $ 2,400. At what amount should the equipment be recorded?

- What is meant by money measurement?

- Of what significance is the exchange-price (or cost) concept? How is the cost to acquire an asset determined?

- What effect does the going-concern (continuity) concept have on the amounts at which long-term assets are carried on the balance sheet?

- Of what importance is the periodicity (time periods) concept to the preparation of financial statements?

- Describe a transaction that would:

    - Increase both an asset and capital stock.
    - Increase both an asset and a liability.
    - Increase one asset and decrease another asset.
    - Decrease both a liability and an asset.
    - Increase both an asset and retained earnings.
    - Decrease both an asset and retained earnings.
    - Increase a liability and decrease retained earnings.
    - Decrease both an asset and retained earnings.
    - Identify the causes of increases and decreases in stockholders' equity

B) Accounting Exercises:

**Exercise 1. Applying Basic Accounting Equation**

Royals Palm, Inc. reports the following assets and liabilities. Compute the totals that would appear in the corporation's basic accounting equation (Assets = Liabilities + Stockholders' Equity (Capital Stock)).

Cash…………………………$55,000

Accounts Payable……………25,000

Office Supplies………………. 1, 500

Loan Payable…………………..7,000

Accounts Receivable…………10,000

**Answer:**

| Assets | = Liabilities | + Stockholders' Equity |
|---|---|---|
| | | |

**Exercise 2. Applying Basic Accounting Equation**

Dan and Den, Inc. reports the following assets and liabilities. Compute the totals that would appear in the corporation's basic accounting equation (Assets = Liabilities + Stockholders' Equity (Capital Stock)).

Cash…………………………$37,000

Accounts Payable……………15,000

Supplies………………………1, 800

Loan Payable…………………..9,000

Inventory………………………12,000

Answer:

| Assets | = Liabilities | + Stockholders' Equity |
|---|---|---|
| | | |

Exercise 3. Complete missing amounts in fundamental accounting equation for several businesses:

| Assets | = Liabilities | + Stockholders' Equity |
|---|---|---|
| 578,000 | | 152,000 |
| | 25,000 | 180,500 |
| 127,000 | 17,000 | |
| 269,000 | 45,000 | |
| 850,000 | | 675,000 |
| | 250,000 | 657,450 |

Exercise 4. Perez Company had the following transactions during January:

1. Jan 1 Issued $100,000 in stock to owners in exchange for cash to start the business.

2. Jan 5 Borrowed $50,000 from the bank by signing a notes payable.

3. Jan 10 Purchase equipment by paying cash for $25,000.

3. Jan 15 Paid January rent of $2,400 for the office space (*hint: since this is for January, record as rent expense*)

4. Jan 18 Performed services for customers and received cash immediately for $8,000.

5. Jan 20 Purchased $2,000 in supplies on account.

Prepare a transaction analysis for the January transactions. Remember to prove the accounting equation at the end.

| | Assets = | | | Liability | | + Equity | + Revenue | – Expense |
|---|---|---|---|---|---|---|---|---|
| *Transaction* | Cash | Supplies | Equipment | Accounts Payable | Notes Payable | Common Stock | Service Revenue | Rent Expense |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Jan 1 Issued stock to owners | | | | | | | | |
| Jan 5 Borrowed money from bank | | | | | | | | |
| Jan 10 Purchased equipment with cash | | | | | | | | |
| Jan 15 Paid January rent | | | | | | | | |
| Jan 18 Performed services | | | | | | | | |
| Jan 20 Purchased supplies on account | | | | | | | | |
| **Balance:** | | | | | | | | |

Exercise 5. On December 31, Bryniuk's Company, the accounting records showed the following information:

| | |
|---|---|
| Cash | 49,500 |
| Accounts Receivable | 125,000 |
| Supplies | 1,500 |
| Prepaid Insurance | 12,000 |
| Equipment | 70,000 |
| Building | 420,000 |
| Land | 111,500 |
| Accounts Payable | 80,000 |
| Notes Payable | 170,000 |
| Common Stock | 410,000 |
| Retained Earnings | 65,000 |
| Dividends | 20,000 |

| | |
|---|---|
| Service Revenue | 174,000 |
| Interest Revenue | 1,000 |
| Salaries Expense | 52,000 |
| Advertising Expense | 17,000 |
| Insurance Expense | 5,000 |
| Utilities Expense | 13,750 |
| Interest Expense | 2,750 |

Prepare the Income Statement for year ended December 31.

| Bryniuk's Company | |
|---|---|
| Income Statement | |
| For Year Ended December 31 | |
| Revenues: | . |
| | |
| | |
| *Total Revenues* | |
| | |
| Expenses: | |
| | |
| | |
| *Total Expenses* | |
| | |
| Net Income | |

Exercise 6. Using the information from Exercise 5, prepare the Statement of Retained Earnings for December 31.

| Bryniuk's Company |
|---|
| Statement of Retained Earnings |
| For Year Ended December 31 |

| | |
|---|---|
| Beginning Retained Earnings | $65,000 |
| Add: Net Income | |
| | |
| Subtract: Dividends | |
| | |
| Ending Retained Earnings | |

Exercise 7. Using the information from Exercises 5 and 6, prepare the Balance Sheet for December 31.

| | | | |
|---|---|---|---|
| Bryniuk's Company | | | |
| Balance Sheet | | | |
| December 31 | | | |
| *Assets* | | *Liabilities and Equity* | |
| | | | |
| | | | |
| | | Total Liabilities | |
| | | | |
| | | | |
| | | | |
| | | Total Equity | |
| Total Assets | | Total Liabilities and Equity | |

Problem 1: Prepare the financial statements of RodCast Company using the following information:

| | |
|---|---|
| Accounts Payable | 43,100.00 |
| Accounts Receivable | 85,000.00 |
| Cash | 55,320.00 |
| Common Stock | 125,000.00 |
| Dividends | 28,000.00 |
| Machinery | 70,000.00 |
| Rent Expense | 24,000.00 |

| | |
|---|---|
| Retained Earnings | 70,000.00 |
| Salaries Expense | 65,000.00 |
| Service Revenue | 165,320.00 |
| Supplies | 2,350.00 |
| Trucks | 60,000.00 |
| Utilities Expense | 13,750.00 |

1. Classify each account by Account Type (Asset, Liability, Equity, Revenue or Expense) and which financial statement (income statement, statement of retained earnings, or balance sheet) it appears on.

| Account | Account Type | Financial Statement |
|---|---|---|
| | | |
| | | |

2. Prepare the Income Statement, Statement of Retained Earnings and Balance Sheet for the month ended October 31.

**Comprehensive Problems Example:**
Larson's Accounting Company has the following account balances: Cash, $5,000; Accounts Receivable, $2,000; Prepaid Rent $1,500; Supplies, $850; Equipment, $6,000; Trucks, $15,000; Accounts Payable, $2,500; Common Stock, $20,000; Retained Earnings $7,850. Business transactions during December are presented as follows:

1. Company received cash from clients for services, $4,500
2. Larson paid to creditors $500,
3. Paid office rent for the month of December, $750,
4. Company billed client for accounting services on account, $5,200
5. Supplies were purchased on account, $650,
6. Company received cash from clients billed previously, $6,000
7. Larson received an invoice for office equipment repair services from Office Extra for December (the invoice will be paid next month), $850,
8. Larson paid monthly salaries, $2,700,
9. Utilities expense were paid, $280,
10. Miscellaneous expense were paid, $350,
11. Dividends were paid, $550.

| | Assets = | | | | | | Liabilities |
|---|---|---|---|---|---|---|---|
| | Cash | Accounts Receivable | Prepaid Rent | Supplies | Equipment | Trucks | Accounts Payable |
| Previous Balances | $5,000 | $2,000 | $1,500 | $850 | $6,000 | $15,000 | $2,500 |
| 1 | 4,500 | | | | | | |
| 2 | -500 | | | | | | -500 |
| 3 | | | -750 | | | | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 4 | | 5,200 | | | | | | |
| 5 | | | | 650 | | | 650 | |
| 6 | 6,000 | -6,000 | | | | | | |
| 7 | | | | | | | 850 | |
| 8 | -2,700 | | | | | | | |
| 9 | -280 | | | | | | | |
| 10 | -350 | | | | | | | |
| 11 | -550 | | | | | | | |
| Ending Balance: | $11,120 | $1,200 | $750 | $1,500 | $6,000 | $15,000 | $3,500 | |
| | + Stockholders' Equity | | | + Net Income | | | | |
| | Common Stock | + Retained Earnings | - Dividends | Revenue | - Expenses | Expense Type | | |
| Previous Balances | $20,000 | $7,850 | | | | | | |
| 1 | | | | 4,500 | | | | |
| 2 | | | | | | | | |
| 3 | | | | | 750 | Rent expense | | |
| 4 | | | | 5,200 | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | 850 | Repair expense | | |
| 8 | | | | | 2,700 | Salary expense | | |
| 9 | | | | | 280 | Utilities expense | | |
| 10 | | | | | 350 | Misc. expense | | |
| 11 | | | 550 | | | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| Ending Balance: | $20,000 | $7,850 | $550 | $9,700 | $4,930 | |

Larson Company
Income Statement
Month Ended December 31, 2014

| | | |
|---|---|---|
| Fees earned | | $9,700 |
| Expenses: | | |
| Rent Expense | $750 | |
| Repair Expense | 850 | |
| Wages Expense | 2700 | |
| Utilities Expense | 280 | |
| Miscellaneous expense | 350 | |
| Total Expenses | | $4,930 |
| Net Income ($9,700 – $4,930)= | | $4,770 |

Larson Company
Statement of Retained Earnings
Month Ended December 31

| | | |
|---|---|---|
| Larson Inc., Retained Earnings, December 31 | | $ 7,850 |
| Net income for the month | $4,770 | |
| Less Dividends | – 550 | |
| Increase in Stockholders' Equity | | + 4,220 |
| Larson Inc., Retained Earnings, December 31 | | $12,070 |

| Larson Company | | | |
|---|---|---|---|
| Balance Sheet | | | |
| Month Ended December 31 | | | |
| Assets | | Liabilities | |
| Cash | $11,120 | Accounts Payable | $3,500 |
| Accounts Receivable | 1,200 | | |
| Prepaid Rent | 750 | Stockholders' Equity | |

| | | | |
|---|---|---|---|
| Supplies | 1,500 | Common Stock | 20,000 |
| Equipment | 6,000 | Retained Earnings | 12,070 |
| Trucks | 15,000 | | |
| Total Assets | $35,570 | Total Liabilities and Stockholders' Equity | $35,570 |

Comprehensive Problem 1.

Cast 77 Service Company has the following account balances: Cash, $6,000; Accounts Receivable, $7,000; Prepaid Rent, 1,900; Prepaid Insurance, $1,200 Supplies, $950; Equipment, $7,000; Trucks, $10,000; Accounts Payable, $2,700; Common Stock $25,000; Retained Earnings $6,350. Business transactions during December are presented as follows:

1. Company received cash from clients for services, $7,500
2. Cast 77 paid to creditors $600,
3. Paid office rent for the month of December, $950,
4. Company billed client for accounting services on account, $8,200
5. Supplies were purchased on account, $450,
6. Company received cash from clients billed previously, $4,200
7. Cast 77 received an invoice for services from Copy Plus for December (the invoice will be paid next month), $550,
8. Cast 77 paid monthly salaries, $4,700,
9. Utilities expense were paid, $380,
10. Miscellaneous expense were paid, $250,
11. Paid for monthly insurance, $200
12. Dividends were paid, $750.

Required:

- Apply the basic accounting equation (create a spreadsheet, please see comprehensive example) to complete a transaction analysis for each transaction *(hint: enter the balances provided first*).
- Prepare income statement at the end of December 31.
- Prepare statement of retained earnings equity at the end of December 31.
- Prepare balance sheet at the end of December 31.

# UNIT 3: THE ACCOUNTING CYCLE

## INTRODUCTION: THE ACCOUNTING CYCLE

| LEARNING OBJECTIVES |
| --- |
| By the end of this lesson, you will be able to:<br>• Define an account<br>• Define a journal<br>• Define a ledger<br>• Distinguish between a ledger and a journal<br>• Explain how business transactions are recorded using the double-entry accounting method<br>• List the general rules for debits and credits<br>• Journalize in general journal form and post transactions to a general ledger<br>• Prepare a trial balance |

## THE ACCOUNTING CYCLE

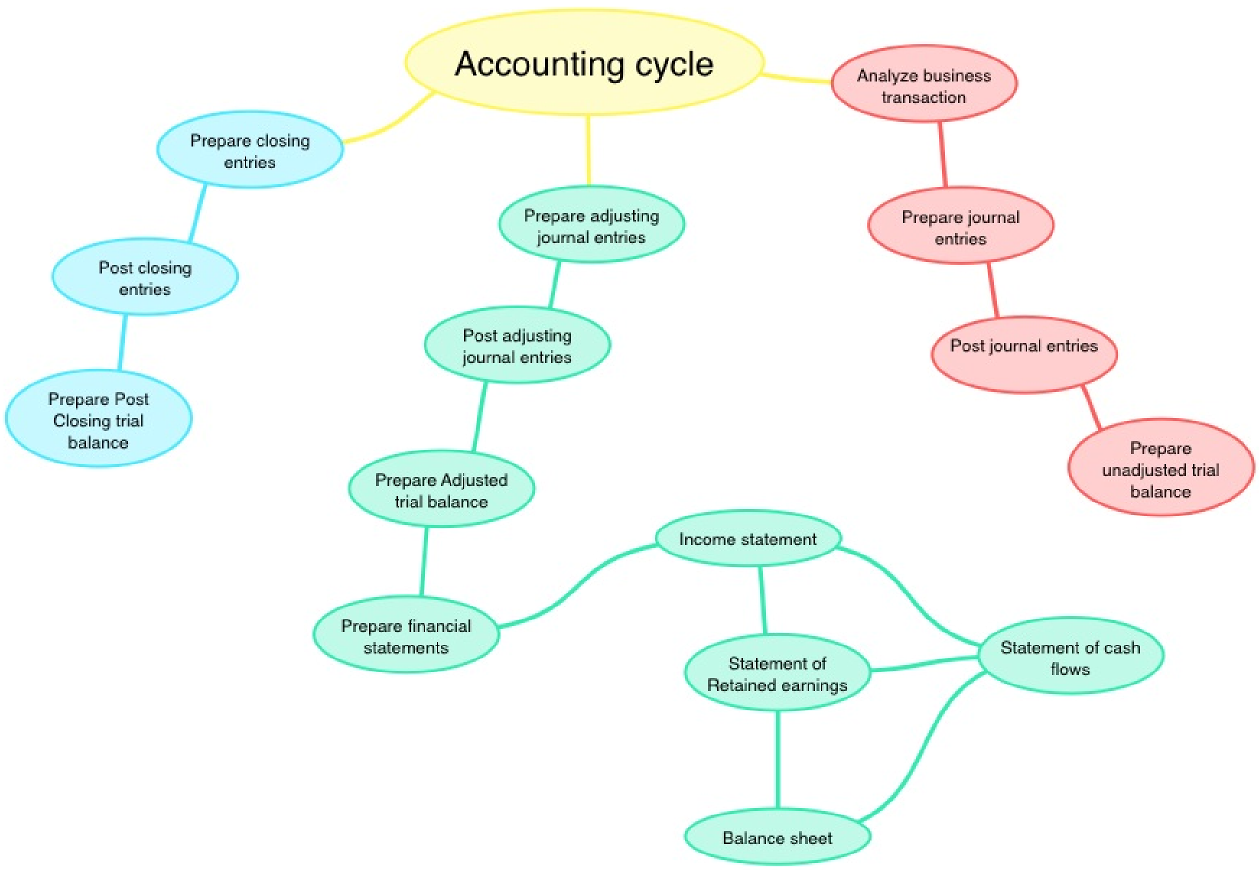
The following video briefly explains key components of the accounting cycle.

Watch this video online: https://youtu.be/ckVVKkUXR7E

In the next 2 units we will learn the components of the accounting cycle.  In the video, it discussed:

- Capture activity of a business:  we will do this with a journal entry
- Organize into groups and edit:  this will be accomplished by organizing the information into account and posting journal entries
- Publish the story:  in accounting, our story is the financial statements
- Archive: this will be the closing process to prepare the books for the next period

To give you a picture and quick reference for all you will learn in the accounting cycle.  We begin on the right hand side and move around the cycle.  Click Accrual World for a printable copy.






# ACCOUNTS, JOURNALS, LEDGERS, AND TRIAL BALANCE

A business may engage in thousands of transactions during a year. Can you imagine preparing a transaction analysis, like we did in the previous unit, for all of those transactions? It would take a lot of time and the spreadsheet would be large! There has to be a better way to classify and summarize the data in these transactions to create useful information. We will learn the first part of the accounting cycle:

| Accounting Cycle |
|---|
| 1. Analyze Transactions |
| 2. Prepare Journal Entries |

| |
|---|
| 3. Post journal Entries |
| 4. Prepare Unadjusted Trial Balance |

Let's review what we have learned. An **account** is a part of the accounting system used to classify and summarize the increases, decreases, and balances of each asset, liability, stockholders' equity item, dividend, revenue, and expense. Firms set up accounts for each different business element, such as cash, accounts receivable, and accounts payable. Every business has a Cash account in its accounting system because knowledge of the amount of cash on hand is useful information.

Accountants may differ on the account title (or name) they give the same item. For example, one accountant might name an account Notes Payable and another might call it Loans Payable. Both account titles refer to the amounts borrowed by the company. The account title should be logical to help the accountant group similar transactions into the same account. Once you give an account a title, you must use that same title throughout the accounting records.

The following video introduces the journal, ledger, and trial balance, which we will discuss next.

Watch this video online: https://youtu.be/pGNB-8VN-cA

A **journal** is a chronological (arranged in order of time) record of business transactions. **A journal entry** is the recording of a business transaction in the journal. A journal entry shows all the effects of a business transaction as expressed in debit(s) and credit(s) and may include an explanation of the transaction. A transaction is entered in a journal before it is entered in ledger accounts. Because each transaction is initially recorded in a journal rather than directly in the ledger, a journal is called a book of original entry.

A **ledger** (general ledger) is the complete collection of all the accounts and transactions of a company. The ledger may be in loose-leaf form, in a bound volume, or in computer memory. The **chart of accounts** is a listing of the titles and numbers of all the accounts in the ledger. The chart of accounts can be compared to a table of contents. The groups of accounts usually appear in this order: assets, liabilities, equity, dividends, revenues, and expenses. Think of the chart of accounts as a table of contents of a textbook. It provides direction as to what exactly will be found in the financial statement preparation.

Individual accounts are in order within the ledger. Each account typically has an identification number and a title to help locate accounts when recording data. For example, a company might number asset accounts, 100-199; liability accounts, 200-299; equity accounts, 300-399; revenue accounts, 400-499; and expense accounts, 500-599. We use this numbering system in this text. The uniform chart of accounts used in the first 11 chapters appears in a separate file at the end of the text. You should print that file and keep it handy for working certain problems and exercises. Companies may use other numbering systems. For instance, sometimes a company numbers its accounts in sequence starting with 1, 2, and so on. The important idea is that companies use some numbering system.

A **trial balance** is a listing of all accounts (in this order: asset, liability, equity, revenue, expense) with the ending account balance. It is called a trial balance because the information on the form must balance. We will illustrate this later in the chapter.

**Steps in recording business transactions**

Source documents, such as bills received from suppliers for goods or services received, bills sent to customers for goods sold or services performed, and cash register tapes provide the evidence that a business transaction occurred. After recognizing a business event as a business transaction, we analyze it to determine its increase or decrease effects on the assets, liabilities, equity, dividends, revenues, or expenses of the business. Then we translate these increase or decrease effects into debits and credits.

The information in the source document serves as the basis for preparing a journal entry. Then a firm posts (transfers) that information to accounts in the ledger.

However, before you can record the journal entry, you must understand the rules of debit and credit. You will learn this concept and journal entries in the next section.

Answer the following questions to test your knowledge of the reading.  Remember to check your answer by rating your confidence: maybe? probably. definitely!

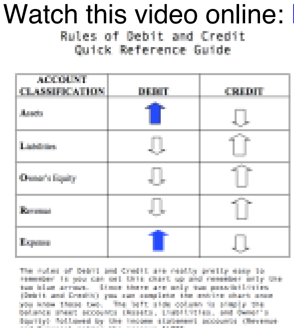


# GENERAL RULES FOR DEBITS AND CREDITS

One of the first steps in analyzing a business transaction is deciding if the accounts involved increase or decrease.  However, we do not use the concept of increase or decrease in accounting.  We use the words “debit” and “credit” instead of increase or decrease.  The meaning of debit and credit will change depending on the account type.  **Debit simply means left side; credit means right side.** Remember the accounting equation? ASSETS = LIABILITIES + EQUITY  The accounting equation must always be in balance and the rules of debit and credit enforce this balance.

In each business transaction we record, the total dollar amount of debits must equal the total dollar amount of credits. When we debit one account (or accounts) for $100, we must credit another account (or accounts) for a total of  $100. The accounting requirement that each transaction be recorded by an entry that has equal debits and credits is called **double-entry procedure**, or duality.   Watch this video to help you remember this concept:

Watch this video online: https://youtu.be/j71Kmxv7smk


Rules of Debit and Credit
Quick Reference Guide

| ACCOUNT CLASSIFICATION | DEBIT | CREDIT |
|---|---|---|
| Assets | ↑ | ↓ |
| Liabilities | ↓ | ↑ |
| Owner's Equity | ↓ | ↑ |
| Revenue | ↓ | ↑ |
| Expense | ↑ | ↓ |

Review this quick guide to recording debits and credits. It will be necessary for you to commit the rules for debits and credits to memory before you move forward in this course.  *Note:  This are general guidelines and we will have exceptions to these rules.*

After recognizing a business event as a business transaction, we analyze it to determine its increase or decrease effects on the assets, liabilities, stockholders’ equity items, dividends, revenues, or expenses of the business. Then we translate these increase or decrease effects into debits and credits.

## Recording Changes in Balance Sheet Accounts

Balance Sheet accounts are assets, liabilities and equity.  The balance sheet proves the accounting equation. Recording transactions into journal entries is easier when you focus on the equal sign in the accounting equation. Assets, which are on the left of the equal sign, increase on the left side or DEBIT side. Liabilities and stockholders’ equity, to the right of the equal sign, increase on the right or CREDIT side.

| Assets | Liabilities & Equity |
|---|---|
| DEBIT increases | CREDIT increases |

| | |
|---|---|
| CREDIT decreases | DEBIT decreases |

There is an exception to this rule: Dividends (or withdrawals for a non-corporation) is an equity account but it reduces equity since the owner is taking equity from the company. This is called a **contra-account** because it works opposite the way the account normally works. For Dividends, it would be an equity account but have a normal DEBIT balance (meaning, debit will increase and credit will decrease).

## Recording changes in Income Statement Accounts

We learned that net income is added to equity. We also learned that net income is revenues – expenses and calculated on the income statement. The recording rules for revenues and expenses are:

| Revenues | Expenses |
|---|---|
| CREDIT increases | DEBIT increases |
| DEBIT decreases | CREDIT decreases |

The reasoning behind this rule is that revenues increase retained earnings, and increases in retained earnings are recorded on the right side. Expenses decrease retained earnings, and decreases in retained earnings are recorded on the left side.

The side that increases (debit or credit) is referred to as an account's **normal balance.** Remember, any account can have both debits and credits. Here is another summary chart of each account type and the normal balances.

| Account Type | Normal Balance |
|---|---|
| Asset | DEBIT |
| Liability | CREDIT |
| Equity | CREDIT |
| Revenue | CREDIT |
| Expense | DEBIT |
| | |
| ***Exception:*** | |
| Dividends | DEBIT |

Regardless of what elements are present in the business transaction, a journal entry will always have AT least one debit and one credit. You should be able to complete the debit/credit columns of your chart of accounts spreadsheet (click Chart of Accounts).

Next we look at how to apply this concept in journal entries.

# JOURNAL ENTRIES

**Double-entry bookkeeping**, in accounting, is a system of bookkeeping so named because every entry to an account requires a corresponding and opposite entry to a different account. This lesson will cover how to create journal entries from business transactions. Journal entries are the way we capture the activity of our business.

Watch this video online: https://youtu.be/ji2b6kNTbUM

When a business transaction requires a journal entry, we must follow these rules:

- The entry must have at least 2 accounts with 1 DEBIT amount and at least 1 CREDIT amount.
- The DEBITS are listed first and then the CREDITS.
- The DEBIT amounts will always equal the CREDIT amounts.

For another example, let's look at the transaction analysis we did in the previous chapter for Metro Courier (click Transaction analysis):

1. The owner invested $30,000 cash in the corporation. We analyzed this transaction by increasing both cash (an asset) and common stock (an equity) for $30,000. We learned you increase an asset with a DEBIT and increase an equity with a CREDIT. The journal entry would look like this:

| | Debit | Credit |
|---|---|---|
| Cash | 30,000 | |
| Common Stock | | 30,000 |

2. Purchased $5,500 of equipment with cash. We analyzed this transaction as increasing the asset Equipment and decreasing the asset Cash. To increase an asset, we debit and to decrease an asset, use credit. This journal entry would be:

| | Debit | Credit |
|---|---|---|
| Equipment | 5,500 | |
| Cash | | 5,500 |

3. Purchased a new truck for $8,500 cash. We analyzed this transaction as increasing the asset Truck and decreasing the asset Cash. To increase an asset, we debit and to decrease an asset, use credit. This journal entry would be:

| | Debit | Credit |
|---|---|---|
| Truck | 8,500 | |
| Cash | | 8,500 |

4. Purchased $500 in supplies on account. We analyzed this transaction as increasing the asset Supplies and the liability Accounts Payable. To increase an asset, we debit and to increase a liability, use credit. This journal entry would be:

| | Debit | Credit |
|---|---|---|
| Supplies | 500 | |
| Accounts Payable | | 500 |

5. Paid $300 for supplies previously purchased. Since we previously purchased the supplies and are not buying any new ones, we analyzed this to decrease the liability accounts payable and the asset cash. To decrease a liability, use debit and to decrease and asset, use debit.

| | Debit | Credit |
|---|---|---|
| Accounts Payable | 300 | |
| Cash | | 300 |

6. Paid February and March Rent in advance for $1,800. When we pay for an expense in advance, it is an asset. We want to increase the asset Prepaid Rent and decrease Cash. To increase an asset, we debit and to decrease an asset, use credit.

| | Debit | Credit |
|---|---|---|
| Prepaid Rent | 1,800 | |
| Cash | | 1,800 |

7. Performed work for customers and received $50,000 cash. We analyzed this transaction to increase the asset cash and increase the revenue Service Revenue. To increase an asset, use debit and to increase a revenue, use credit.

| | Debit | Credit |
|---|---|---|
| Cash | 50,000 | |
| Services Revenue | | 50,000 |

8. Performed work for customers and billed them $10,000. We analyzed this transaction to increase the asset accounts receivable (since we have not gotten paid but will receive it later) and increase revenue. To increase an asset, use debit and to increase a revenue, use credit.

| | Debit | Credit |
|---|---|---|
| Accounts Receivable | 10,000 | |
| Services Revenue | | 10,000 |

9. Received $5,000 from customers from work previously billed. We analyzed this transaction to increase cash since we are receiving cash and we want to decrease accounts receivable since we are receiving money from customers who we billed previously and not new work we are doing. To increase an asset, we debit and to decrease an asset, use credit.

| | Debit | Credit |
|---|---|---|

| | | |
|---|---|---|
| Cash | 5,000 | |
| Accounts Receivable | | 5,000 |

10. Paid office salaries $900. We analyzed this transaction to increase salaries expense and decrease cash since we paid cash. To increase an expense, we debit and to decrease an asset, use credit.

| | Debit | Credit |
|---|---|---|
| Salaries Expense | 900 | |
| Cash | | 900 |

11. Paid utility bill $1,200. We analyzed this transaction to increase utilities expense and decrease cash since we paid cash. To increase an expense, we debit and to decrease an asset, use credit.

| | Debit | Credit |
|---|---|---|
| Utilities Expense | 1,200 | |
| Cash | | 1,200 |

All the journal entries illustrated so far have involved one debit and one credit; these journal entries are called **simple journal entries.** Many business transactions, however, affect more than two accounts. The journal entry for these transactions involves more than one debit and/or credit. Such journal entries are called **compound journal entries.**

If you would like to watch another video about journal entries, click Journal Entries.

How do we prepare financial statements from these journal entries? The journal entries just allowed us to capture the activity of the business. In the next section we will organize the information to make it easier to prepare financial statements.



# POSTING TO THE GENERAL LEDGER

## Organizing Journal Entries

We have covered a lot of new words and concepts in this chapter, this video gives you a preview of what happens next when we organize the journal entry information:

Watch this video online: https://youtu.be/4ALJtfACHVY

A journal entry is like a set of instructions. The carrying out of these instructions is known as **posting.** The video provides a clear description of where in the accounting cycle posting occurs. As stated earlier, posting is recording in the ledger accounts the information contained in the journal. The good news is you have already done the hard part — you have analyzed the transactions and created the journal entries. When you post, **you will not change your journal entries. If you debit an account in a journal entry, you will debit the same account in posting. If you credit an account in a journal entry, you will credit the same account in posting.** After transactions are journalized, they can be posted either to a T-account or a general ledger. Remember – a ledger is a listing of all transactions in a single account, allowing you to know the balance of each account. The ledger for an account is typically used in practice instead of a T-account but T-accounts are often used for demonstration because they are quicker and sometimes easier to understand. The general ledger is a compilation of the ledgers for each account for a business. Below is an example of what the **T-Accounts** would look like for a company.

A T-account is a graphical representation of the account balance. It is called a T-account because it looks like a T. The account name is written above the T. Debits (which are the left side of ANY account) will appear on the left side of the T. Credits (which are the right side of ANY account) will appear on the right side of the T. T-accounts are known my almost every accounting student; however, you will see the balance column format more often with computerized accounting systems.

Let's use the transactions labeled a – g above for posting to the T-accounts. You reference the transaction to show how to find the number. Let's look at Cash first.

| Cash | |
|---|---|
| a. 50,000 | |
| c 10,000 | |
| d 1,000 | |
| | e. 500 |
| | f. 350 |
| Bal 60,150 | |

Notice how anytime CASH was debited, it has been entered on the LEFT side. Anytime CASH was credited, it has been entered on the RIGHT side.

Balance is calculated as Total Debits – Total Credits since cash has a Normal debit balance (50,000 + 10,000 + 1,000 – 500 – 350).

Now, we will do the remaining T-accounts.

| **Accounts Receivable** | |
|---|---|
| g. 3,500 | |
| Bal 3,500 | |

| **Office Supplies** | |
|---|---|
| b. 350 | |
| Bal 350 | |

| **Building** | |
|---|---|
| a. 300,000 | |
| Bal 300,000 | |

| **Accounts Payable** | |
|---|---|
| | b. 350 |
| f. 350 | |
| | Bal 0 |

| **Unearned Revenue** | |
|---|---|
| | d. 1,000 |
| | Bal 1,000 |

| **Common Stock** | |
|---|---|
| | a. 350,000 |
| | Bal 350,000 |

| **Design Services Revenue** | |
|---|---|
| | c. 10,000 |
| | g. 3,500 |
| | Bal 13,500 |

| **Rent Expense** | |
|---|---|
| e. 500 | |
| Bal 500 | |

In contrast to the two-sided T-account, the three-column ledger card format has columns for debit, credit, balance, and item description. The three-column form ledger card has the advantage of showing the balance of the account after each item has been posted. *It is very important for you to understand the debit and credit rules for each account type or you may not calculate the balance correctly.* Notice that we give an explanation for each item in the ledger accounts. Often accountants omit these explanations because each item can be traced back to the general journal for the explanation. The following are examples of Ledger cards for the some of the accounts from the same company shown in T-accounts above (*see how you get the same balance under either approach*).

Account Name: CASH

| Date | Description | Debit | Credit | Balance | |
|---|---|---|---|---|---|
| Jul 5 | S. Shepard invested in business | $ 50,000 | | $ 50,000 | |
| Jul 18 | Performed services for cash | 10,000 | | 60,000 | $50,000 + 10,000 |
| Jul 20 | Customer paid in advance | 1,000 | | 61,000 | $60,000 + 1,000 |
| Jul 22 | Paid rent with cash | | 500 | 60,500 | $61,000 - 500 |
| Jul 25 | Paid accounts payable | | 350 | 60,150 | $60,500 - 350 |

Account Name: Accounts Payable

| Date | Description | Debit | Credit | Balance | |
|---|---|---|---|---|---|
| Jul 10 | Purchased office supplies | | 350 | $ 350 | |
| Jul 25 | Paid accounts payable | 350 | | 0 | $350 - 350 |
| | | | | | |

Account Name: Design Services Revenue

| Date | Description | Debit (-) | Credit (+) | Balance | |
|---|---|---|---|---|---|
| Jan 29 | Performed services for cash | | 10,000 | $ 10,000 | |
| Feb 10 | Performed services on credit | | 3,500 | 13,500 | $10,000 + 3,500 |
| | | | | | |

Notice in these ledger examples that Cash is an asset and a debit increases an asset and a credit decreases an asset. Accounts Payable is a liability account and Design Services Revenue is a revenue account but both accounts increase with a credit and decrease with a debit.

Posting is always from the journal to the ledger accounts. Postings can be made (1) at the time the transaction is journalized; (2) at the end of the day, week, or month; or (3) as each journal page is filled. The choice is a matter of personal taste. When posting the general journal, the date used in the ledger accounts is the date the transaction was recorded in the journal, not the date the journal entry was posted to the ledger accounts.

The accounting equation serves as an error detection tool. If at any point the sum of debits for all accounts does not equal the corresponding sum of credits for all accounts, an error has occurred. It follows that the sum of debits and the sum of the credits must be equal in value. Double-entry bookkeeping is not a guarantee that no errors have been made—for example, the wrong ledger account may have been debited or credited, or the entries completely reversed.

If you would like to see what it looks like to move journal postings into a general ledger in Excel, watch this additional video.

# PREPARING A TRIAL BALANCE

The following video summarizes what elements are included in a Trial Balance and why one is prepared.  The trial balance is the edit phase of our story before we publish the results in financial statements.

Watch this video online: https://youtu.be/eY7nS2U34IE

Accountants use a trial balance to test the equality of their debits and credits. A trial balance is a listing of the ledger accounts and their debit or credit balances to determine that debits equal credits in the recording process. Preparing and adjusting trial balances aid in the preparation of accurate financial statements.  Although you can prepare a trial balance at any time, you would typically prepare a trial balance before preparing the financial statements.

On the trial balance the accounts should appear in this order: assets, liabilities, equity, dividends, revenues, and expenses. Within the assets category, the most liquid (closest to becoming cash) asset appears first and the least liquid appears last. Within the liabilities, those liabilities with the shortest maturities appear first. Study the following example of a trial balance for the More Flowers business. Note that totals for the Debit and Credit entries come from the ending balance of the T-accounts or ledger cards.  When using T-accounts, if the left side is greater,  the account has a DEBIT balance.  If the right side is greater, the account has a CREDIT balance. When using ledger cards, you will be calculating the balance after each transaction and the balance typically follows the normal balance of the accounts (*remember, normal balance is how we increase an account*).

**More Flowers**
**Trial Balance**
**As of July 31, 201X**

| | Debit | Credit |
|---|---|---|
| Cash | $60,150 | |
| Accounts Receivable | 3,500 | |
| Office Supplies | 350 | |
| Building | 300,000 | |
| Accounts Payable | | 0 |
| Unearned Revenues | | 1,000 |
| Common Stock | | 350,000 |
| Design Services Revenue | | 13,500 |
| Rent Expense | 500 | |
| **TOTALS** | **364,500** | **364,500** |

*Note:  Total Debit column represents everything in the Debit column added together.  Total Credit column represents everything in the Credit column added together.  They MUST agree.*

The equality of the two totals in the trial balance does not necessarily mean that the accounting process has been error-free. Serious errors may have been made, such as failure to record a transaction, or posting a debit or credit to the wrong account. For instance, if a transaction involving payment of a $ 100 account payable is never recorded, the trial balance totals still balance, but at an amount that is $ 100 too high. Both cash and accounts payable would be overstated by $ 100.

While we still have not prepared financial statements, we have captured the activity and organized it into a trial balance.  Next up is editing the information before we can publish our story in financial statements.

### Error Correction

When the trial balance does not balance, try re-totaling the two columns. If this step does not locate the error, divide the difference in the totals by 2 and then by 9. If the difference is divisible by 2, you may have transferred a debit-balanced account to the trial balance as a credit, or a credit-balanced account as a debit. When the difference is divisible by 2, look for an amount in the trial balance that is equal to one-half of the difference.

If the difference is divisible by 9, you may have made a transposition error in transferring a balance to the trial balance or a slide error. A transposition error occurs when two digits are reversed in an amount (e.g. writing 753 as 573 or 110 as 101). A slide error occurs when you place a decimal point incorrectly (e.g. $ 1,500 recorded as $ 15.00). Thus, when a difference is divisible by 9, compare the trial balance amounts with the general ledger account balances to see if you made a transposition or slide error in transferring the amounts.

If you still cannot find the error, it may be due to one of the following causes:

- Failing to post part of a journal entry.
- Posting a debit as a credit, or vice versa.
- Incorrectly determining the balance of an account.
- Recording the balance of an account incorrectly in the trial balance.
- Omitting an account from the trial balance.
- Making a transposition or slide error in the accounts or the journal

Usually, you should work backward through the steps taken to prepare the trial balance. Assuming you have already re-totaled the columns and traced the amounts appearing in the trial balance back to the general ledger account balances, use the following steps: Verify the balance of each general ledger account, verify postings to the general ledger, verify general journal entries, and then review the transactions and possibly the source documents.

Answer the following questions to assess your understanding of the reading. Remember to rate your confidence with your answer: maybe? probably. definitely!



# GLOSSARY: LESSON 3

## GLOSSARY

**Account** A part of the accounting system used to classify and summarize the increases, decreases, and balances of each asset, liability, stockholders' equity item, dividend, revenue, and expense. The three-column account is normally used. It contains columns for debit, credit, and balance.

**Accounting cycle** A series of steps performed during the accounting period (some throughout the period and some at the end) to analyze, record, classify, summarize, and report useful financial information for the purpose of preparing financial statements.

**Accrual basis of accounting** Recognizes revenues when sales are made or services are performed, regardless of when cash is received. Recognizes expenses as incurred, whether or not cash has been paid out.

**Business transactions** Measurable events that affect the financial condition of a business.

**Chart of accounts** The complete listing of the account titles and account numbers of all of the accounts in the ledger; somewhat comparable to a table of contents.

**Compound journal entry** A journal entry with more than one debit and/or credit.

**Credit** The right side of any account; when used as a verb, to enter a dollar amount on the right side of an account; credits increase liability, stockholders' equity, and revenue accounts and decrease asset, expense, and Dividends accounts.

**Credit balance** The balance in an account when the sum of the credits to the account exceeds the sum of the debits to that account.

**Cross-indexing** The placing of (1) the account number of the ledger account in the general journal and (2) the general journal page number in the ledger account.

**Debit** The left side of any account; when used as a verb, to enter a dollar amount on the left side of an account; debits increase asset, expense, and Dividends accounts and decrease liability, stockholders' equity, and revenue accounts.

**Debit balance** The balance in an account when the sum of the debits to the account exceeds the sum of the credits to that account.

**Double-entry procedure** The accounting requirement that each transaction must be recorded by an entry that has equal debits and credits.

**Horizontal analysis** The calculation of dollar and/or percentage changes in an item on the financial statements from one year to the next.

**Journal** A chronological (arranged in order of time) record of business transactions; the simplest form of journal is the two-column general journal.

**Journal entry** Shows all of the effects of a business transaction as expressed in debit(s) and credit(s) and may include an explanation of the transaction.

**Journalizing** A step in the accounting recording process that consists of entering the effects of a transaction in a journal.

**Ledger** The complete collection of all of the accounts of a company; often referred to as the general ledger.

**Nominal accounts** See temporary accounts.

**Note** An unconditional written promise to pay to another party the amount owed either when demanded or at a certain specified date.

**Permanent accounts (real accounts)** Balance sheet accounts; their balances are not transferred (or closed) to any other account at the end of the accounting period.

**Posting** Recording in the ledger accounts the information contained in the journal.

**Real accounts** See permanent accounts.

**Simple journal entry** An entry with one debit and one credit.

**T-account** An account resembling the letter T, which is used for illustrative purposes only. Debits are entered on the left side of the account, and credits are entered on the right side of the account.

**Temporary accounts (nominal accounts) They** temporarily contain the revenue, expense, and dividend information that is transferred (or closed) to a stockholders' equity account (Retained Earnings) at the end of the accounting period.

**Trial balance** A listing of the ledger accounts and their debit or credit balances to determine that debits equal credits in the recording process.

**Vertical analysis** Shows the percentage that each item in a financial statement is of some significant total such as total assets or sales.



# DEBIT AND CREDIT REVIEW

## Four steps to determine what to debit or credit

Here is a handy list of questions to help guide students through the thought process involved with determining what to debit or credit in a given transaction. (Click pdf format for a printable version.)

**Step 1**: Pick ONE account that is affected by this transaction

**Step 2**: Is this account you picked in Step 1 INCREASING or DECREASING?

**Step 3**: What type of account is this?

CHOICES

- **Assets** – something that has future economic benefit – Cash, Accounts Receivable, Inventory, Prepaid Insurance, Equipment, etc.
- **Liabilities** – a debt owed to others – Accounts Payable, Unearned Revenue, Notes Payable, Bonds Payable, Long-term Mortgage Payable
- **Equity** – Common Stock, Retained Earnings
- **Revenues** – Sales Revenue, Service Revenue, Sales
- **Expenses** – Cost of Goods Sold, Salaries Expense, Insurance Expense
- **Dividends** – these are dividends that the company has declared and has, or will, pay to its stockholders

**Step 4**: Combine your answer from Step 2 and Step 3 to find whether you DEBIT or CREDIT the account you identified in Step 1

| Type of account | How to INCREASE | How to DECREASE |
|---|---|---|
| Assets | Debit | Credit |
| Liabilities | Credit | Debit |
| Equity | Credit | Debit |
| Revenues | Credit | Debit |

| | | |
|---|---|---|
| Expenses | Debit | Credit |
| Dividends | Debit | Credit |

Repeat Steps 1 through 4 for the OTHER account in this transaction

Remember:

- Total debits in a journal entry (transaction) must equal the total credits in that transaction
- You need at least one debit and one credit for every journal entry
- Debits are on the left, credits are on the right



# EXERCISES: UNIT 3

## SHORT ANSWER QUESTIONS, EXERCISES AND PROBLEMS

**Questions**

➢ Describe the steps in recording and posting the effects of a business transaction.

➢ Give some examples of source documents.

➢ Define an account. What are the two forms of account posting illustrated in the chapter?

➢ What is meant by the term double-entry procedure, or duality?

➢ Describe how you would determine the balance of a T-account.

➢ Define debit and credit.

➢ Do you think this double entry accounting system makes sense? Can you conceive of other possible methods for recording changes in accounts?

➢ Which of the steps in the accounting cycle are performed throughout the accounting period?

➢ What is the purpose of the Dividends account and how is it increased?

➢ Describe the nature and purposes of the general journal. What does journalizing mean? Give an example of a compound entry in the general journal.

➢ Describe a ledger and a chart of accounts. How do these two compare with a book and its table of contents?

➢ Describe the act of posting.

➢ What types of accounts appear in the unadjusted trial balance? What are the purposes of this trial balance?

➢ You have found that the total of the Debits column of the trial balance of Burns Company is $ 200,000, while the total of the Credits column is $ 180,000. What are some possible causes of this difference? If the difference between the columns is divisible by 9, what types of errors are possible?

➢ Store equipment was purchased for $ 2,000. Instead of debiting the Store Equipment account, the debit was made to Delivery Equipment. Of what help will the trial balance be in locating this error? Why?

➢ A student remembered that the side toward the window in the classroom was the debit side of an account. The student took an examination in a room where the windows were on the other side of the room and became confused and consistently reversed debits and credits. Would the student's trial balance have equal debit and credit totals? If there were no existing balances in any of the accounts to begin with, would the error prevent the student from preparing correct financial statements? Why?

## Exercises

**Exercise A** Prepare the journal entry required for each of the following transactions:

1. Cash was received for services performed for customers, $1,200.
2. Services were performed for customers on account, $4,200.

**Exercise B** Prepare the journal entry required for each of the following transactions:

1. Common stock was issued for $ 100,000.
2. Purchased machinery for cash, $ 30,000.

**Exercise C** Prepare the journal entry required for each of the following transactions:

1. Capital stock was issued for $ 200,000 cash.
2. A $ 30,000 loan was arranged with a bank. The bank increased the company's checking account by $ 30,000 after management of the company signed a written promise to return the $ 30,000 in 30 days.
3. Cash was received for services performed for customers, $ 700.
4. Services were performed for customers on account, $ 1,200.

**Exercise D** For each of the following unrelated transactions, give the journal entry to record the transaction. Then show how the journal entry would be posted to T-accounts. You need not include explanations or account numbers.

1. Capital stock was issued for $ 100,000 cash.
2. Salaries for a period were paid to employees, $ 24,000.
3. Services were performed for customers on account, $ 40,000.

**Exercise E** Prepare journal entries to record each of the following transactions for Sanchez Company. Use the letter of the transaction in place of the date. Include an explanation for each entry.

1. Capital stock was issued for cash, $ 300,000.
2. Purchased trucks by signing a note bearing no interest, $ 210,000.
3. Earned service revenue on account, $ 4,800.
4. Collected the account receivable resulting from transaction (c), $ 4,800.
5. Paid the note payable for the trucks purchased, $ 210,000.
6. Paid utilities for the month in the amount of $ 1,800.
7. Paid salaries for the month in the amount of $ 7,500.
8. Incurred supplies expenses on account in the amount of $ 1,920.
9. Purchased another truck for cash, $ 48,000.
10. Performed delivery services on account, $ 24,000.

**Exercise F** Using the data in the previous problem, post the entries to T-accounts. Write the letter of the transaction in the account before the dollar amount. Determine a balance for each account.

**Exercise G** Using your answer for the previous exercise, prepare a trial balance. Assume the date of the trial balance is March 31.

**Problems**

**Problem A** The transactions of Lightning Package Delivery Company for March follow:

Mar. 1 The company was organized and issued capital stock for $ 300,000 cash.

2 Paid $ 6,000 as the rent for March on a completely furnished building.

5 Paid cash for delivery trucks, $ 180,000.

6 Paid $ 4,000 as the rent for March on two forklift trucks.

9 Paid $ 2,200 for supplies received and used in March.

12 Performed delivery services for customers who promised to pay $ 27,000 at a later date.

20 Collected cash of $ 4,500 from customers on account (see March 12 entry).

21 Received a bill for $ 1,200 for advertising in the local newspaper in March.

27 Paid cash for gas and oil consumed in March, $ 450.

31 Paid $ 2,400 salaries to employees for March.

31 Received an order for services at $ 12,000. The services will be performed in April.

31 Paid cash dividend, $ 1,000.

Prepare the journal entries required to record these transactions in the general journal of the company.

Problem B Economy Laundry Company had the following transactions in August:

Aug. 1 Issued capital stock for cash, $ 150,000.

3 Borrowed $ 40,000 from the bank on a note.

4 Purchased cleaning equipment for $ 25,000 cash.

6 Performed services for customers who promised to pay later, $ 16,000.

7 Paid this month's rent on a building, $ 2,800.

10 Collections were made for the services performed on August 6, $ 3,200.

14 Supplies were purchased on account for use this month, $ 3,000.

17 A bill for $ 400 was received for utilities for this month.

25 Laundry services were performed for customers who paid immediately, $ 22,000.

31 Paid employee salaries, $ 6,000.

31 Paid cash dividend, $ 2,000.

Required:

1. Prepare journal entries for these transactions.
2. Post the journal entries to T-accounts. Enter the account number in the Posting Reference column of the journal as you post each amount. Use the following account numbers:

| Acct. | |
|---|---|
| No. | Account Title |
| 100 | Cash |
| 103 | Accounts receivable |
| 170 | Equipment |

| | |
|---|---|
| 200 | Accounts payable |
| 201 | Notes payable |
| 300 | Capital stock |
| 320 | Dividends |
| 400 | Service revenue |
| 507 | Salaries expense |
| 511 | Utilities expense |
| 515 | Rent expense |
| 518 | Supplies expense |

3. Prepare a trial balance as of August 31.

**Problem C** Clean-Sweep Janitorial, Inc., a company providing janitorial services, was organized July 1. The following account numbers and titles constitute the chart of accounts for the company:

| **Acct.** | |
|---|---|
| **No.** | **Account Title** |
| 100 | Cash |
| 103 | Accounts receivable |
| 150 | Trucks |
| 160 | Office equipment |
| 170 | Equipment |
| 200 | Accounts payable |
| 201 | Notes payable |
| 300 | Capital stock |
| 310 | Retained earnings |
| 320 | Dividends |
| 400 | Service revenue |
| 506 | Gas and oil expense |
| 507 | Salaries expense |

| | |
|---|---|
| 511 | Utilities expense |
| 512 | Insurance expense |
| 515 | Rent expense |
| 518 | Supplies expense |

July 1 The company issued $ 600,000 of capital stock for cash.

5 Office space was rented for July, and $ 5,000 was paid for the rental.

8 Desks and chairs were purchased for the office on account, $ 28,800.

10 Equipment was purchased for $ 50,000; a note was given, to be paid in 30 days.

15 Purchased trucks for $ 150,000, paying $ 120,000 cash and giving a 60-day note to the dealer for $ 30,000.

July 18 Paid for supplies received and already used, $ 2,880.

23 Received $ 17,280 cash as service revenue.

27 Insurance expense for July was paid, $ 4,500.

30 Paid for gasoline and oil used by the truck in July, $ 576.

31 Billed customers for janitorial services rendered, $ 40,320.

31 Paid salaries for July, $ 51,840.

31 Paid utilities bills for July, $ 5,280.

31 Paid cash dividends, $ 9,600.

1. Journalize the transactions given for July in the general journal.
2. Post the journal entries to ledger accounts.
3. Prepare a trial balance as of July 31.

**Problem D** Trim Lawn, Inc., is a lawn care company. Thus, the company earns its revenue from sending its trucks to customers' residences and certain commercial establishments to care for lawns and shrubbery. Trim Lawn's trial balance at the end of the first 11 months of the year follows:

| | | | |
|---|---|---|---|
| | TRIM LAWN, INC. | | |
| | Trial Balance | | |
| | November 30 | | |
| Acct. | | | |
| No. | Account Title | Debits | Credits |
| 100 | Cash | $ 63,740 | |
| 103 | Accounts Receivable | 88,600 | |

| | | | |
|---|---|---|---|
| 150 | Trucks | 102,900 | |
| 160 | Office Furniture | 8,400 | |
| 200 | Accounts Payable | | $ 33,600 |
| 300 | Capital Stock | | 30,000 |
| 310 | Retained Earnings, 2010 January 1 | | 30,540 |
| 400 | Service Revenue | | 371,010 |
| 505 | Advertising Expense | 18,300 | |
| 506 | Gas an d Oil Expense | 21,900 | |
| 507 | Salaries Expense | 65,850 | |
| 511 | Utilities Expense | 2,310 | |
| 515 | Rent Expense | 15,000 | |
| 518 | Supplies Expense | 75,600 | |
| 531 | Entertainment Expense | 2,550 | |
| | | $465,150 | $465,150 |

Dec. 2 Paid rent for December, $ 3,000.

5 Paid the accounts payable of $ 33,600.

8 Paid advertising for December, $ 1,500.

10 Purchased a new office desk on account, $ 1,050.

13 Purchased $ 240 of supplies on account for use in December.

15 Collected cash from customers on account, $ 75,000.

20 Paid for customer entertainment, $ 450.

24 Collected an additional $ 6,000 from customers on account.

26 Paid for gasoline used in the trucks in December, $ 270.

28 Billed customers for services rendered, $ 79,500.

30 Paid for more December supplies, $ 12,000.

31 Paid December salaries, $ 15,300.

31 Paid a $ 4,000 cash dividend. (The Dividends account is No. 320.)

1. Prepare entries in the general journal for the preceding transactions for December.
2. Post the journal entries to three-column general ledger accounts.

3. Prepare a trial balance as of December 31.

**Problem E** Marc Miller prepared the following trial balance from the ledger of the Quick-Fix TV Repair Company. The trial balance did not balance.

| | | | |
|---|---|---|---|
| | QUICK-FIX REPAIR COMPANY | | |
| | Trial Balance | | |
| | December 31 | | |
| Acct. | | | |
| No. | Account Title | Debits | Credits |
| 100 | Cash | $ 69,200 | |
| 103 | Accounts Receivable | 60,800 | |
| 160 | Office Furniture | 120,000 | |
| 172 | Office Equipment | 48,000 | |
| 200 | Accounts Payable | | $ 32,400 |
| 300 | Capital Stock | | 180,000 |
| 310 | Retained Earnings | | 80,000 |
| 320 | Dividends | 28,800 | |
| 400 | Service Revenue | | 360,000 |
| 507 | Salaries Expense | 280,000 | |
| 515 | Rent Expense | 40,000 | |
| 568 | Miscellaneous Expense | 7,200 | |
| | | $654,000 | $652,400 |

The difference in totals in the trial balance caused Miller to carefully examine the company's accounting records. In searching back through the accounting records, Miller found that the following errors had been made:

- One entire entry that included a $ 10,000 debit to Cash and a $ 10,000 credit to Accounts Receivable was never posted.
- In computing the balance of the Accounts Payable account, a credit of $ 3,200 was omitted from the computation.
- In preparing the trial balance, the Retained Earnings account balance was shown as $ 80,000. The ledger account has the balance at its correct amount of $ 83,200.
- One debit of $ 2,400 to the Dividends account was posted as a credit to that account.
- Office equipment of $ 12,000 was debited to Office Furniture when purchased.

Prepare a corrected trial balance for the Quick-Fix TV Repair Company as of December 31. Also, write a description of the effect(s) of each error.

**Alternate problems**

**Alternate problem A** Speedy Laundry Company, Inc., entered into the following transactions in August:

Aug. 1 Received cash for capital stock issued to owners, $ 400,000.

3 Paid rent for August on a building and laundry equipment rented, $ 3,000.

6 Performed laundry services for $ 2,000 cash.

8 Secured an order from a customer for laundry services of $ 7,000. The services are to be performed next month.

13 Performed laundry services for $ 6,300 on account for various customers.

15 Received and paid a bill for $ 430 for supplies used in operations.

23 Cash collected from customers on account, $ 2,600.

31 Paid $ 2,400 salaries to employees for August.

31 Received the electric and gas bill for August, $ 385, but did not pay it at this time.

31 Paid cash dividend, $ 1,000.

Prepare journal entries for these transactions in the general journal.

**Alternate problem B** The transactions listed below are those of Reliable Computer Repair, Inc., for April:

Apr. 1 Cash of $ 500,000 was received for capital stock issued to the owners.

3 Rent was paid for April, $ 3,500.

6 Trucks were purchased for $ 56,000 cash.

7 Office equipment was purchased on account from Wagner Company for $ 76,800.

14 Salaries for first two weeks were paid, $ 12,000.

15 $ 28,000 was received for services performed.

18 An invoice was received from Roger's Gas Station for $ 400 for gas and oil used during April.

23 A note was arranged with the bank for $ 80,000. The cash was received, and a note promising to return the $ 80,000 on 2010 May 30, was signed.

29 Purchased trucks for $ 73,600 by signing a note.

30 Salaries for the remainder of April were paid, $ 14,400.

1. Prepare journal entries for these transactions.
2. Post the journal entries to T-accounts. Enter the account number in the Posting Reference column of the journal as you post each amount. Use the following account numbers:

| Acct. | |
|---|---|
| No. | Account Title |
| 100 | Cash |

| | |
|---|---|
| 150 | Trucks |
| 172 | Office equipment |
| 200 | Accounts payable |
| 201 | Notes payable |
| 300 | Capital stock |
| 400 | Service revenue |
| 506 | Gas and oil expense |
| 507 | Salaries expense |
| 515 | Rent expense |

3. Prepare a trial balance as of April 30.

**Alternate problem C** Rapid Pick Up & Delivery, Inc., was organized January 1. Its chart of accounts is as follows:

| **Acct.** | |
|---|---|
| **No.** | **Account title** |
| 100 | Cash |
| 103 | Accounts receivable |
| 150 | Trucks |
| 160 | Office furniture |
| 172 | Office equipment |
| 200 | Accounts payable |
| 201 | Notes payable |
| 300 | Capital stock |
| 310 | Retained earnings |
| 400 | Service revenue |
| 506 | Gas and oil expense |
| 507 | Salaries expense |
| 511 | Utilities expense |

| | |
|---|---|
| 512 | Insurance expense |
| 515 | Rent expense |
| 530 | Repairs expense |

Jan. 1 The company received $ 560,000 cash and $ 240,000 of office furniture in exchange for $ 800,000 of capital stock.

2 Paid garage rent for January, $ 6,000.

4 Purchased computers on account, $ 13,200.

6 Purchased delivery trucks for $ 280,000; payment was made by giving cash of $ 150,000 and a 30-day note for the remainder.

Jan 12 Purchased insurance for January on the delivery trucks. The cost of the policy, $ 800, was paid in cash.

15 Received and paid January utilities bills, $ 960.

15 Paid salaries for first half of January, $ 3,600.

17 Cash received for delivery services to date amounted to $ 1,800.

20 Received bill for gasoline purchased and used in January, $ 180.

23 Purchased delivery trucks for cash, $ 108,000.

25 Cash sales of delivery services were $ 2,880.

27 Purchased a copy machine on account, $ 3,600.

31 Paid salaries for last half of January, $ 4,800.

31 Sales of delivery services on account amounted to $ 11,400.

31 Paid for repairs to a delivery truck, $ 1,120.

1. Prepare general ledger accounts for all these accounts except Retained Earnings. The Retained Earnings account has a beginning balance of zero and maintains this balance throughout the period.
2. Journalize the transactions given for January in the general journal.
3. Post the journal entries to ledger accounts.
4. Prepare a trial balance as of January 31.

**Alternate problem 4** The trial balance of California Tennis Center, Inc., at the end of the first 11 months of its fiscal year follows:

| | | | |
|---|---|---|---|
| | CALIFORNIA TENNIS CENTER, INC. | | |
| | Trial Balance | | |
| | November 30 | | |
| Acct. | | | |
| No. | Account Title | Debits | Credits |

| | | | |
|---|---|---|---|
| 100 | Cash | $71,180 | |
| 103 | Accounts Receivable | 81,750 | |
| 130 | Land | 60,000 | |
| 200 | Accounts Payable | | $18,750 |
| 201 | Notes Payable | | 15,000 |
| 300 | Capital Stock | | 50,000 |
| 310 | Retained Earnings, 2010 January 1 | | 53,700 |
| 413 | Membership and Lesson Revenue | | 202,500 |
| 505 | Advertising Expense | 21,000 | |
| 507 | Salaries Expense | 66,000 | |
| 511 | Utilities Expense | 2,100 | |
| 515 | Rent Expense | 33,000 | |
| 518 | Supplies Expense | 2,250 | |
| 530 | Repairs Expense | 1,500 | |
| 531 | Entertainment Expense | 870 | |
| 540 | Interest Expense | 300 | |
| | | $339,950 | $339,950 |

Dec. 1 Paid building rent for December, $ 4,000.

2 Paid vendors on account, $ 18,000.

5 Purchased land for cash, $ 10,000.

7 Sold memberships on account for December, $ 27,000.

10 Paid the note payable of $ 15,000, plus interest of $ 150.

13 Cash collections from customers on account, $ 36,000.

19 Received a bill for repairs, $ 225.

24 Paid the December utilities bill, $ 180.

28 Received a bill for December advertising, $ 1,650.

29 Paid the equipment repair bill received on the 19th, $ 225.

30 Gave tennis lessons for cash, $ 4,500.

30 Paid salaries, $ 6,000.

30 Sales of memberships on account since December 7, $ 18,000 (for the month of December).

30 Costs paid in entertaining customers in December, $ 350.

30 Paid dividends of $ 1,500. (The Dividends account is No. 320.)

1. Prepare entries in the general journal for the transactions during December.
2. Post the journal entries to ledger accounts.
3. Prepare a trial balance as of December 31.

**Alternate problem E** Bill Baxter prepared a trial balance for Special Party Rentals, Inc., a company that rents tables, chairs, and other party supplies. The trial balance did not balance. The trial balance he prepared was as follows:

| | | | | |
|---|---|---|---|---|
| | | SPECIAL PARTY RENTALS, INC. | | |
| | | Trial Balance | | |
| | | December 31 | | |
| Acct. | | | | |
| No. | | Account Title | Debits | Credits |
| 100 | Cash | | $ 74,000 | |
| 103 | Accounts Receivable | | 50,800 | |
| 170 | Equipment | | 160,000 | |
| 200 | Accounts Payable | | | $ 34,000 |
| 300 | Capital Stock | | | 130,000 |
| 310 | Retained Earnings | | | 44,000 |
| 320 | Dividends | | 16,000 | |
| 400 | Service Revenue | | | 432,000 |
| 505 | Advertising Expense | | 1,200 | |
| 507 | Salaries Expense | | 176,000 | |
| 511 | Utilities Expense | | 44,800 | |
| 515 | Rent Expense | | 64,000 | |
| | | | $ 586,800 | $ 640,000 |

In trying to f ind out why the trial balance did not balance, Baxter discovered the following errors:

Equipment was understated (too low) by $ 12,000 because of an error in addition in determining the balance of that account in the ledger.

A credit of $ 4,800 to Accounts Receivable in the journal was not posted to the ledger account at all.

A debit of $ 16,000 for a semiannual dividend was posted as a credit to the Capital Stock account.

The balance of $ 12,000 in the Advertising Expense account was entered as $ 1,200 in the trial balance.

Miscellaneous Expense (Account No. 568), with a balance of $ 3,200, was omitted from the trial balance.

Prepare a corrected trial balance as of 2010 December 31. Also, write a description of the effect(s) of each error.

Beyond the numbers—Critical thinking

Business decision case A John Jacobs lost his job as a carpenter with a contractor when a recession hit the construction industry. Jacobs had been making $ 50,000 per year. He decided to form his own company, Jacobs Corporation, and do home repairs.

The following is a summary of the transactions of the business during the first three months of operations in 2010:

Jan. 15 Stockholders invested $ 40,000 in the business.

Feb. 25 Received payment of $ 4,400 for remodeling a basement into a recreation room. The homeowner purchased all of the building materials.

Mar. 5 Paid cash for an advertisement that appeared in the local newspaper, $ 150.

Apr. 10 Received $ 7,000 for converting a room over a garage into an office for a college professor. The professor purchased all of the materials for the job.

11 Paid gas and oil expenses for automobile, $ 900.

12 Miscellaneous business expenses were paid, $ 450.

15 Paid dividends of $ 2,000.

1. Prepare journal entries for these transactions.
2. Post the journal entries to T-accounts.
3. How profitable is this new venture? Should Jacobs stay in this business?

Annual report analysis B Refer to the Annual Report of The Limited, Inc. in the Annual Report Appendix. Perform horizontal and vertical analyses of the liabilities and stockholder's equity sections of the balance sheets for the two most recent years shown. Horizontal analysis involves showing the dollar amount and percentage increase or decrease of the latest year over the preceding year amounts. Vertical analysis involves showing the percentage of total liabilities and stockholder's equity that each account represents as of the balance sheet dates. Write comments on any important changes between the two years that are evidence of decisions made by management.

Annual report analysis C In The Home Depot's recent Annual Report, the following passages appear:

> The primary key to our success is our 39,000 employees who wear those orange aprons you see in our stores.
>
> Few great achievements—in business or in any aspect of life—are reached and sustained without the support and involvement of large numbers of people committed to shared values and goals they deem worthy. Indeed, one need look no further than the business section of the morning newspaper to read of how yet another "blue chip" American business, entrenched in and isolated by its own bureaucracy, has

lost the support of its employees and customers…The primary key to our success is our 39,000 employees who wear those orange aprons you see in our stores.

Frankly, the biggest difference between The Home Depot and our competitors is not the products on our shelves, it is our people and their ability to forge strong bonds of loyalty and trust with our customers…

…Contrary to conventional management wisdom, those at the top of organization charts are not the source of all wisdom. Many of our best ideas come from the people who work on the sales floor. We encourage our employees to challenge senior management directives if they feel strongly enough about their dissenting opinions…

…We want our people to be themselves and to be bold enough to apply their talents as individuals. Certainly, people can often perceive great risk acting this way. Thus, we go to great lengths to empower our employees to be mavericks, to express differences of opinion without fear of being fired or demoted…We do everything we can to make people feel challenged and inspired at work instead of being threatened and made to feel insecure. An organization can, after all, accomplish more when people work together instead of against each other.

Write answers to the following questions:

1. Do you think The Home Depot management regards its employees more as expenses or assets? Explain.
2. What does The Home Depot regard as its most valuable asset? Explain your answer.
3. Is The Home Depot permitted to list its human resources as assets on its balance sheet? Why or why not?
4. Could its philosophy regarding its employees be the major factor in its outstanding financial performance? Explain.

Ethics case – Writing experience D Refer to "An ethical perspective: Financial deals, Inc.". Write out the answers to the following questions:

1. What motivated Larry to go along with unethical and illegal actions? Explain.
2. What are Larry's options now? List each possibility.
3. What would you do if you were Larry? Describe in detail.
4. What do you think the real Larry did? Describe in detail.

Group project E In teams of two or three students, interview in person or by speakerphone a new staff member who has worked for a CPA firm for only one or two years. Seek information on the advantages and disadvantages of working for a CPA firm. Also, inquire about the nature of the work and the training programs offered by the firm for new employees. As a team, write a memorandum to the instructor summarizing the results of the interview. The heading of the memorandum should contain the date, to whom it is written, from whom, and the subject matter.

Group project F With one or two other students and using library resources, write a report on the life of Luca Pacioli, sometimes referred to as the father of accounting. Pacioli was a Franciscan monk who wrote a book on double-entry accounting in 1494. Be careful to cite sources and treat direct quotes properly. (If you do not know how to do this, ask your instructor.)

Using the Internet—A view of the real world

Visit the following website:

http://www.roberthalf.com

Click on Job Seekers. Read the information and write a memo to your instructor about your search and what you learned about certain jobs in accounting.

Visit the following website:

http://www.sec.gov

Investigate this site for anything of interest. Write a memo to your instructor about your search.

Write answers to the following questions:

1. Do you think The Home Depot management regards its employees more as expenses or assets? Explain.
2. What does The Home Depot regard as its most valuable asset? Explain your answer.
3. Is The Home Depot permitted to list its human resources as assets on its balance sheet? Why or why not?
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# UNIT 4: COMPLETION OF THE ACCOUNTING CYCLE

## THE ACCRUAL BASIS AND CASH BASIS OF ACCOUNTING

In the previous section, you learned the first column of the accounting cycle.  Now we will finish the remainder of the accounting cycle.  The complete cycle is:

| Accounting Cycle | | |
|---|---|---|
| 1.  Analyze Transactions | 5.  Prepare Adjusting Journal Entries | 9.  Prepare Closing Entries |
| 2.  Prepare Journal Entries | 6.  Post Adjusting Journal Entries | 10.  Post Closing Entries |
| 3.  Post journal Entries | 7.  Prepare Adjusted Trial Balance | 11. Prepare Post-Closing Trial Balance |
| 4.  Prepare Unadjusted Trial Balance | 8.  Prepare Financial Statements | |

Before we can prepare adjusting journal entries, we need to understand a little more theory.

### Revenue Recognition

Revenue is not difficult to define or measure; it is the inflow of assets from the sale of goods and services to customers, measured by the cash expected to be received from customers. However, the crucial question for the accountant is when to record a revenue. Under the **revenue recognition principle**, revenues should be earned and realized before they are recognized (recorded).

### Matching Principle

Expense recognition is closely related to, and sometimes discussed as part of, the revenue recognition principle. The **matching principle** states that expenses should be recognized (recorded) as they are incurred to produce revenues. An expense is the outflow or using up of assets in the generation of revenue.

### CASH VERSUS ACCRUAL BASIS ACCOUNTING

Professionals such as physicians and lawyers and some relatively small businesses may account for their revenues and expenses on a cash basis. The **cash basis of accounting** recognizes revenues when cash is received and recognizes expenses when cash is paid out. For example,  a company could perform work in one year and not receive payment until the following year.  Under the cash basis, the revenue would not be reported in the year the work was done but in the following year when the cash is actually received.

Because the cash basis of accounting does not match expenses incurred and revenues earned in the appropriate year, it does not follow Generally Accepted Accounting Principles (GAAP). The cash basis is acceptable in practice only under those circumstances when it approximates the results that a company could obtain under the accrual basis of accounting. Companies using the cash basis do not have to prepare any adjusting entries unless they discover they have made a mistake in preparing an entry during the accounting period.

| Cash Basis | Accrual Basis |
|---|---|
| Revenues are recognized as cash is received | Revenues are recognized as earned (goods are delivered or services are performed) |
| Expenses are recognized as cash is paid | Expenses are recognized as incurred to produce revenues |

Most companies use the accrual basis of accounting. The **accrual basis of accounting** recognizes revenues when earned (a product is sold or a service has been performed), regardless of when cash is received. Expenses are recognized as incurred, whether or not cash has been paid out. For instance, assume a company performs services for a customer on account. Although the company has received no cash, the revenue is recorded at the time the company performs the service. Later, when the company receives the cash, no revenue is recorded because the company has already recorded the revenue. Under the accrual basis, adjusting entries are needed to bring the accounts up to date for unrecorded economic activity that has taken place.

The following video summarizes the difference between cash and accrual basis of accounting.

Watch this video online: https://youtu.be/aPwdgUDXkkE

Throughout the text we will use the accrual basis of accounting, which matches expenses incurred and revenues earned, because most companies use the accrual basis.

## Time-Period Assumption

According to the **periodicity (time periods) assumption**, accountants divide an entity's life into months or years to report its economic activities. Then, accountants attempt to prepare accurate reports on the entity's activities for these periods. Although these time-period reports provide useful and timely financial information for investors and creditors, they may be inaccurate for some of these time periods because accountants must estimate depreciation expense and certain other adjusting entries.

Accounting reports cover relatively short periods. These time periods are usually of equal length so that statement users can make valid comparisons of a company's performance from period to period. The length of the accounting period must be stated in the financial statements. For instance, so far, the income statements in this text were for either one month or one year. Companies that publish their financial statements, such as publicly held corporations, generally prepare monthly statements for internal management and publish financial statements quarterly and annually for external statement users.

### Accrual basis and periodicity

Previously, we demonstrated that financial statements more accurately reflect the financial status and operations of a company when prepared under the accrual basis rather than the cash basis of accounting. The periodicity assumption requires preparing adjusting entries under the accrual basis. Without the periodicity assumption, a business would have only one time period running from its inception to its termination. Then, the concepts of cash basis and accrual basis accounting would be irrelevant because all revenues and all expenses would be recorded in that one time period and would not have to be assigned to artificially short periods of one year or less.

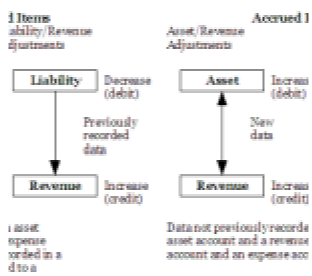
# CLASSES AND TYPES OF ADJUSTING ENTRIES

## What is an Adjusting Entry?

Adjusting entries reflect unrecorded economic activity that has taken place but has not yet been recorded because it is either more convenient to wait until the end of the period to record the activity, or because no source document concerning that activity has yet come to the accountant's attention. Additionally, periodic reporting and the matching principle necessitate the preparation of adjusting entries. Remember, the matching principle indicates that expenses have to be matched with revenues as long as it is reasonable to do so. To follow this principle, adjusting entries are journal entries made at the end of an accounting period or at any time financial statements are to be prepared to bring about a proper *matching* of revenues and expenses.

With respect to when adjusting entries are made during the accounting cycle, they will be made after the unadjusted trial balance and *before* the company prepares its financial statements, bringing the amounts in the general ledger accounts to their proper balances.

Each adjusting entry has a dual purpose: (1) to make the income statement report the proper revenue or expense and (2) to make the balance sheet report the proper asset or liability. Thus, **every adjusting entry affects at least one income statement account and one balance sheet account.**




*Click Image to Enlarge*

Adjusting entries fall into two broad classes: accrued (meaning to grow or accumulate) items and deferred (meaning to postpone or delay) items. The entries can be further divided into accrued revenue, accrued expenses, unearned revenue and prepaid expenses which will examine further in the next lessons.

The adjusting entries for a given accounting period are entered in the general journal and posted to the appropriate ledger accounts (*note: these are the same ledger accounts used to post your other journal entries*).

THREE ADJUSTING ENTRY RULES

1. Adjusting entries will never include cash. Adjusting entries are done to make the accounting records accurately reflect the matching principle – match revenue and expense of the operating period. It doesn't make any sense to collect or pay cash to ourselves when doing this internal entry.
2. Usually the adjusting entry will only have one debit and one credit.
3. The adjusting entry will ALWAYS have one balance sheet account (asset, liability, or equity) and one income statement account (revenue or expense) in the journal entry. Remember the goal of the adjusting entry is to match the revenue and expense of the accounting period.

# ADJUSTING FOR ACCRUED ITEMS

## ACCRUALS

This type of adjusting entry will ADD to two accounts. **The amount you will be adding was not already on the books.** You can have accrued expenses or accrued revenues:

- Accrued Revenues are when a revenue has been earned (we did the work or made a sale) but it has not been recorded in our books. This is common at the end of the year when we are doing work but have not recorded the revenue yet. This would also apply to interest earned on notes receivable even if the interest is not due until the next year.

Watch this video online: https://youtu.be/Fn3oUGTf-wk

- Accrued Expenses are when an expense has been incurred but has not been entered into the books. This is common if employees worked during the last week of the year but won't be paid until the regular payday which is in the next year. The expense needs to be matched with the revenue of the period. Interest expense is another example since it accrues by the day we need to adjust for the expense for the amount of time the note is outstanding during the accounting period.

Watch this video online: https://youtu.be/ONkJXfvrAkc

Let's look at some examples.

### Example 1 – Revenue Goes From Accrued Asset to Accrued Revenue

An **asset / revenue** adjustment may occur when a company performs a service for a customer but has not yet billed the customer. The accountant records this transaction as an asset in the form of a receivable and as revenue because the company has earned a revenue.

MicroTrain Company did work for a customer on December 31 for $5,000. The customer has not been billed. We would make the following adjusting entry on December 31:

| | Debit | Credit |
|---|---|---|
| Accounts Receivable | 5,000 | |
| Service Revenue | | 5,000 |

### Example 2 – Interest Goes From Accrued Asset to Accrued Revenue

For example, assume MicroTrain Company has some money in a savings account. On December 31 the money on deposit has earned one month's interest of $600, although the company has not received the interest. An entry must show the amount of interest earned by December 31 as well as the amount of the asset, interest receivable (the right to receive this interest). The entry to record the accrual of revenue is:

| | Debit | Credit |
|---|---|---|
| Interest Receivable | 600 | |
| Interest Revenue | | 600 |

## Example 3- Salaries go From Accrued Liabilities to Accrued Expenses

**Liability/expense** adjustments—involves accrued liabilities. **Accrued liabilities** are liabilities not yet recorded at the end of an accounting period. They represent obligations to make payments not legally due at the balance sheet date, such as employee salaries. At the end of the accounting period, the company recognizes these obligations by preparing an adjusting entry including both a liability and an expense. For this reason, we also call these obligations **accrued expenses**.

An accountant records unpaid salaries as a liability and an expense because the company has incurred an expense. The recording of the payment of employee salaries usually involves a debit to an expense account and a credit to Cash. Unless a company pays salaries on the last day of the accounting period for a pay period ending on that date, it must make an adjusting entry to record any salaries incurred but not yet paid.

MicroTrain Company paid employees on Friday, December 27. The next payday will be in January of the next year. We need to do an adjusting entry to record the salary earned by employees from December 28 – December 31 of this year. December 28 and 29 are weekend days and employees do not work those days. We need to account for 2 days, December 30 and 31.

If salaries are $900 per week. For a five-day workweek ($900 / 5 days), daily salaries are $180. MicroTrain makes the following adjusting entry on December 31 to accrue salaries for two days ($180 per day x 2 days):

| | | | | |
|---|---|---|---|---|
| Dec. | 31 | Salaries Expense | 360 | |
| | | Salaries Payable | | 360 |
| | | To accrue two day's salaries that were earned but not paid. | | |



# ADJUSTING FOR DEFERRED ITEMS

## Deferred Items

Deferred means to postpone or delay items. We will be moving items that have already been record in our books. We will move a liability to revenue or an asset to an expense. The deferred items we will discuss are unearned revenue and prepaid expenses. Unearned revenues are money received before work has been performed and is recorded as a liability. Prepaid expenses are expenses the company pays for in advance and are assets including things like rent, insurance, supplies, inventory, and other assets.

- Liability / revenue adjustments come from companies receiving advance payments for items such as training services, delivery services, tickets, and magazine or newspaper subscriptions. Receiving assets before they are earned creates a liability called unearned revenue. The firm debits such receipts to the asset account Cash and credits a liability account. The liability account credited may be Unearned Revenue, Revenue Received in Advance, Advances by Customers, or some similar title. The seller must either provide the services or return the customer's money. By performing the services, the company earns revenue and cancels the liability.

*Remember: Unearned revenue is a liability account because we owe work to someone in the future.*

Watch this video online: https://youtu.be/XsHSN3UgCHM

- Asset/ expense entries will initially be recorded as assets, then as the asset is used it will become an expense. If a business knows that they will use the asset before the end of the accounting period, they will initially record it as an expense. Prepaid insurance, depreciation, prepaid rent and supplies on hand are all examples of asset/ expense entries.

Watch this video online: https://youtu.be/hPq1Mv2gIec

Let's look at some examples.

## Example 1 – Liability / revenue adjusting entry for future services rendered

On December 7, MicroTrain Company received $4,500 from a customer in payment for future training services. The firm recorded the following journal entry:

| Dec. 7 | | Debit | Credit |
|---|---|---|---|
| | Cash | 4,500 | |
| | Unearned Revenue | | 4,500 |
| | *To record the receipt of cash from a customer in payment for future training services.* | | |

The balance in the Unearned Service Revenues liability account established when MicroTrain received the cash will be converted into revenue as the company performs the training services. Before MicroTrain prepares its financial statements, it must make an adjusting entry to transfer the amount of the services performed by the company from a liability account to a revenue account.

If we assume that MicroTrain earned one-third of the $ 4,500 in the Unearned Revenue account by December 31, then the company transfers $ 1,500 (4,500 x 1/3) to the Service Revenue account in an adjusting entry as follows:

| | | Debit | Credit |
|---|---|---|---|
| Dec. 31 | Unearned Revenue | 1,500 | |
| | Service Revenue | | 1,500 |
| | *To record the receipt of cash from a customer in payment for future training services.* | | |

## Example 2 – Asset / expense adjusting entry for prepaid insurance

MicroTrain Company purchased for cash an insurance policy on its trucks for the 12 month period beginning December 1. The journal entry made on December 1, to record the purchase of the policy is illustrated in the following table (remember, when we pay for expenses in advance we record them as an asset):

| | | Debit | Credit |
|---|---|---|---|
| Dec. 1 | Prepaid Insurance | 2,400 | |
| | Cash | | 2400 |
| | *Purchased truck insurance to cover a one-year period.* | | |

On December 31, an adjusting journal entry is made because it is the end of an accounting period and MicroTrain has not used all of the insurance they paid for. MicroTrain will record an adjusting entry for 1 month of insurance expense ($2,400 / 12 months) since the policy began December 1 and the year end is December 31. The following table shows how to record this adjusting entry in the journal:

| | | Debit | Credit |
|---|---|---|---|
| Dec. 31 | Insurance Expense | 200 | |
| | Prepaid Insurance | | 200 |
| | *To record insurance expense for December.* | | |

Before this adjusting entry was made, the entire $ 2,400 insurance payment made on December 1, was a prepaid expense for 12 months of protection. So on December 31, one month of protection had passed, and an adjusting entry transferred $ 200 of the $ 2,400 ( $ 2,400/12 = $ 200) to Insurance Expense.

After journal entries have been adjusted, they must be posted to the ledgers again, the three-column ledger accounts appear as follows:

Prepaid Insurance

| Date | | Explanation | Debit | Credit | Balance |
|---|---|---|---|---|---|
| Dec. | 1 | Purchased on Account | 2,400 | | 2,400 |
| | 31 | Adjustment | | 200 | 2,200 |

Insurance Expense

| Date | | Explanation | Debit | Credit | Balance |
|---|---|---|---|---|---|
| Dec. | 31 | Adjustment | 200 | | 200 |

Note that we are cycling through the second and third steps of the accounting equation again. On the income statement for the year ended December 31, MicroTrain reports one month of insurance expense, $ 200, as one of the expenses it incurred in generating that year's revenues. It reports the remaining amount of the prepaid expense, $ 2,200, as an asset on the balance sheet. The $ 2,200 prepaid expense represents 11 months of insurance protection that remains as a future benefit.

## Example 3 – Asset / expense adjusting entry for supplies

When a company purchases supplies in bulk, it is recorded as an asset until the supplies are used. An adjusting entry is used to record the amount of supplies used (supplies expense) during the period. To determine the amount of supplies used during the period, a physical count is made of the supplies remaining or on hand. We can use the following formula for supplies expense:

**Beginning supplies + supplies purchases during the period – physical count of supplies remaining**

*Note: Beginning supplies + supplies purchased equals the Supplies balance in the Unadjusted Trial Balance.*

MicroTrain has a beginning supplies balance of $ 500 and purchased $8,000 in supplies during the period. A physical count of supplies on December 31 shows we have $1,500 remaining on hand. The supplies expense for the period will be $7,000 ($500 beginning balance + $8,000 in supplies purchased – $1,500 remaining) and the adjusting entry will be:

| | | Debit | Credit |
|---|---|---|---|
| Dec. 31 | Supplies Expense | 7,000 | |
| | Supplies | | 7,000 |
| | *To record supplies expense.* | | |

Before this adjusting entry was made, the supplies asset account had a balance of $8,500. After the adjusting entry, the account balance is $1,500 and matches the amount of supplies from the physical count.

Example 4 – Asset / expense adjusting entry for depreciation

A **depreciable asset** is a manufactured asset such as a building, machine, vehicle, or piece of equipment that provides service to a business. In time, these assets lose their utility because of (1) wear and tear from use or (2) obsolescence due to technological change. Since companies gradually use up these assets over time, they record depreciation expense on them.

**Depreciation expense** is the amount of asset cost assigned as an expense to a particular period. The three factors involved in computing depreciation expense are as follows:

- **Asset cost.** The asset cost is the amount that a company paid to purchase the depreciable asset.
- **Estimated residual value.** The **estimated residual value (scrap value)** is the amount that the company can probably sell the asset for at the end of its estimated useful life.
- **Estimated useful life.** The **estimated useful life** of an asset is the estimated time that a company can use the asset. Useful life is an estimate, not an exact measurement, that a company must make in advance. However, sometimes the useful life is determined by company policy (e.g. keep a fleet of automobiles for three years).

Accountants use different methods for recording depreciation. The method illustrated here is the *straight-line method.* We discuss other depreciation methods later in the course. Straight-line depreciation assigns the same amount of depreciation expense to each accounting period over the life of the asset. The **depreciation formula (straight-line)** to compute straight-line depreciation for a one-year period is:

$$\text{Annual deprecation} = \frac{\text{Asset cost} - \text{Estimated residual value}}{\text{Estimated years of useful life}}$$

This video will explain the depreciation process and entries:

Watch this video online: https://youtu.be/vxgkRsj_5lw

To illustrate the use of the straight line depreciation formula, let's return to the MicroTrain Company. In December, it purchased four small trucks at a cost of $40,000. The journal entry was:

| | | | Debit | Credit |
|---|---|---|---|---|
| Dec. | 1 | Trucks | 40,000 | |

| | | | | |
|---|---|---|---|---|
| | | Cash | | 40,000 |
| | | *To record the purchase of four trucks.* | | |

The estimated residual value for each truck was $ 1,000, so MicroTrain estimated the total residual value for all four trucks at $4,000 (1,000 x 4 trucks). The company estimated the useful life of each truck to be four years. Using the straight-line depreciation formula, MicroTrain calculated the annual depreciation on the trucks as follows:

annual depreciation = (asset cost $40,000 – estimated residual value $4,000)/ 4 year estimated useful life

= $ 9,000 per year but the amount of depreciation expense for one month would be $^{1}/_{12}$ of the annual amount. Thus, depreciation expense for December is $9,000 ÷ 12 = $750.

When we record depreciation, we will debit depreciation expense and credit a new account called Accumulated Depreciation. Accumulated Depreciation is an asset account but it is a contra-account meaning it works opposite the way accounts typically work and has a normal CREDIT balance. Normal credit balance means we will credit the account to increase and debit to decrease. The company records the one month of depreciation as follows:

| | | | Debit | Credit |
|---|---|---|---|---|
| Dec. | 31 | Depreciation Expense – Trucks | 750 | |
| | | Accumulated Depreciation – Trucks | | 750 |
| | | To record depreciation expense for December. | | |

MicroTrain reports depreciation expense in its income statement. And it reports accumulated depreciation in the balance sheet as a deduction from the related asset.

Answer the following questions to test your reading comprehension of adjusting entries for deferred items. Remember to rate your confidence to check your answer, maybe? probably. definitely!



# PREPARING AN ADJUSTED TRIAL BALANCE

| Accounting Cycle | | |
|---|---|---|
| 1. Analyze Transactions | 5. Prepare Adjusting Journal Entries | 9. Prepare Closing Entries |
| 2. Prepare Journal Entries | 6. Post Adjusting Journal Entries | 10. Post Closing Entries |
| 3. Post journal Entries | 7. Prepare Adjusted Trial Balance | 11. Prepare Post-Closing Trial Balance |

| 4. Prepare Unadjusted Trial Balance | 8. Prepare Financial Statements | |
|---|---|---|

In our detailed accounting cycle, we just finished step 5 preparing adjusting journal entries. The next step is to post the adjusting journal entries. We will use the same method of posting (ledger card or T-accounts) we used for step 3 as we are just updating the balances. Remember, you do not change your journal entries for posting — if you debit in an entry you debit when you post. After we post the adjusting entries, it is necessary to check our work and prepare an **adjusted trial balance.**

Watch this video online: https://youtu.be/gwP0Pcm5C4I

Let's look at the company we have been using in our examples MicroTrain. The unadjusted trial balance is as follows:

| | Debit | Credit |
|---|---|---|
| Cash | 10,000 | |
| Accounts Receivable | 20,000 | |
| Supplies | 8,500 | |
| Prepaid Insurance | 2,400 | |
| Trucks | 40,000 | |
| Accounts Payable | | 25,000 |
| Unearned Revenue | | 4,500 |
| Common Stock | | 35,000 |
| Retained Earnings | | 6,100 |
| Service Revenue | | 30,000 |
| Salaries Expense | 18,000 | |
| Rent Expense | 1,200 | |
| Utilities Expense | 500 | |
| TOTALS | 100,600 | 100,600 |

The adjusting entries from the previous examples are:

| | | Debit | Credit |
|---|---|---|---|
| 1) Dec 31 | Accounts Receivable | 5,000 | |
| | Service Revenue | | 5,000 |
| | *To record December accrued revenue.* | | |
| 2) Dec 31 | Interest Receivable | 600 | |

| | | | |
|---|---|---|---|
| | Interest Revenue | | 600 |
| | *To record December accrued interest revenue.* | | |
| 3) Dec 31 | Salaries Expense | 360 | |
| | Salaries Payable | | 360 |
| | *To record salaries earned but not paid.* | | |
| 4) Dec 31 | Unearned Revenue | 1,500 | |
| | Service Revenue | | 1,500 |
| | *To record deferred revenue now earned.* | | |
| 5) Dec 31 | Insurance Expense | 200 | |
| | Prepaid Insurance | | 200 |
| | *To record one month of insurance expired.* | | |
| 6) Dec 31 | Supplies expense | 7,000 | |
| | Supplies | | 7,000 |
| | *To record supplies used.* | | |
| 7) Dec 31 | Depreciation Expense | 750 | |
| | Accumulated Depreciation – Trucks | | 750 |
| | *To record one month of depreciation.* | | |

We can post these transactions using T-accounts or ledger cards. We are using the same posting accounts as we did for the unadjusted trial balance just adding on. Click Adj T-accounts to see the full posting. Notice how we start with the unadjusted trial balance in each account and add any debits on the left and any credits on the right.

Once the posting is complete and the new balances have been calculated, we prepare the **adjusted trial balance**. As before, the adjusted trial balance is a listing of all accounts with the ending balances and in this case it would be adjusted balances.

| | Debit | Credit |
|---|---|---|
| Cash | 10,000 | |
| Accounts Receivable | 25,000 | |
| Interest Receivable | 600 | |
| Supplies | 1,500 | |
| Prepaid Insurance | 2,200 | |
| Trucks | 40,000 | |

| | | |
|---|---|---|
| Accum. Depreciation-Trucks | | 750 |
| Accounts Payable | | 25,000 |
| Unearned Revenue | | 3,000 |
| Salaries Payable | | 360 |
| Common Stock | | 35,000 |
| Retained Earnings | | 6,100 |
| Service Revenue | | 36,500 |
| Interest Revenue | | 600 |
| Salaries Expense | 18,360 | |
| Rent Expense | 1,200 | |
| Utilities Expense | 500 | |
| Insurance Expense | 200 | |
| Supplies Expense | 7,000 | |
| Depreciation Expense | 750 | |
| TOTALS | 107,310 | 107,310 |

The next step in the accounting cycle would be to complete the financial statements.



# PREPARING FINANCIAL STATEMENTS

After the adjusted trial balance, we will prepare the financial statements. The financial statements are how a business communicates or publishes its story. We previously learned there are 4 financial statements, but we will focus on the first three only:

1. Income Statement: Calculates net income or loss of a company by showing revenues – expenses. If revenues are greater than expenses, you have net income. If revenues are less than expenses, you have net loss.
2. Statement of Retained Earnings: Calculates an ending balance in the retained earnings account using net income or loss calculated on the income statement. This statement takes the beginning balance in retained earnings + net income (or – net loss) – dividends to get the ending retained earnings balance. The ending retained earnings balance is reported on the balance sheet.
3. Balance Sheet: Proves the accounting equation of Assets = Liabilities + Equity and uses ending retained earnings calculated on the statement of retained earnings in equity.

This video will review the basic financial statements after the adjusted trial balance.

Watch this video online: https://youtu.be/lWFdvdYOI1I

The balance sheet show in the video is the simplified version we learned at the beginning of the course. If you look at the balance sheets produced by companies now, they are a little more detailed. A **classified balance sheet** adds groupings and subtotals to make the balance sheet easier for investors to read and analyze. The balance sheet can be done in report form where assets are first and liabilities and equity are below. Or in a side-by-side presentation we have done before. The classified balance sheet still proves the accounting equation but it separates assets and liabilities into subgroups:

- **Current Assets**: Can be converted to cash within a year or the operating cycle whichever is longer. Current assets include cash, accounts receivable, interest receivable, supplies, inventory, and other prepaid expenses.
- **Long Term Investments**: Investments that do not come due for more than a year are reported in this section. Long term investments would include notes receivable or investments in bonds or stocks.
- **Plant Assets**: Plant assets (also called Property, Plant and Equipment or Fixed Assets) refer to property that is tangible (can be seen and touched) and is used in the business to generate revenue. Plant assets include depreciable assets and land used in the business. The plant asset is recorded with its accumulated depreciation (if any) subtracted below it to get the asset's book value.
- **Intangible Assets**: Intangible assets are items that have a financial value but do not have a physical form. These would be things like trademarks, patents, and copyrights.
- **Current Liabilities**: Like current assets, these are liabilities that are due to be paid within a year or the operating cycle whichever is longer. Current liabilities include accounts payable, salaries payable, taxes payable, unearned revenue, etc.
- **Long Term Liabilities**: Liabilities due more than a year from now would be reported here. These would include notes payable, mortgage payable, bonds payable, etc.

The Equity section of a classified balance sheet does not change. We learn the expanded equity section later in the course. Using the information for MicroTrain, the financial statements would be:

| MicroTrain Company | | |
|---|---|---|
| Income Statement | | |
| For Year Ended December 31 | | |
| *Revenues:* | | |
| Service Revenue | $ 36,500 | |
| Interest Revenue | 600 | |
| *Total Revenues* | | $ 37,100 |
| *Expenses:* | | |
| Salaries Expense | 18,360 | |
| Rent Expense | 1,200 | |
| Utilities Expense | 500 | |
| Insurance Expense | 200 | |
| Supplies Expense | 7,000 | |
| Depreciation Expense | 750 | |

| | | |
|---|---|---|
| *Total Expenses* | | 28,010 |
| Net Income (37,100 – 28,010) | | $ 9,090 |

The net income gets carried over to the statement of retained earnings. We will also use the retained earnings balance from the adjusted trial balance as the beginning balance. There are no dividends listed on the adjusted trial balance so MicroTrain did not pay dividends.

| MicroTrain Company | | |
|---|---|---|
| Statement of Retained Earnings | | |
| For Year Ended December 31 | | |
| | | |
| Beginning Retained Earnings | $ 6,100 | *from the adjusted trial balance* |
| Net Income | 9,090 | *from the income statement* |
| | $ 15,190 | |
| Dividends | – 0 | *No dividends paid this year* |
| Ending Retained Earnings | $ 15,190 | *goes to the balance sheet* |

The calculated ending balance will be reported as the Retained Earnings amount on the balance sheet. We are doing the Classified Balance Sheet showing the subgroups for assets and liabilities in report form.

| MicroTrain Company | | |
|---|---|---|
| Classified Balance Sheet | | |
| December 31 | | |
| Assets | | |
| *Current Assets* | | |
| Cash | $ 10,000 | |
| Accounts Receivable | 25,000 | |
| Interest Receivable | 600 | |
| Supplies | 1,500 | |
| Prepaid Insurance | 2,200 | |
| *Total Current Assets* | | $ 39,300 |
| *Plant Assets* | | |
| Trucks | 40,000 | |

| | | |
|---|---|---|
| Less: Accum. Depreciation – Trucks | ( 750) | |
| *Total Plant Assets* | | 39,250 |
| TOTAL ASSETS | | $ 78,550 |
| | | |
| Liabilities and Equity | | |
| *Current Liabilities* | | |
| Accounts Payable | 25,000 | |
| Unearned Revenue | 3,000 | |
| Salaries Payable | 360 | |
| *Total Current Liabilities* | | 28,360 |
| | | |
| *Equity* | | |
| Common Stock | 35,000 | |
| Retained Earnings | 15,190 | |
| *Total Equity* | | 50,190 |
| TOTAL LIABILITIES AND EQUITY | | $ 78,550 |

Notice how accumulated depreciation, a contra-account, reduces the asset account it is related to in the plant asset section. Remember, the balance sheet proves the accounting equation (ASSETS = LIABILITIES + EQUITY) and must always be in balance. Why do we need these groupings? It makes it easier for investors to quickly calculate ratios, for example the current ratio.

The current ratio measures how much in assets the company has available now to pay liabilities due in the next year. The current ratio uses current assets and current liabilities:

| | |
|---|---|
| Current Ratio = | Current Assets |
| | Current Liabilities |

We can calculate MicroTrain's current ratio as follows:

| | | |
|---|---|---|
| Current Assets = | 39,300 = | 1.39 |
| Current Liabilities | 28,360 | |

The current ratio has been rounded to 2-decimal places to get a current ratio of 1.39 or 1.39 to 1. This means MicroTrain has approximately $1.39 in current assets available to pay every $1 of current liabilities. Investors like to see a ratio of between 1.5 and 2 so MicroTrain's current ratio is a little low but still good since we have more assets than liabilities.

Answer the following questions and remember to rate your confidence to check the answer!

# CLOSING ENTRIES

Let's review our accounting cycle again. We have completed the first two columns and now we have the final column which represents the closing (or archive) process.

| Accounting Cycle | | |
|---|---|---|
| 1. Analyze Transactions | 5. Prepare Adjusting Journal Entries | 9. Prepare Closing Entries |
| 2. Prepare Journal Entries | 6. Post Adjusting Journal Entries | 10. Post Closing Entries |
| 3. Post journal Entries | 7. Prepare Adjusted Trial Balance | 11. Prepare Post-Closing Trial Balance |
| 4. Prepare Unadjusted Trial Balance | 8. Prepare Financial Statements | |

Accounts are two different groups:

- **Permanent** – balance sheet accounts including assets, liabilities, and most equity accounts. These account balances roll over into the next period. So, the ending balance of this period will be the beginning balance for next period.
- **Temporary** – revenues, expenses, dividends (or withdrawals) account. These account balances do not roll over into the next period after closing. The closing process reduces revenue, expense, and dividends account balances (temporary accounts) to zero so they are ready to receive data for the next accounting period.

Accountants may perform the closing process monthly or annually. The closing entries are the journal entry form of the Statement of Retained Earnings. The goal is to make the posted balance of the retained earnings account match what we reported on the statement of retained earnings and start the next period with a zero balance for all temporary accounts.

Remember how at the beginning of the course we learned that net income is added to equity. This is the process to make that happen!

The following video summarizes how to prepare closing entries.

Watch this video online: https://youtu.be/4H_ImqWR5f4

In accounting, we often refer to the process of closing as closing the books. Only revenue, expense, and dividend accounts are closed—not asset, liability, Common Stock, or Retained Earnings accounts. The four basic steps in the closing process are:

- **Closing the revenue accounts**—transferring the credit balances in the revenue accounts to a clearing account called Income Summary.
- **Closing the expense accounts**—transferring the debit balances in the expense accounts to a clearing account called Income Summary.

- **Closing the Income Summary account**—transferring the balance of the Income Summary account to the Retained Earnings account.
- **Closing the Dividends account**—transferring the debit balance of the Dividends account to the Retained Earnings account.

Let's review what we know about these accounts:

| | Increase with | Decrease with |
|---|---|---|
| Revenue | Credit | Debit |
| Expense | Debit | Credit |
| Dividends | Debit | Credit |

If we want to make the account balance zero, we will decrease the account. We use a new temporary closing account called **income summary** to store the closing items until we get close income summary into Retained Earnings. To close means to make the balance zero. We will look at the following information for MicroTrain from the adjusted trial balance:

| | Debit | Credit |
|---|---|---|
| Retained Earnings | | $ 6,100 |
| Service Revenue | | 36,500 |
| Interest Revenue | | 600 |
| Salaries Expense | 18,360 | |
| Rent Expense | 1,200 | |
| Utilities Expense | 500 | |
| Insurance Expense | 200 | |
| Supplies Expense | 7,000 | |
| Depreciation Expense | 750 | |

Notice how the retained earnings balance is $6,100? On the statement of retained earnings, we reported the ending balance of retained earnings to be $15,190. We need to do the closing entries to make them match and zero out the temporary accounts.

**Step 1: Close Revenue accounts**

Close means to make the balance zero. We see from the adjusted trial balance that our revenue accounts have a credit balance. To make them zero we want to decrease the balance or do the opposite. We will debit the revenue accounts and credit the Income Summary account. The credit to income summary should equal the total revenue from the income statement.

| | Debit | Credit |
|---|---|---|
| Service Revenue | 36,500 | |
| Interest Revenue | 600 | |

| | | |
|---|---|---|
| Income Summary | | 37,100 |

**Step 2: Close Expense accounts**

The expense accounts have debit balances so to get rid of their balances we will do the opposite or credit the accounts. Just like in step 1, we will use Income Summary as the offset account but this time we will debit income summary. The total debit to income summary should match total expenses from the income statement.

| | Debit | Credit |
|---|---|---|
| Income Summary | 28,010 | |
| Salaries Expense | | 18,360 |
| Rent Expense | | 1,200 |
| Utilities Expense | | 500 |
| Insurance Expense | | 200 |
| Supplies Expense | | 7,000 |
| Depreciation Expense | | 750 |

**Step 3: Close Income Summary account**

At this point, you have closed the revenue and expense accounts into income summary. The balance in income summary now represents $37,100 credit – $28,010 debit or $9,090 credit balance…does that number seem familiar? It should — income summary should match net income from the income statement. We want to remove this credit balance by debiting income summary. What did we do with net income? We added it to retained earnings in the statement of retained earnings. How do we increase an equity account in a journal entry? We credit!

| | Debit | Credit |
|---|---|---|
| Income Summary (37,100 – 28,010) | 9,090 | |
| Retained Earnings | | 9,090 |

If expenses were greater than revenue, we would have net loss. A net loss would decrease retained earnings so we would do the opposite in this journal entry by debiting Retained Earnings and crediting Income Summary.

**Step 4: Close Dividends (or withdrawals) account**

After we add net income (or subtract net loss) on the statement of retained earnings, what do we do next? We subtract any dividends to get the ending retained earnings. This will be the journal entry form of doing this calculation but be careful because you do not want to use the amount of retained earnings but DIVIDENDS. **We want to decrease retained earnings (debit) and remove the balance in dividends (credit) for the amount of the dividends.** MicroTrain did not pay dividends this year but the entry would appear as:

| | Debit | Credit |
|---|---|---|
| Retained Earnings | Div Amt | |
| Dividends | | Div Amt |

Div Amt means we will use the DIVIDEND amount and not the balance in retained earnings.

Anytime we complete journal entries, we always need to post to the same ledger cards or T-accounts we have been using all along. When we post, we do not change anything from the journal entries — we debit (left side) where we did in the entries and credit (right side) wherever we did in the entries. The ledger card for income summary and retained earnings would look like this:

| Account: Income Summary | Debit | Credit | Balance |
|---|---|---|---|
| (1) Close Revenues | | 37,100 | 37,100 |
| (2) Close Expenses | 28,010 | | 9,090 |
| (3) Close Income Summary | 9,090 | | 0 |

| Account: Retained Earnings | Debit | Credit | Balance |
|---|---|---|---|
| Beginning Balance | | | 6,100 |
| (3) Close Income Summary | | 9,090 | 15,190 |
| (4) Close Dividends | 0 | | 15,190 |

The balance in dividends, revenues and expenses would all be zero leaving only the permanent accounts for a post closing trial balance. The trial balance shows the ending balances of all asset, liability and equity accounts remaining. The main change from an adjusted trial balance is revenues, expenses, and dividends are all zero and their balances have been rolled into retained earnings. We do not need to show accounts with zero balances on the trial balances.

MicroTrain's post closing trial balance would be:

| | Debit | Credit |
|---|---|---|
| Cash | 10,000 | |
| Accounts Receivable | 25,000 | |
| Interest Receivable | 600 | |
| Supplies | 1,500 | |
| Prepaid Insurance | 2,200 | |
| Trucks | 40,000 | |
| Accum. Depreciation-Trucks | | 750 |
| Accounts Payable | | 25,000 |
| Unearned Revenue | | 3,000 |
| Salaries Payable | | 360 |
| Common Stock | | 35,000 |

| | | |
|---|---|---|
| Retained Earnings | | 15,190 |
| TOTALS | 79,300 | 79,300 |

Notice how only the balance in retained earnings has changed and it now matches what was reported as ending retained earnings in the statement of retained earnings and the balance sheet.

Congratulations! You made it through the complete accounting cycle.

Answer the following questions on closing entries and rate your confidence to check your answer.



# ACCOUNTING IN THE HEADLINES

## When does SurveyMonkey recognize revenue from its Platinum annual subscription plans?


SurveyMonkey is an online survey company that allows its subscribers to customize and administer surveys. It recently made the news for raising another $250 million in equity funding ("SurveyMonkey is worth $2 billion after new $250 million fundraising round, Fortune, December 15, 2014.) *(Note: SurveyMonkey is privately held. The founder says the company will not go public because the related costs of being a publicly-held organization are too high.)*

SurveyMonkey's basic services are free and include the ability to customize a survey containing a maximum 10 questions for up to 100 responses.

Premium plans are also available through SurveyMonkey.  Features of the Platinum SurveyMonkey plan include unlimited questions, unlimited number of responses, custom logos, and phone support.  The Platinum plan costs $65 per month and is billed annually on the starting date of the plan for a total cost of $780.

Questions

1. Assume that Black Squirrel Design, Inc., signs up for the Platinum plan at SurveyMonkey on December 1, 2015. The customer pays the entire $780 on March 1. How will SurveyMonkey record this customer's payment?  What asset and/or liability accounts are affected?
2. Continue the same example from Item #1. If SurveyMonkey has a December 31 year end, how much revenue related to the Platinum plan purchased by Black Squirrel Design will SurveyMonkey recognize at December 31, 2015? How much revenue from the Black Squirrel Design purchase will be recognized during 2016?



# GLOSSARY: COMPLETING THE ACCOUNTING CYCLE

## GLOSSARY

**Accounting cycle** Series of steps performed during the accounting period to analyze, record, classify, summarize, and report useful financial information for the purpose of preparing financial statements. The steps include analyzing transactions, journalizing transactions, posting journal entries, taking a trial balance and completing the work sheet, preparing financial statements, journalizing and posting adjusting entries, journalizing and posting closing entries, and taking a post-closing trial balance.

**Accounting period** A time period normally of one month, one quarter, or one year into which an entity's life is arbitrarily divided for financial reporting purposes.

**Accounting year** An accounting period of one year. The accounting year may or may not coincide with the calendar year.

**Accounts payable** Amounts owed to suppliers for goods or services purchased on credit.

**Accounts receivable** Amounts due from customers for services performed or merchandise sold on credit.

**Accrual basis of accounting** Recognizes revenues when sales are made or services are performed, regardless of when cash is received. Recognizes expenses as incurred, whether or not cash has been paid out.

**Accrued assets and liabilities** Assets and liabilities that exist at the end of an accounting period but have not yet been recorded; they represent rights to receive, or obligations to make, payments that are not legally due at the balance sheet date. Examples are accrued fees receivable and salaries payable.

**Accrued items** Adjusting entries relating to activity on which no data have been previously recorded in the accounts. Also, see *accrued assets and liabilities.*

**Accrued revenues and expenses** Other names for accrued assets and liabilities.

**Accumulated depreciation account** A contra asset account that shows the total of all depreciation recorded on the asset up through the balance sheet date.

**Adjusting entries** Journal entries made at the end of an accounting period to bring about a proper matching of revenues and expenses; they reflect economic activity that has taken place but has not yet been recorded. Adjusting entries are made to bring the accounts to their proper balances before financial statements are prepared.

**Book value** For depreciable assets, book value equals cost less accumulated depreciation.

**Calendar year** The normal year, which ends on December 31.

**Cash** Includes deposits in banks available for current operations at the balance sheet date plus cash on hand consisting of currency, undeposited checks, drafts, and money orders.

**Cash basis of accounting** Recognizes revenues when cash is received and recognizes expenses when cash is paid out.

**Classified balance sheet** Subdivides the three major balance sheet categories (assets, liabilities, and stockholders' equity) to provide more information for users of financial statements. Assets may be divided into current assets; long-term investments; property, plant, and equipment; and intangible assets. Liabilities may be divided into current liabilities and long-term liabilities.

**Closing process** The act of transferring the balances in the revenue and expense accounts to a clearing account called Income Summary and then to the Retained Earnings account. The balance in the Dividends account is also transferred to the Retained Earnings account.

**Contra asset account** An account shown as a deduction from the asset to which it relates in the balance sheet; used to reduce the original cost of the asset down to its remaining undepreciated cost or book value.

**Current assets** Cash and other assets that a business can convert into cash or use up in one year or one operating cycle, whichever is longer.

**Deferred items** Adjusting entries involving data previously recorded in the accounts. Data are transferred from asset and liability accounts to expense and revenue accounts. Examples are prepaid expenses, depreciation, and unearned revenues.

**Depreciable amount** The difference between an asset's cost and its estimated residual value.

**Depreciable asset** A manufactured asset such as a building, machine, vehicle, or equipment on which depreciation expense is recorded.

**Depreciation accounting** The process of recording depreciation expense.

**Depreciation expense** The amount of asset cost assigned as an expense to a particular time period.

**Depreciation formula (straight-line):**

**Dividends payable** Amounts declared payable to stockholders and that represent a distribution of income.

**Estimated residual value (scrap value)** The amount that the company can probably sell the asset for at the end of its estimated useful life.

**Estimated useful life** The estimated time periods that a company can make use of the asset.

**Fiscal year** An accounting year of any 12 consecutive months that may or may not coincide with the calendar year. For example, a company may have an accounting, or fiscal, year that runs from April 1 of one year to March 31 of the next.

**Income** Summary account A clearing account used only at the end of an accounting period to summarize revenues and expenses for the period.

**Interest payable** Interest that has accumulated on debts, such as notes or bonds. This accrued interest has not been paid at the balance sheet date because it is not due until later.

**Interest receivable** Arises when interest has been earned but not collected at the balance sheet date.

**Matching principle** An accounting principle requiring that expenses incurred in producing revenues be deducted from the revenues they generated during the accounting period.

**Merchandise** inventory Goods held for sale.

**Notes payable** Unconditional written promises by a company to pay a specific sum of money at a certain future date.

**Post-closing trial balance** A trial balance taken after the closing entries have been posted.

**Prepaid expense** An asset awaiting assignment to expense. An example is prepaid insurance. Assets such as cash and accounts receivable are not prepaid expenses.

**Property, plant, and equipment** Assets with useful lives of more than one year that a company acquired for use in a business rather than for resale; also called plant assets or fixed assets.

**Retained earnings** Shows the cumulative income of the company less the amounts distributed to the owners in the form of dividends.

**Salaries payable** Amounts owed to employees for services rendered.

**Sales taxes payable** Are taxes a company has collected from customers but has not remitted to the taxing authority, usually the state.

**Service potential** The benefits that can be obtained from assets. The future services that assets can render make assets “things of value” to a business.

**Stockholders‘ equity** Shows the owners’ interest (equity) in the business.

**Trend percentages** Calculated by dividing the amount of an item for each year by the amount of that item for the base year.

**Unclassified balance sheet** A balance sheet showing only three major categories: assets, liabilities, and stockholders’ equity.

**Unearned revenues (revenues received in advance)** Result when payment is received for goods or services before revenue has been earned.

**Work sheet** A columnar sheet of paper on which accountants have summarized information needed to make the adjusting and closing entries and to prepare the financial statements.

# EXERCISES: UNIT 4

## SHORT ANSWER QUESTIONS, EXERCISES, AND PROBLEMS

### Questions

➢Which events during an accounting period trigger the recording of normal journal entries?

➢Which event triggers the making of adjusting entries?

➢Describe the difference between the cash basis and accrual basis of accounting.

➢Why are adjusting entries necessary? Why not treat every cash disbursement as an expense and every cash receipt as a revenue when the cash changes hands?

➢"Adjusting entries would not be necessary if the 'pure' cash basis of accounting were followed (assuming no mistakes were made in recording cash transactions as they occurred). Under the cash basis, receipts that are of a revenue nature are considered revenue when received, and expenditures that are of an expense nature are considered expenses when paid. It is the use of the accrual basis of accounting, where an effort is made to match expenses incurred against the revenues they create, that makes adjusting entries necessary." Do you agree with this statement? Why?

➢Why do accountants not keep all the accounts at their proper balances continuously throughout the period so that adjusting entries would not have to be made before financial statements are prepared?

➢What is the fundamental difference between deferred items and accrued items?

➢Identify the types of adjusting entries included in each of the two major classes of adjusting entries.

➢Give an example of a journal entry for each of the following:

- Equal growth of an expense and a liability.
- Earning of revenue that was previously recorded as unearned revenue.
- Equal growth of an asset and a revenue.
- Increase in an expense and decrease in an asset.

➢A fellow student makes the following statement: "You can easily tell whether a company is using the cash or accrual basis of accounting. When an amount is paid for future rent or insurance services, a firm that is using the cash basis debits an expense account while a firm that is using the accrual basis debits an asset account." Is the student correct?

➢You notice that the Supplies on Hand account has a debit balance of $ 2,700 at the end of the accounting period. How would you determine the extent to which this account needs adjustment?

➢Some assets are converted into expenses as they expire and some liabilities become revenues as they are earned. Give examples of asset and liability accounts for which this statement is true. Give examples of asset and liability accounts to which the statement does not apply.

➢Give the depreciation formula to compute straight-line depreciation for a one-year period.

➢What does the term accrued liability mean?

➢What is meant by the term service potential?

➢When assets are received before they are earned, what type of an account is credited? As the amounts are earned, what type of account is credited?

➢What does the word accrued mean? Is there a conceptual difference between interest payable and accrued interest payable?

➢Matching expenses incurred with revenues earned is more difficult than matching expenses paid with revenues received. Do you think the effort is worthwhile?

➢Why are the financial statements prepared before the adjusting and closing entries are journalized and posted?

➢You have taken over a set of accounting books for a small business as a part-time job. At the end of the first accounting period, you have partially completed the trial balance by entering the proper ledger accounts and balances in the unadjusted Trial Balance. You turn to the manager and ask, "Where is the list of additional information I can use in entering the adjusting entries?" The manager indicates there is no such list. (In all the text problems you have done, you have always been given this information.) How would you obtain the information for this real-life situation? What are the consequences of not making all of the required adjustments at the end of the accounting period?

➢How is the statement of retained earnings prepared?

➢What is the purpose of closing entries? What accounts are not affected by closing entries?

➢Is it possible to prepare monthly financial statements without journalizing and posting adjusting and closing entries? How?

➢What is the purpose of a post-closing trial balance?

➢Define an accounting system.

➢How is a classified balance sheet different than an unclassified balance sheet?

➢**Real world question** Find financial statements of a company on the web. What company did you choose? Approximately what percentage of the depreciable assets under property, plant, and equipment has been depreciated as of the end of the most recent year shown?

➢**Real world question** Find financial statements of a company on the web. What company did you choose? Identify the classifications (or categories) of assets and liabilities used by the company in its balance sheet.

## Exercises

**Exercise A** List the steps in the accounting cycle. Would the system still work if any of the steps were performed out of order?

**Exercise B** A one-year insurance policy was purchased on August 1 for $2,400, and the following entry was made at that time:

| | | |
|---|---|---|
| Prepaid Insurance | 2,400 | |
| Cash | | 2,400 |

What adjusting entry is necessary at December 31, the end of the accounting year? Show how the T-accounts for Prepaid Insurance and Insurance Expense would appear after the entries are posted.

**Exercise C** Assume that rent of $ 12,000 was paid on September 1, to cover a one-year period from that date. Prepaid Rent was debited. If financial statements are prepared only on December 31 of each year, what adjusting entry is necessary on December 31 of the first year, to bring the accounts involved to their proper balances?

**Exercise D** Supplies were purchased for cash on May 2 for $ 8,000. Show how this purchase would be recorded. Then show the adjusting entry that would be necessary, assuming that $ 2,500 of the supplies remained at the end of the year and the beginning balance for supplies was $500.

**Exercise E** Assume that a company acquired a building on January 1, at a cost of $1,000,000. The building has an estimated useful life of 40 years and an estimated residual value of $200,000. What adjusting entry is needed on December 31 to record the depreciation for the entire year?

**Exercise F** On September 1, Professional Golfer Journal, Inc., received a total of $120,000 as payment in advance for one-year subscriptions to a monthly magazine. A liability account was credited to record this cash receipt. By the end of the year, one-third of the magazines paid for in advance had been delivered. Give the entries to record the receipt of the subscription fees and to adjust the accounts at December 31, assuming annual financial statements are prepared at year-end.

**Exercise G** On April 15, Rialto Theater sold $ 90,000 in tickets for the summer musicals to be performed (one per month) during June, July, and August. On July 15, Rialto Theater discovered that the group that was to perform the July and August musicals could not do so. It was too late to find another group qualified to perform the musicals. A decision was made to refund the remaining unearned ticket revenue to its ticket holders, and this was done on July 20. Show the appropriate journal entries to be made on April 15, June 30, and July 20. Rialto has a June 30th year-end.

**Exercise H** Guilty & Innocent, a law firm, performed legal services in late December for clients. The $30,000 of services would be billed to the clients in January of next year. Give the adjusting entry that is necessary on December 31, if financial statements are prepared at the end of each month.

**Exercise I** A firm borrowed $30,000 on November 1. By December 31, $300 of interest had been incurred. Prepare the adjusting entry required on December 31.

**Exercise J** Convenient Mailing Services, Inc., incurs salaries at the rate of $ 3,000 per day. The last payday in January is Friday, January 27. Salaries for Monday and Tuesday of the next week have not been recorded or paid as of January 31. Financial statements are prepared monthly. Give the necessary adjusting entry on January 31.

**Exercise K** The Trial Balance of the Printer Repair Company at December 31, contains the following account balances listed in alphabetical order to increase your skill in sorting amounts to the proper order. Assume each account balance follows the normal balance rules.

Printer Repair Company

| | |
|---|---|
| Account Balances | |
| December 31 | |
| Accounts Payable | $ 41,000 |
| Accounts Receivable | 92,000 |
| Accumulated Depreciation—Buildings | 25,000 |
| Accumulated Depreciation—Equipment | 9,000 |
| Buildings | 140,000 |

| | |
|---|---|
| Capital Stock | 65,000 |
| Cash | 60,000 |
| Equipment | 36,000 |
| Prepaid Insurance | 3,600 |
| Retained Earnings, January 1 | 4,800 |
| Salaries Expense | 96,000 |
| Service Revenue | 290,000 |
| Supplies on Hand | 4,000 |
| Utilities Expense | 3,200 |

Using these account balances and the following additional information, prepare the adjusting journal entries for Printer Repair Company. Post the entries and prepare the Adjusted Trial Balance in the proper order.

- Supplies on hand at December 31, have a cost of $ 2,400.
- The balance in the Prepaid Insurance account represents the cost of a two-year insurance policy covering the period from January 1 this year, through December 31 of next year.
- The estimated lives of depreciable assets are buildings, 40 years, and equipment, 20 years. No salvage values are anticipated.

**Exercise L** Refer to the adjusted trial balance prepared in the Printer Repair Company exercise (Ex K). Prepare the closing journal entries.

**Exercise M** Rubino Company reported net income of $100,000 for the current year. Examination of the financial data indicates that the following items were ignored:

- Accrued salaries were $ 6,000 at December 31.
- Depreciation on equipment acquired on July 1 amounted to $ 4,000.

Based on this information, (a) what adjusting journal entries should have been made at December 31, and (b) what is the correct net income?

**Exercise N** After adjustment, these selected account balances of Cold Stream Campground are:

| | Debits | Credits |
|---|---|---|
| Retained earnings | | $540,000.00 |
| Rental revenue | | 960000 |
| Salaries expense | $336,000.00 | |
| Depreciated expense – Buildings | 64000 | |
| Utilities expense | 208000 | |
| Dividends | 32000 | |

Prepare the journal entries to close the books for the period. What would be the ending balance in Retained Earnings?

**Exercise O** The following account balances appeared in the Adjusted Trial Balance prepared for Liu Company for the year ended December 31:

| Account Titles | Trial Balance | |
|---|---|---|
| | Debit | Credit |
| Service Revenue | | 330,000 |
| Advertising Expense | 1,350 | |
| Salaries Expense | 130,000 | |
| Utilities Expense | 2,250 | |
| Insurance Expense | 900 | |
| Rent Expense | 6,750 | |
| Supplies Expense | 2,250 | |
| Depreciation Expense—Equipment | 4,500 | |
| Interest Expense | 562 | |
| Interest Revenue | | 1,125 |

Prepare the closing journal entries.

**Exercise P** Which of the following accounts are likely to appear in the post-closing trial balance for the Blake Company?

- Accounts Receivable
- Cash
- Service Revenue
- Buildings
- Salaries Expense
- Capital Stock
- Dividends
- Accounts Payable
- Income Summary
- Unearned Subscription Fees

**Exercise Q** Using the legend at the right, determine the category (number) into which you would place each of these items.

| | Item | | Legend |
|---|---|---|---|
| a. | Land. | 1. | Current assets. |

| | | | |
|---|---|---|---|
| b. | Marketable securities. | 2. | Long-term investments. |
| c. | Notes payable, due in three years. | 3. | Property, plant, and equipment. |
| d. | Taxes withheld from employees. | 4. | Intangible assets. |
| e. | Patents. | 5. | Current liabilities. |
| f. | Retained earnings. | 6. | Long-term liabilities. |
| g. | Unearned subscription fees. | 7. | Stockholders' equity. |
| h. | Bonds of another corporation (a 20-year investment). | | |
| i. | Notes payable, due in six months. | | |
| j. | Accumulated depreciation. | | |

**Exercise R** The following data are from the 2001 annual report of The Procter & Gamble Company and its subsidiaries. This company markets a broad range of laundry, cleaning, paper, beauty care, health care, food, and beverage products in more than 140 countries around the world. Leading brands include Ariel, Crest, Pampers, Pantene, Crisco, Vicks, and Max Factor. The dollar amounts are in millions.

| | June 30 | |
|---|---|---|
| | 2001 | 2000 |
| Current assets | $10,889 | $10,146 |
| Current liabilities | 9,846 | 10,141 |

Calculate the current ratios for the two years. Comment on whether the trend is favorable or unfavorable.

## Problems

**Problem A** Among other items, the trial balance of Filmblaster, Inc., a movie rental company, at December 31 of the current year includes the following account balances:

| | Debits |
|---|---|
| Prepaid Insurance | $ 10,000 |
| Prepaid Rent | $ 14,400 |
| Supplies on Hand | $ 2,800 |

Examination of the records shows that adjustments should be made for the following items:

1. Of the prepaid insurance in the trial balance, $ 4,000 is for coverage during the months after December 31 of the current year.
2. The balance in the Prepaid Rent account is for a 12-month period that started October 1 of the current year.

3. $ 300 of interest has been earned but not received.
4. Supplies used during the year amount to $ 1,800.

Prepare the annual year-end adjusting journal entries at December 31.

**Problem B** Marathon Magazine, Inc., has the following account balances, among others, in its trial balance at December 31 of the current year:

| | Debits | Credits |
|---|---|---|
| Supplies on Hand……………… | $3,720 | |
| Prepaid Rent ……………………. | 7,200 | |
| Unearned Subscription Fees … | | $15,000 |
| Subscriptions Revenue……….. | | 261,000 |
| Salaries Expense ………………. | 123,000 | |

- The inventory of supplies on hand at December 31 amounts to $ 720.
- The balance in the Prepaid Rent account is for a one-year period starting October 1 of the current year.
- One-third of the $ 15,000 balance in Unearned Subscription Fees has been earned.
- Since the last payday, the employees of the company have earned additional salaries in the amount of $ 5,430.

1. Prepare the year-end adjusting journal entries at December 31.
2. Open ledger accounts for each of the accounts involved, enter the balances as shown in the trial balance, post the adjusting journal entries, and calculate year-end balances.

**Problem C** The following adjusted trial balance is for Jasper Appliance Repair Company:

| JASPER APPLIANCE REPAIR COMPANY | | |
|---|---|---|
| Adjusted Trial Balance | | |
| June 30 | | |
| | Debits | Credits |
| Cash | $ 63,000 | |
| Accounts Receivable | 42,000 | |
| Trucks | 110,000 | |
| Accumulated Depreciation—Trucks | | $ 30,000 |
| Accounts Payable | | 10,800 |
| Notes Payable | | 20,000 |
| Capital Stock | | 50,000 |

| | | |
|---|---|---|
| Retained Earnings | | 5,500 |
| Dividends | 10,000 | |
| Service Revenue | | 230,000 |
| Rent Expense | 12,000 | |
| Advertising Expense | 5,000 | |
| Salaries Expense | 90,000 | |
| Supplies Expense | 1,500 | |
| Insurance Expense | 1,200 | |
| Depreciation Expense—Trucks | 10,000 | |
| Interest Expense | 1,000 | |
| Miscellaneous Expense | 600 | |
| | $346,300 | $346,300 |

Prepare the closing journal entries at the end of the fiscal year, June 30 and the post closing trial balance.

**Problem D** The adjusted trial balance for Denver Architects , Inc., follows:

| DENVER ARCHITECTS, INC. | | |
|---|---|---|
| Adjusted Trial Balance | | |
| December 31 | | |
| | Debits | Credits |
| Cash | $ 90,000 | |
| Accounts Receivable | 20,000 | |
| Interest Receivable | 200 | |
| Notes Receivable | 4,000 | |
| Prepaid Insurance | 960 | |
| Prepaid Rent | 2,400 | |
| Supplies on Hand | 600 | |
| Equipment | 60,000 | |
| Accumulated Depreciation—Equipment | | $ 12,500 |

| | | |
|---|---|---|
| Buildings | 140,000 | |
| Accumulated Depreciation—Buildings | | 15,000 |
| Land | 56,240 | |
| Accounts Payable | | 60,000 |
| Notes Payable | | 10,000 |
| Interest Payable | | 750 |
| Salaries Payable | | 7,000 |
| Capital Stock | | 100,000 |
| Retained Earnings, January 1 | | 20,200 |
| Dividends | 40,000 | |
| Service Revenue | | 360,000 |
| Insurance Expense | 1,920 | |
| Rent Expense | 9,600 | |
| Advertising Expense | 1,200 | |
| Depreciation Expense—Equipment | 2,500 | |
| Depreciation Expense—Buildings | 3,000 | |
| Supplies Expense | 2,280 | |
| Salaries Expense | 150,000 | |
| Interest Expense | 750 | |
| Interest Revenue | | 200 |
| | $ 585,650 | $ 585,650 |

1. Prepare an income statement.
2. Prepare a statement of retained earnings.
3. Prepare a classified balance sheet.

**Problem E** The following trial balance and additional data are for Sure Sale Reality Company

| |
|---|
| SURE SALE REALTY COMPANY |
| Trial Balance |
| December 31 |

| | Debits | Credits |
|---|---|---|
| Cash | $ 62,800 | |
| Accounts Receivable | 117,120 | |
| Prepaid Rent | 46,080 | |
| Equipment | 173,760 | |
| Accumulated Depreciation—Equipment | | $ 21,120 |
| Accounts Payable | | 62,400 |
| Capital Stock | | 96,000 |
| Retained Earnings, 2010 January 1 | | 49,920 |
| Dividends | 46,080 | |
| Commissions Revenue | | 653,200 |
| Salaries Expense | 321,600 | |
| Travel Expense | 96,480 | |
| Miscellaneous Expense | 18,720 | |
| | $ 882,640 | $ 882,640 |

The prepaid rent is for the 12 months beginning July 1.

The equipment has an expected life of 10 years with no salvage value.

Accrued salaries are $ 11,520.

Travel expenses accrued but unreimbursed to sales staff at December 31 were $ 17,280

1. Prepare adjusting journal entries and post
2. Prepare an adjusted trial balance.
3. Prepare closing journal entries.

**Problem F** The following trial balance and additional data are for South Sea Tours, Inc.:

| SOUTH SEA TOURS, INC. | | |
|---|---|---|
| Trial Balance | | |
| December 31 | | |
| | Debits | Credits |
| Cash | $109,050 | |

| | | |
|---|---|---|
| Accounts Receivable | 133,750 | |
| Prepaid Insurance | 4,350 | |
| Prepaid Advertising | 18,000 | |
| Notes Receivable | 11,250 | |
| Land | 90,000 | |
| Buildings | 165,000 | |
| Accumulated Depreciation—Buildings | | $ 49,500 |
| Office Equipment | 83,400 | |
| Accumulated Depreciation—Office Equipment | | 16,680 |
| Accounts Payable | | 56,850 |
| Notes Payable | | 75,000 |
| Capital Stock | | 240,000 |
| Retained Earnings, January 1 | | 47,820 |
| Dividends | 30,000 | |
| Service Revenue | | 368,350 |
| Salaries Expense | 96,000 | |
| Travel Expense | 111,000 | |
| Interest Revenue | | 600 |
| Interest Expense | 3,000 | |
| | $854,800 | $854,800 |

The company consistently followed the policy of initially debiting all prepaid items to asset accounts.

The buildings have an expected life of 50 years with no salvage value.

The office equipment has an expected life of 10 years with no salvage value.

Accrued interest on notes receivable is $ 450.

Accrued interest on the notes payable is $ 1,000.

Accrued salaries are $ 2,100.

Expired prepaid insurance is $ 3,750.

Expired prepaid advertising is $ 16,500.

1. Prepare the required adjusting journal entries and post.
2. Prepare an adjusted trial balance.

**Problem G** The following trial balance and additional data are for Florida Time-Share Property Management Company:

| FLORIDA TIME-SHARE PROPERTY MANAGEMENT COMPANY | | |
|---|---|---|
| Trial Balance | | |
| December 31 | | |
| | Debits | Credits |
| Cash | $424,000 | |
| Prepaid Rent | 28,800 | |
| Prepaid Insurance | 7,680 | |
| Supplies on Hand | 2,400 | |
| Office Equipment | 24,000 | |
| Accumulated Depreciation—Office Equipment | | $ 5,760 |
| Automobiles | 64,000 | |
| Accumulated Depreciation—Automobiles | | 16,000 |
| Accounts Payable | | 2,880 |
| Unearned Management Fees | | 12,480 |
| Capital Stock | | 360,000 |
| Retained Earnings, January 1 | | 120,640 |
| Dividends | 28,000 | |
| Commissions Revenue | | 260,000 |
| Management Fee Revenue | | 19,200 |
| Salaries Expense | 199,840 | |
| Advertising Expense | 2,400 | |
| Gas and Oil Expense | 14,240 | |
| Miscellaneous Expense | 1,600 | |
| | $796,960 | $796,960 |

Insurance expense for the year, $ 3,840.

Rent expense for the year, $ 19,200.

Depreciation expense: office equipment, $ 2,880; and automobiles, $ 12,800.

Salaries earned but unpaid at December 31, $ 26,640.

Supplies on hand at December 31, $ 1,000.

The unearned management fees were received and recorded on November 1. The advance payment covered six months' management of an apartment building.

1. Prepare the adjusting journal entries and post.
2. Prepare the adjusted trial balance.
3. Prepare an income statement.
4. Prepare a statement of retained earnings.
5. Prepare a classified balance sheet.
6. Prepare closing entries and post.
7. Prepare a post closing trial balance.

**Alternate problems**

**Alternate problem A** The trial balance of Caribbean Vacation Tours, Inc., at December 31 of the current year includes, among other items, the following account balances:

| | | |
|---|---|---|
| | Debits | Credits |
| Prepaid Insurance ………………………………… | $24,000 | |
| Prepaid Rent ……………………………………… | 24,000 | |
| Buildings…………………………………………… | 188,000 | |
| Accumulated Depreciation—Buildings………… | | $31,600 |
| Salaries Expense …………………………………… | 200,000 | |

The balance in the Prepaid Insurance account is the advance premium for one year from September 1 of the current year.

The buildings are expected to last 25 years, with an expected residual value of $ 30,000.

Salaries incurred but not paid as of December 31 amount to $ 8,400.

The balance in Prepaid Rent is for a one-year period that started March 1 of the current year.

Prepare the annual year-end adjusting journal entries at December 31.

**Alternate problem B** Among the account balances shown in the trial balance of Dunwoody Mail Station, Inc., at December 31 of the current year are the following:

| | Debits | Credits |
|---|---|---|
| Supplies on hand | $10,000 | |

| | | |
|---|---|---|
| Prepaid insurance | 6,000 | |
| Buildings | 168,000 | |
| Accumulated deprecation and buildings | | $ 39,000 |

The inventory of supplies on hand at December 31 amounts to $ 3,000.

The balance in the Prepaid Insurance account is for a two-year policy taken out June 1 of the current year.

Depreciation for the buildings is based on the cost shown in the Buildings account, less residual value estimated at USD18,000. When acquired, the lives of the buildings were estimated at 50 years each.

1. Prepare the year-end adjusting journal entries at December 31.
2. Open ledger accounts for each of the accounts involved, enter the balances as shown in the trial balance, post the adjusting journal entries, and calculate year-end balances.

**Alternate problem C** The following adjusted trial balance is for Dream Home Realty Company:

| | | | |
|---|---|---|---|
| DREAM HOME REALTY COMPANY | | | |
| Adjusted Trial Balance | | | |
| June 30 | | | |
| | | Debits | Credits |
| Cash | $ | 98,000 | |
| Accounts Receivable | | 40,000 | |
| Office Equipment | | 35,000 | |
| Accumulated Depreciation—Office Equipment | | | $ 14,000 |
| Automobiles | | 40,000 | |
| Accumulated Depreciation—Automobiles | | | 20,000 |
| Accounts Payable | | | 63,000 |
| Capital Stock | | | 75,000 |
| Retained Earnings, beginning | | | 54,700 |
| Dividends | | 5,000 | |
| Commissions Revenue | | | 170,000 |
| Salaries Expense | | 25,000 | |
| Commissions Expense | | 120,000 | |
| Gas and Oil Expense | | 4,000 | |

| | | | |
|---|---|---|---|
| Rent Expense | | 14,800 | |
| Supplies Expense | | 1,400 | |
| Utilities Expense | | 2,000 | |
| Depreciation Expense—Office Equipment | | 3,500 | |
| Depreciation Expense—Automobiles | | 8,000 | |
| | $ | 396,700 | $396,700 |

Prepare the closing journal entries at the end of the June 30 fiscal year.

**Alternate problem D** The adjusted trial balance for Penrod Insurance Consultants, Inc., follows:

| Penrod Insurance Consultants, Inc. | | |
|---|---|---|
| Adjusted Trial Balance | | |
| December 31 | | |
| | Debits | Credits |
| Cash | $ 107,200 | |
| Accounts Receivable | 68,000 | |
| Interest Receivable | 400 | |
| Notes Receivable | 20,000 | |
| Prepaid Insurance | 2,400 | |
| Supplies on Hand | 1,800 | |
| Land | 32,000 | |
| Buildings | 190,000 | |
| Accumulated Depreciation—Buildings | | $ 40,000 |
| Office Equipment | 28,000 | |
| Accumulated Depreciation—Office Equipment | | 8,000 |
| Accounts Payable | | 48,000 |
| Salaries Payable | | 8,500 |
| Interest Payable | | 900 |
| Notes Payable (due next year) | | 64,000 |

| | | |
|---|---|---|
| Capital Stock | | 120,000 |
| Retained Earnings, January 1 | | 42,800 |
| Dividends | 40,000 | |
| Commissions Revenue | | 392,520 |
| Advertising Expense | 24,000 | |
| Commissions Expense | 75,440 | |
| Travel Expense | 12,880 | |
| Depreciation Expense—Buildings | 8,500 | |
| Salaries Expense | 98,400 | |
| Depreciation Expense—Office Equipment | 2,800 | |
| Supplies Expense | 3,800 | |
| Insurance Expense | 3,600 | |
| Repairs Expense | 1,900 | |
| Utilities Expense | 3,400 | |
| Interest Expense | 1,800 | |
| Interest Revenue | | 1,600 |
| | $726,320 | $726,320 |

1. Prepare an income statement for the year ended December 31.
2. Prepare a statement of retained earnings.
3. Prepare a classified balance sheet.

**Alternate problem E** The following trial balance and additional data are for Ramon Data Processing Company:

| | | |
|---|---|---|
| RAMON DATA PROCESSING COMPANY | | |
| Trial Balance | | |
| December 31 | | |
| | Debits | Credits |
| Cash | $ 76,000 | |
| Accounts Receivable | 98,000 | |
| Prepaid Rent | 7,200 | |

| | | |
|---|---|---|
| Prepaid Insurance | 2,400 | |
| Equipment | 80,000 | |
| Accumulated Depreciation—Equipment | | $ 40,000 |
| Accounts Payable | | 30,000 |
| Capital Stock | | 100,000 |
| Retained Earnings, 2010 January 1 | | 65,600 |
| Dividends | 24,000 | |
| Service Revenue | | 370,000 |
| Commissions Expense | 270,000 | |
| Travel Expense | 36,000 | |
| Miscellaneous Expense | 12,000 | |
| | $ 605,600 | $ 605,600 |

The prepaid rent is for the 2- year period beginning January 1 of this year.

The equipment is expected to last 10 years with no salvage value.

The prepaid insurance was for the 12-month period beginning April 1

Accrued commissions payable total $ 3,000 at December 31.

1. Prepare the adjusting journal entries and post.
2. Prepare the adjusted trial balance.

**Alternate problem F** The following trial balance and additional data are for Best-Friend Pet Hospital, Inc.

| | | | |
|---|---|---|---|
| BEST-FRIEND PET HOSPITAL, INC. | | | |
| Trial Balance | | | |
| December 31 | | Debits | Credits |
| Cash | $ | 16,490 | |
| Accounts Receivable | | 54,390 | |
| Supplies on Hand | | 900 | |
| Prepaid Fire Insurance | | 1,800 | |
| Prepaid Rent | | 21,600 | |
| Equipment | | 125,000 | |

| | | | |
|---|---|---|---|
| Accumulated Depreciation —Equipment | | | $ 25,000 |
| Accounts Payable | | | 29,550 |
| Notes Payable | | | 9,000 |
| Capital Stock | | | 150,000 |
| Retained Earnings, January 1 | | | 20,685 |
| Service Revenue | | | 179,010 |
| Interest Expense | | 225 | |
| Salaries Expense | | 142,200 | |
| Advertising Expense | | 29,250 | |
| Supplies Expense | | 2,135 | |
| Miscellaneous Expense | | 3,705 | |
| Legal and Accounting Expense | | 13,750 | |
| Utilities Expense | | 1,800 | |
| | $ | 413,245 | $ 413,245 |

The company consistently followed the policy of initially debiting all prepaid items to asset accounts.

Prepaid fire insurance is $ 600 as of the end of the year.

Supplies on hand are $ 638 as of the end of the year.

Prepaid rent is $ 2,625 as of the end of the year.

The equipment is expected to last 10 years with no salvage value.

Accrued salaries are $ 2,625.

1. Prepare the adjusting entries for December 31 and post.
2. Prepare an adjusted trial balance.
3. Prepare the December 31 closing entries and post.
4. Prepare a post-closing trial balance.

**Alternate problem G** The following trial balance and additional data are for Roswell Interior Decorators, Inc.:

| ROSWELL INTERIOR DECORATORS, INC | | |
|---|---|---|
| Trial Balance | | |
| 2010 December 31 | | |
| | Debits | Credits |

| | | |
|---|---|---|
| Cash | $ 85,400 | |
| Accounts Receivable | 81,600 | |
| Supplies on Hand | 4,000 | |
| Prepaid Rent | 12,240 | |
| Prepaid Advertising | 2,880 | |
| Prepaid Insurance | 4,400 | |
| Office Equipment | 7,600 | |
| Accumulated Depreciation—Office Equipment | | $ 2,760 |
| Office Furniture | 29,200 | |
| Accumulated Depreciation—Office Furniture | | 8,280 |
| Accounts Payable | | 25,200 |
| Notes Payable (due next year) | | 4,000 |
| Capital Stock | | 100,000 |
| Retained Earnings, January 1 | | 22,400 |
| Dividends | 45,520 | |
| Service Revenue | | 250,000 |
| Salaries Expense | 98,800 | |
| Utilities Expense | 20,000 | |
| Miscellaneous Expense | 24,000 | |
| | $ 412,640 | $ 412,640 |

Supplies on hand at December 31, are $ 1,000.

Rent expense for the year is $ 10,000.

Advertising expense for the year is $ 2,304.

Insurance expense for the year is $ 2,400.

Depreciation expense is office equipment, $ 912, and office furniture, $ 3,000.

Accrued interest on notes payable is $ 150.

Accrued salaries are $ 4,200.

1. Prepare the adjusting journal entries and post.

2. Prepare an adjusted trial balance.
3. Prepare an income statement.
4. Prepare a statement of retained earnings.
5. Prepare a classified balance sheet.
6. Prepare closing entries.
7. Prepare a post-closing trial balance.

**Alternate Problem H** Jupiter Publishing Company began operations on 2010 December 1. The company's bookkeeper intended to use the cash basis of accounting. Consequently, the bookkeeper recorded all cash receipts and disbursements for items relating to operations in revenue and expense accounts. No adjusting entries were made prior to preparing the financial statements for December.

Dec. 1 Issued capital stock for $ 300,000 cash.

3 Received $ 144,000 for magazine subscriptions to run for two years from this date. The magazine is published monthly on the 23rd.

4 Paid for advertising to be run in a national periodical for six months (starting this month). The cost was $ 36,000.

7 Purchased for cash an insurance policy to cover a two-year period beginning December 15, $ 24,000.

12 Paid the annual rent on the building, $ 36,000, effective through 2011 November 30.

15 Received $ 216,000 cash for two-year subscriptions starting with the December issue.

15 Salaries for the period December 1–15 amounted to $ 48,000. Beginning as of this date, salaries will be paid on the 5th and 20th of each month for the preceding two-week period.

20 Salaries for the period December 1–15 were paid.

23 Supplies purchased for cash, $ 21,600. (Only $ 1,800 of these were subsequently used in 2010.)

27 Printing costs applicable equally to the next six issues beginning with the December issue were paid in cash, $ 144,000.

31 Cash sales of the December issue, $ 84,000.

31 Unpaid salaries for the period December 16–31 amounted to $ 22,000.

31 Sales on account of December issue, $ 14,000.

1. Prepare journal entries for the transactions as the bookkeeper prepared them.
2. Prepare journal entries as they would have been prepared under the accrual basis. Where the entry is the same as under the cash basis, merely indicate "same". Where possible, record the original transaction so that no adjusting entry would be necessary at the end of the month. Ignore explanations.

**Beyond the numbers—Critical thinking**

**Business decision case A** Heather and Dan Holt met while both were employed in the interior trim and upholstery department of an auto manufacturer. After their marriage, they decided to earn some extra income by doing small jobs involving canvas, vinyl, and upholstered products. Their work was considered excellent, and at the urging of their customers, they decided to go into business for themselves, operating out of the basement of the house they owned. To do this, they invested $ 120,000 cash in their business. They spent $ 10,500 for a sewing machine (expected life, 10 years) and $ 12,000 for other miscellaneous tools and equipment (expected life, 5 years). They undertook only custom work, with the customers purchasing the required materials, to avoid stocking any inventory other than supplies. Generally, they required an advance deposit on all jobs.

The business seemed successful from the start, as the Holts received orders from many customers. But they felt something was wrong. They worked hard and charged competitive prices. Yet there seemed to be barely enough cash available from the business to cover immediate personal needs. Summarized, the checkbook of the business for 2010, their second year of operations, showed:

| | | | | |
|---|---|---|---|---|
| Balance, 2010 January 1 | | | $ | 99,200 |
| Cash received from customers: | | | | |
| For work done in 2009 | $ | 36,000 | | |
| For work done in 2010 | | 200,000 | | |
| For work to be done in 2011 | | 48,000 | | 284,000 |
| | | | $ | 383,200 |
| Cash paid out: | | | | |
| Two-year insurance policy dated 2010 January 1 | $ | 19,200 | | |
| Utilities | | 48,000 | | |
| Supplies | | 104,000 | | |
| Other Expenses | | 72,000 | | |
| Taxes, including sales taxes | | 26,400 | | |
| Dividends | | 40,000 | | 309,600 |
| Balance, 2010 December 31 | | | $ | 73,600 |

Considering how much they worked, the Holts were concerned that the cash balance decreased by $ 25,600 even though they only received dividends of $ 40,000. Their combined income from the auto manufacturer had been $ 45,000. They were seriously considering giving up their business and going back to work for the auto manufacturer. They turned to you for advice. You discovered the following:

Of the supplies purchased in 2010, $ 24,000 were used on jobs billed to customers in 2010; no supplies were used for any other work.

Work completed in 2010 and billed to customers for which cash had not yet been received by year-end amounted to $ 40,000.

Prepare a written report for the Holts, responding to their belief that their business is not sufficiently profitable. (Hint: Prepare an income statement for 2010 and include it in your report.)

Annual report analysis B Using the Annual report appendix, calculate the current ratios for the two years shown for The Limited, Inc. Write a summary of the results of your calculations. Also, look at some of the other data provided by the company in preparing your comments. For instance, look at the net income for the last three years.

Broader perspective – Writing experience C Read the “A broader perspective: Skills for the long haul”. Write a description of a career in public accounting broader perspective at each level within the firm. Discuss the skills needed and how you could develop these skills.

Group project D In teams of two or three students, interview a management accountant. Management accountants may have the title of chief financial officer (CFO), controller, or some other accounting title within a company. Seek information on the advantages and disadvantages of working as a management accountant. Also inquire about the nature of the work and any training programs offered by the company. As a team, write a memorandum to the instructor summarizing the results of the interview. The heading of the memorandum should contain the date, to whom it is written, from whom, and the subject matter.

Group project E With a small group of students, obtain an annual report of a company in which you have some interest. You may obtain the annual report from your instructor, the library, the Internet, or the company. Describe the nature of each item on the classified balance sheet. You may have to do library research on some of the items. Also, calculate the current ratio for the most recent two years and comment. Write a report to your instructor summarizing the results of the project.

Group project F With a small group of students and using library sources, write a paper comparing the features of three different accounting software packages (such as Peachtree Complete, Quikbooks Pro, DacEasy, MYOB Business Essentials, NetSuite Small Businee and Cougar Mountain ). Give the strengths and weaknesses of each. Cite sources for the information and treat direct quotes properly.

Using the Internet—A view of the real world

Visit the following Internet site:

http://www.merck.com

Pursue choices you are offered on the screen under Investor Relations until you locate the most recent consolidated balance sheet. In a short report to your instructor, describe how you got to the balance sheet and identify the major headings used in the balance sheet. For instance, the first such heading is Assets. Also, calculate the current ratio.

Visit the following Internet site:

http://www.kodak.com

Type in "Annual report" in the search box to locate the most recent annual report and then find the consolidated statement of financial position. Identify the major headings within the balance sheet and calculate the current ratio for the most recent year. Write a memo to your instructor summarizing your findings.

# UNIT 5: ACCOUNTING FOR A MERCHANDISING ENTERPRISE

## MERCHANDISING BUSINESS

In Unit 1 we introduced the three main types of businesses, merchandising, service and manufacturing. Merchandising companies purchase goods that are ready for sale and then sell them to customers. Merchandising companies include auto dealerships, clothing stores, and supermarkets, all of which earn revenue by selling goods to customers.

In a merchandising sales transaction, the seller sells a product and transfers the legal ownership (title) of the goods to the buyer. A business document called an invoice (a sales invoice for the seller and a purchase invoice for the buyer) becomes the basis for recording the sale.

The following video provides an overview of the difference between Merchandising and Service companies and their respective accounting needs.

Watch this video online: https://youtu.be/2txVtrteY-A

An **invoice** is a document prepared by the seller of merchandise and sent to the buyer. The invoice contains the details of a sale, such as the number of units sold, unit price, total price billed, terms of sale, and manner of shipment.

| | | | | |
|---|---|---|---|---|
| BRYAN WHOLESALE CO. | | | Invoice No.: 1258 | |
| 476 Mason Street | | | Date: December 19 | |
| Detroit, MI 48823 | | | | |
| Customer's Order No.: 218 | | | | |
| Sold to: | Baier Company | | Shipped To | Baier Company |
| Address: | 2255 Hannon St. | | Address: | 2255 Hannon Street |
| | Big Rapids, MI 48106 | | | Big Rapids, MI 48106 |
| | | | Date Shipped: | December 19 |
| Terms: | Net 30, FOB Destination | Shipping Terms: | FOB Destination | Shipped by: Nagel Trucking Co. |
| Description | Item Number | Quantity | Price per Unit | Total Amount |

| | | | | |
|---|---|---|---|---|
| True-tone stereo radio | Model No. 5868-24393 | 200 | $100 | $20,000 |
| | | Total | | $20,000 |

Do you see a due date on the invoice? What about who pays for shipping? This is all detailed in the terms. You see two types of terms:

- Payment Terms: tells you when an invoice is due and if a discount is offered for early payment
- Shipping Terms: tells you who is responsible for paying for shipping and when the title of the goods passes to the buyer

# Payment Terms

In some industries, credit terms include a cash discount of 1% to 3% to encourage early payment of an amount due. A **cash discount** is a deduction from the invoice price that can be taken only if the invoice is paid within a specified time. Sellers call a cash discount a **sales discount** and buyers call it a **purchase discount.**Companies often state payment terms as follows:

•**1/10, n/30**—means a buyer who pays within 10 days following the invoice date may deduct a discount of 1% of the invoice price. If payment is not made within the discount period, the entire invoice price is due 30 days from the invoice date.

•**3/EOM, n/60**—means a buyer who pays by the end of the month of purchase may deduct a 3% discount from the invoice price. If payment is not made within the discount period, the entire invoice price is due 60 days from the invoice date.

•**2/10/EOM, n/60**—means a buyer who pays by the 10th of the month following the month of purchase may deduct a 2% discount from the invoice price. If payment is not made within the discount period, the entire invoice price is due 60 days from the invoice date.

•**Net 30** —means the entire invoice price is due 30 days from the invoice date without a discount.

Sellers cannot record the sales discount before they receive the payment since they do not know when the buyer will pay the invoice. A cash discount taken by the buyer reduces the cash that the seller actually collects from the sale of the goods, so the seller must indicate this fact in its accounting records.

Companies base discounts on the invoice price of goods. If merchandise is later returned, the returned amount must be deducted from the invoice price before calculating discounts. For example, the invoice price of goods purchased was $ 30,000 and the company returned $ 2,000 of the goods, the seller calculates the 2% discount on $ 28,000 ($30,000 original – $2,000 return).

# Shipping Terms

Shipping terms are used to show who is responsible for paying for shipping and when the title of the goods passes from seller to buyer. To understand how to account for transportation costs, you must know the meaning of the following terms:

- **FOB shipping point** means “free on board at shipping point”. The buyer incurs all transportation costs after the merchandise has been loaded on a railroad car or truck at the point of shipment. Thus, the buyer is responsible for ultimately paying the freight charges.
- **FOB destination** means “free on board at destination”. The seller ships the goods to their destination without charge to the buyer. Thus, the seller is ultimately responsible for paying the freight charges.

We will look at how these items factor into journal entries for merchandising companies in the next sections.

# MERCHANDISE INVENTORY

**Merchandise inventory** is the cost of goods on hand and available for sale at any given time.   Merchandise inventory (also called Inventory) is a current asset with a normal debit balance meaning a debit will increase and a credit will decrease.

To determine the cost of goods sold in any accounting period, management needs inventory information. Management must know:

- its cost of goods on hand at the start of the period (beginning inventory)
- the net cost of purchases during the period
- and the cost of goods on hand at the close of the period (ending inventory).

Since the ending inventory of the one period is the beginning inventory for the next period, management already knows the cost of the beginning inventory. Companies record purchases, purchase discounts, purchase returns and allowances, and transportation-in throughout the period. Therefore, management needs to determine only the cost of the ending inventory at the end of the period in order to calculate cost of goods sold.

**Cost of goods sold** is the inventory cost to the seller of the goods sold to customers.  Cost of Goods Sold is an **EXPENSE** item with a normal debit balance (debit to increase and credit to decrease). Even though we do not see the word Expense this in fact is an expense item found on the Income Statement as a *reduction to Revenue*.

Accountants must have accurate merchandise inventory figures to calculate cost of goods sold. Accountants use two basic methods for determining the amount of merchandise inventory—perpetual inventory procedure and periodic inventory procedure.

When discussing inventory, we need to clarify whether we are referring to the physical goods on hand or the Merchandise Inventory account, which is the financial representation of the physical goods on hand. The difference between perpetual and periodic inventory procedures is the frequency with which the Merchandise Inventory account is updated to reflect what is physically on hand.

Under **perpetual inventory procedure,** the Merchandise Inventory account is continuously updated to reflect items on hand, and under the **periodic method** we wait until the END to count everything.

The following video explains the difference between periodic and perpetual inventory methods:

Watch this video online: https://youtu.be/FcRT5-5tYh8

## Perpetual inventory procedure:

Companies use perpetual inventory procedure in a variety of business settings. Historically, companies that sold merchandise with a high individual unit value, such as automobiles, furniture, and appliances, used perpetual inventory procedure. Today, computerized cash registers, scanners, and accounting software programs automatically keep track of inflows and outflows of each inventory item. Computerization makes it economical for many retail stores to use perpetual inventory procedure even for goods of low unit value, such as groceries.

Under perpetual inventory procedure, the Merchandise Inventory account provides close control by showing the cost of the goods that are supposed to be on hand at any particular time. Companies debit the Merchandise Inventory account for each purchase and credit it for each sale so that the current balance is shown in the account at all times. Usually, firms also maintain detailed unit records showing the quantities of each type of goods that should be on hand. Company personnel also take a physical inventory by actually counting the units of inventory on hand. Then they compare this physical count with the records showing the units that should be on hand.

## Periodic inventory procedure:

Merchandising companies selling low unit value merchandise (such as nuts and bolts, nails, Christmas cards, or pencils) that have not computerized their inventory systems often find that the extra costs of record-keeping under perpetual inventory procedure more than outweigh the benefits. These merchandising companies often use periodic inventory procedure.

Under periodic inventory procedure, companies do not use the Merchandise Inventory account to record each purchase and sale of merchandise. Instead, a company corrects the balance in the Merchandise Inventory account as the result of a physical inventory count at the end of the accounting period. Also, the company usually does not maintain other records showing the exact number of units that should be on hand. Although periodic inventory procedure reduces record-keeping, it also reduces control over inventory items. Firms assume any items not included in the physical count of inventory at the end of the period have been sold. Thus, they mistakenly assume items that have been stolen have been sold and include their cost in cost of goods sold.



# BUYER ENTRIES UNDER PERPETUAL METHOD

The following video summarizes how to journalize purchases under the perpetual inventory system.

Watch this video online: https://youtu.be/3j-CG84f988

Under the perpetual inventory system, remember we want to constantly update the inventory balance to match what we paid for the inventory and for what we have on hand. We will be using ONLY 3 accounts **for any journal entries as the buyer**:

1. Cash
2. Merchandise Inventory (or Inventory)
3. Accounts Payable

Cash and Merchandise Inventory accounts are current assets with normal debit balances (debit to increase and credit to decrease). Accounts payable is a current liability with a normal credit balance (credit to increase and debit to decrease). **Whenever we are the buyer, use a combination of these 3 accounts only.**

## Inventory Purchases

To illustrate the perpetual inventory method journal entries, assume that Hanlon Food Store made two purchases of merchandise from Smith Company.

- On May 4, Hanlon purchased $30,000 of merchandise with credit terms of 2/10, n30 and shipping terms FOB Destination.
- on May 21, Hanlon purchased $20,000 of merchandise for cash with shipping terms FOB Shipping Point.

The required journal entries for Hanlon are:

| Date | Account | Debit | Credit |
|---|---|---|---|
| May 4 | Merchandise Inventory | 30,000 | |
| | Accounts Payable | | 30,000 |
| | To record the purchase of inventory on account. | | |
| | | | |
| May 21 | Merchandise Inventory | 20,000 | |
| | Cash | | 20,000 |
| | To record the purchase of inventory with cash. | | |

On May 4, we realize credit terms means we have not paid for it yet but will pay for it later (accounts payable) We are offered a 2% discount but do not record it yet as we do not know if we will make the discount due date. On May 21, we paid with cash so we do not have credit terms since it has been paid.

## Shipping on Inventory Purchases

We learned shipping terms tells you who is responsible for paying for shipping. FOB Destination means the seller is responsible for paying shipping and the buyer would not need to pay or record anything for shipping. FOB Shipping Point means the buyer is responsible for shipping and must pay and record for shipping.

In our example for Hanlon, May 4 was FOB Destination and we will not have to do anything for shipping. On May 21, shipping terms were FOB Shipping Point meaning we, as the buyer, must pay for shipping. Under the perpetual inventory system, remember we only use 3 accounts: Cash, Inventory and Accounts Payable. We want to constantly update the inventory balance to match what we actually paid. We will debit Inventory for the shipping cost and credit cash or accounts payable depending on if we paid it now or later. Let's continue with another example from Hanlon.

On May 22 Hanlon paid We Ship It $200 for shipping on the items purchased May 21. The journal entry would be:

| Date | Account | Debit | Credit |
|---|---|---|---|
| May 22 | Merchandise Inventory | 200 | |
| | Cash | | 200 |
| | To record the payment of shipping charges. | | |

## Purchase returns and allowances

A **purchase return** occurs when a buyer returns merchandise to a seller. When a buyer receives a reduction in the price of goods shipped *but does not return the merchandise*, a **purchase allowance** results.

Regardless of whether we have return or allowance, the process is **exactly** the same under the perpetual inventory system. Both returns and allowances reduce the buyer's debt to the seller (accounts payable) and decrease the cost of the goods purchased (inventory). We will debit Accounts Payable and credit Merchandise Inventory.

If Hanlon returned $350 of merchandise to Smith Wholesale on May 6 before paying for the goods, Hanlon would make this journal entry:

| Date | Account | Debit | Credit |
|---|---|---|---|
| May 6 | Accounts Payable | 350 | |
| | Merchandise Inventory | | 350 |
| | To record return of merchandise. | | |

The entry would have been the same to record a $ 350 allowance. Only the explanation would change.

If Hanlon had already paid the account, the debit would be to Cash instead of Accounts Payable, since Hanlon would receive a refund of cash. If the company took a discount at the time it paid the account, only the net amount would be refunded. For instance, if a 2% discount had been taken, the return amount would be $350 – (350 x 2%) or $343. Hanlon's journal entry for the return would be:

| Date | Account | Debit | Credit |
|---|---|---|---|
| May 6 | Cash | 343 | |
| | Merchandise Inventory | | 343 |
| | To record return of merchandise for a refund less the 2% discount. | | |

## Paying for Inventory Purchased on Credit

When paying for inventory purchased on credit, we will decrease what we owe to the seller (accounts payable) and cash. If we take a discount for paying early, we record this discount in the merchandise inventory account since it will reduce what we paid for inventory.

Using the purchase transaction from May 4 and no returns, Hanlon pays the amount owed on May 10. May 10 is within the discount period and Hanlon will take the 2% discount provided in the terms 2/10, n30 (remember, this means 2% discount if paid in 10 days of the invoice date otherwise, full amount is due in 30 days).

| Date | Account | Debit | Credit |
|---|---|---|---|
| May 10 | Accounts Payable | 30,000 | |
| | Merchandise Inventory (30,000 x 2%) | | 600 |
| | Cash (30,000 – 600) | | 29,400 |
| | To record payment for merchandise less the 2% discount. | | |

We reduce the full amount owed on May 4 and calculate the 2% discount based on this amount. The cash amount is the amount we owe – discount.

Assume we also had the return on May 6 of $350. Hanlon pays the amount owed less the return and takes the 2% discount on May 12. The journal entry for this payment would be:

| Date | Account | Debit | Credit |
|---|---|---|---|
| May 12 | Accounts Payable (30,000 – 350) | 29,650 | |
| | Merchandise Inventory (29,650 x 2%) | | 593 |

| | | | |
|---|---|---|---|
| | Cash (29,650 – 593) | | 29,057 |
| | To record payment for merchandise less the 2% discount and a $350 return. | | |

We reduce the full amount owed on May 4 less the return of $250. The discount is calculated based on the amount owed less the return x 2%. The cash amount is the amount we owe – the return – the discount.

Finally, if instead Hanlon did not have any returns and did not pay the invoice within the discount period but paid the invoice from May 4 on May 30. The entry would be:

| Date | Account | Debit | Credit |
|---|---|---|---|
| May 30 | Accounts Payable | 30,000 | |
| | Cash | | 30,000 |
| | To record payment of merchandise. | | |

## Summary

Under the perpetual inventory method, purchase entries will use a combination of these 3 accounts only:

| Name | Account Type |
|---|---|
| Cash | Current asseet |
| Inventory | Current asseet |
| Accounts Payable | Current liability |



# SELLER ENTRIES UNDER PERPETUAL INVENTORY METHOD

The accounting is very different for sellers than for buyers. Remember, under the perpetual inventory method, we used a combination of 3 accounts (Cash, Inventory and Accounts Payable) on the buyer side. This is not the case for the seller. The seller will use the following accounts:

| Name | Account Type | Increases | Decreases |
|---|---|---|---|
| Cash | Current asset | Debit | Credit |

| | | | |
|---|---|---|---|
| Accounts Receivable | Current asset | Debit | Credit |
| Merchandise Inventory | Current asset | Debit | Credit |
| Sales Revenue | Revenue | Credit | Debit |
| Sales Discounts* | Revenue | Debit | Credit |
| Sales Returns and Allowances* | Revenue | Debit | Credit |
| Cost of Goods Sold | Expense | Debit | Credit |
| Delivery Expense | Expense | Debit | Credit |

*Sales discounts and sales returns and allowances are contra-accounts. Notice how they increase with a debit and decrease with a credit even though they are revenue accounts.

**Cost of goods sold**

Cost of goods sold is exactly what the account name reads: it is the cost of the goods merchandise inventory) to the seller that is now being sold to customers. *Cost of goods sold is not the price charged to customers but what a company paid for the goods they are now selling.* Cost of Goods Sold is an **EXPENSE** item. Even though we do not see the word Expense this in fact is an expense item found on the Income Statement as a *reduction to Revenue*. Watch this video on seller entries before we look at them in more detail.

## Recording Sales

Sales are recorded in a Sales Revenue (or Sales) account and is the price we charge to the customers. Sales can be cash or have credit terms (on account) using Accounts Receivable since we will receive money from the customer in the future. To record sales, we will debit Cash or Accounts Receivable, depending on payment, and credit Sales Revenue.

But, we must also match the revenue and expenses incurred (remember the matching principle?) and we will record the expense cost of goods sold. Remember, cost of goods sold is the seller's cost for the items they are now selling to a customer and is NOT the selling price. We begin learning this concept by having cost of goods sold amounts provided but in a later section, you will learn to calculate the amount yourself. We will debit the expense Cost of Goods Sold but what was it we were selling? Right! Merchandise or merchandise inventory so we will reduce (credit) merchandise inventory since we no longer have the goods.

To illustrate the perpetual inventory method journal entries, assume that Smith Company made two sales of merchandise to Hanlon Food Store:

- On May 4, Smith sold $30,000 of merchandise with credit terms of 2/10, n30 and shipping terms FOB Destination. The original cost to Smith was $18,000.
- on May 21, Smith sold $20,000 of merchandise for cash with shipping terms FOB Shipping Point. The original cost to Smith was $15,000.

The journal entries to record the sale and cost of goods sold for each date would be:

| Date | Account | Debit | Credit |
|---|---|---|---|
| May 4 | Accounts Receivable | 30,000 | |
| | Sales Revenue | | 30,000 |
| | *To record sale of merchandise on credit* | | |

| | | | |
|---|---|---|---|
| May 4 | Cost of goods sold | 18,000 | |
| | Merchandise Inventory | | 18,000 |
| | *To record cost of merchandise sold to customers.* | | |
| | | | |
| May 21 | Cash | 20,000 | |
| | Sales Revenue | | 20,000 |
| | *To record sale of merchandise for cash.* | | |
| May 21 | Cost of goods sold | 15,000 | |
| | Merchandise Inventory | | 15,000 |
| | *To record cost of merchandise sold to customers.* | | |

Notice how each transaction has 2 entries. One to record the sale to the customer and one to record the usage of inventory as a cost of goods sold.

## Shipping on Sales

We learned shipping terms tells you who is responsible for paying for shipping. FOB Destination means the seller is responsible for paying shipping and the buyer would not need to pay or record anything for shipping. FOB Shipping Point means the buyer is responsible for shipping and must pay and record for shipping. As the seller, we will record any shipping costs in the **Delivery Expense** account as a debit. We will credit cash or accounts payable, depending on if we paid it or not.

In our two transactions above, the May 4 sale has shipping terms of FOB Destination so the seller would pay for shipping. In the May 21 sale, the shipping terms FOB Shipping Point means the buyer is responsible and the seller will not record anything for shipping.

Smith Company paid $100 cash on May 4 for shipping on the May 4 sale to Hanlon Food Store. The journal entry to record this transaction would be:

| Date | Account | Debit | Credit |
|---|---|---|---|
| May 4 | Delivery Expense | 100 | |
| | Cash | | 100 |
| | *To record shipping costs for sales.* | | |

## Sales Returns and Allowances

Merchandising companies usually allow customers to return goods that are defective or unsatisfactory for a variety of reasons, such as wrong color, wrong size, wrong style, wrong amounts, or inferior quality. A **sales return** is merchandise returned by a buyer. A **sales allowance** is a deduction from the original invoiced sales price granted when the customer *keeps the merchandise* but is dissatisfied for any of a number of reasons, including inferior quality, damage, or deterioration in transit.

When a seller agrees to the sales return or sales allowance, the seller sends the buyer a credit memorandum indicating a reduction (crediting) of the buyer's account receivable. A credit memorandum becomes the basis for recording a sales return or a sales allowance.

In theory, sellers could record both sales returns and sales allowances as debits to the Sales account because they cancel part of the recorded selling price. However, because the amount of sales returns and sales allowances is useful information to management, it should be shown separately. The amount of returns and allowances in relation to goods sold can indicate the quality of the goods (high-return percentage, equals low quality) or of pressure applied by salespersons (high-return percentage, equals high-pressure sales).

Sellers record sales returns and sales allowances in a separate **Sales Returns and Allowances account.** The Sales Returns and Allowances account is a contra revenue account (to Sales) that records the selling price of merchandise returned by buyers or reductions in selling prices granted.

The accounting method will be different for a sales return and an allowance. In a sales allowance, the customer is not returning any merchandise and we will only adjust the customer side of the transactions (sales and accounts receivable). In a sales return, the customer is actually returning merchandise. We will need to reduce the customer side (sales and accounts receivable) and increase the inventory side (inventory and cost of goods sold). The inventory is returned to the seller which means we need to add it back to inventory and remove the expense since it is no longer sold.

Following are two examples illustrating the recording of sales returns in the Sales Returns and Allowances account:

- Assume that a company grants a $ 400 **allowance** to a customer for damage resulting from improperly packed merchandise. If the customer has not yet paid the account, the required entry would be:

| Account | Debit | Credit |
|---|---|---|
| Sales Returns and Allowances | 400 | |
| Accounts Receivable | | 400 |
| *To record sales allowance granted to a customer.* | | |

If the customer has already paid the account, the credit is to Cash instead of Accounts Receivable. If the customer took a 2% discount when paying the account, the refund entry would be:

| Account | Debit | Credit |
|---|---|---|
| Sales Returns and Allowances | 400 | |
| Sales Discounts (400 x 2%) | | 8 |
| Cash (400 – 8) | | 392 |
| *To record sales allowance refund to customer less discount.* | | |

- Assume instead that a customer **returns** $300 of goods sold on account. The goods cost the seller $200. *Remember, a return requires 2 entries — one for the sales side and one for the inventory side.* If payment has not yet been received, the required entry is:

| Account | Debit | Credit |
|---|---|---|
| Sales Returns and Allowances | 300 | |
| Accounts Receivable | | 300 |

| | | |
|---|---|---|
| *To record customer return on credit sale.* | | |
| | | |
| Merchandise Inventory | 200 | |
| Cost of goods sold | | 200 |
| *To record receipt of returned merchandise.* | | |

If the customer has already paid the account, the credit is to Cash instead of Accounts Receivable. If the customer took a 2% discount when paying the account, the refund entry would be (*note: there would be no change to the inventory entry*):

| Account | Debit | Credit |
|---|---|---|
| Sales Returns and Allowances | 300 | |
| Sales Discounts (400 x 2%) | | 6 |
| Accounts Receivable | | 294 |
| *To record customer refund with 2% discount.* | | |
| | | |
| Merchandise Inventory | 200 | |
| Cost of goods sold | | 200 |
| *To record receipt of returned merchandise.* | | |

## Receiving Payment from Customers

Remember, the credit terms (or terms) provides information to the buyer about when the invoice is due and if there is a discount allowed for paying the invoice early. The discount is not recorded until payment is received because the seller does not know if a buyer will take the discount or not. Discounts are recorded in a contra-revenue account called Sales Discounts. Receiving payment will affect the customer side only and not inventory. We will be reducing the amount owed by the customer (accounts receivable) and increasing sales discounts (if any) and cash.

For example, Smith Company receives payment of the May 4 invoice from Hanlon Food Store on May 10. The customer took the 2% discount. The entry to record this transaction would be:

| Date | Account | Debit | Credit |
|---|---|---|---|
| May 10 | Sales Discounts (30,000 x 2%) | 600 | |
| | Cash (30,000 – 600) | 29,400 | |
| | Accounts Receivable | | 30,000 |
| | *To record customer payment with 2% discount.* | | |

If Hanlon had returned merchandise for $300 before paying the invoice, the entry to record this transaction with a 2% discount would be:

| Account | Debit | Credit |
|---|---|---|
| Sales Discounts (29,700 x 2%) | 594 | |
| Cash (29,700 – 594) | 29,106 | |
| Accounts Receivable | | 29,700 |
| *To record customer payment with 2% discount and return.* | | |

Note: This entry is the same with a sales return or a sales allowance.

If Hanlon had a $400 allowance but paid the invoice after the discount period on May 30, the entry to record the transaction (less the allowance) would be:

| Date | Account | Debit | Credit |
|---|---|---|---|
| May 30 | Cash (30,000 – 400) | 29,600 | |
| | Accounts Receivable (30,000 – 400) | | 29,600 |
| | *To record customer payment less allowance and no discount.* | | |

## Summary

Cost of goods sold is not the price charged to customers but what a company paid for the goods they are now selling. Cost of Goods Sold is an **EXPENSE** item. Sales Discounts and Sales Returns and Allowances are contra-revenue accounts meaning they are **REVENUE** accounts but debits will increase and credits will decrease.

Sales revenue and sales return entries require 2 entries: one for the customer side (accounts receivable and sales) and one for the inventory side (cost of goods sold and inventory). Sales allowances require only the customer side.



# BUYER ENTRIES UNDER PERIODIC INVENTORY SYSTEM

Under **periodic inventory procedure, the Merchandise Inventory account is updated periodically after a physical count has been made.** Usually, the physical count takes place immediately before the preparation of financial statements. This method is most effective for a company with a small amount of inventory due to the labor required to do a physical count of inventory. Companies using periodic inventory procedure make no entries to the Merchandise Inventory account nor do they maintain unit records during the accounting period. Thus, these companies have no up-to-date balance against which to compare the physical inventory count at the end of the period.

Since a company does not use the Merchandise inventory account during the accounting period, what accounts do they use for merchandise purchases?  Here is a list of the accounts needed under a periodic inventory system:

| Name | Increases | Decreases |
|---|---|---|
| Purchases | Debit | Credit |
| Purchases Returns and allowances | Credit | Debit |
| Purchase Discounts | Credit | Debit |
| Transportation (or Freight) In | Debit | Credit |
| Cash | Debit | Credit |
| Accounts Payable | Credit | Debit |

## Inventory Purchases under Periodic

Companies using periodic inventory procedure make no entries to the Merchandise Inventory account nor do they maintain unit records during the accounting period. Under periodic inventory procedure, a merchandising company uses the **Purchases account** to record the cost of merchandise bought for resale during the current accounting period. The Purchases account, which is increased by debits, appears with the income statement accounts in the chart of accounts.

To illustrate the periodic inventory method journal entries, assume that Hanlon Food Store made two purchases of merchandise from Smith Company.

- On May 4, Hanlon purchased $30,000 of merchandise with credit terms of 2/10, n30 and shipping terms FOB Destination.
- on May 21, Hanlon purchased $20,000 of merchandise for cash with shipping terms FOB Shipping Point.

The required journal entries for Hanlon are:

| Date | Account | Debit | Credit |
|---|---|---|---|
| May 4 | Purchases | 30,000 | |
| | Accounts Payable | | 30,000 |
| | To record purchase of merchandise on credit. | | |
| | | | |
| May 21 | Purchases | 20,000 | |
| | Cash | | 20,000 |
| | To record purchase of merchandise with cash. | | |

On May 4, we know credit terms means we have not paid for it yet but will pay for it later (accounts payable)  We are offered a 2% discount if we pay within 10 days but do not record it yet as we do not know if we will make the discount due date.  On May 21, we paid with cash so we do not have credit terms since it has been paid.

## Shipping on Inventory Purchases

We learned shipping terms tells you who is responsible for paying for shipping.  FOB Destination means the seller is responsible for paying shipping and the buyer would not need to pay or record anything for shipping.  FOB Shipping Point means the buyer is responsible for shipping and must pay and record for shipping.

Buyers must record shipping charges as **transportation in** (or Freight In)  when the goods were shipped FOB shipping point and they have received title to the merchandise.

In our example for Hanlon, May 4 was FOB Destination and we will not have to do anything for shipping.  On May 21, shipping terms were FOB Shipping Point meaning we, as the buyer, must pay for shipping.  Under the periodic inventory system, we will debit Transportation (or freight) In for the shipping cost and credit cash or accounts payable depending on if we paid it now or later.  Let's continue with another example from Hanlon.

On May 22 Hanlon paid We Ship It $200 for shipping on the items purchased May 21. The journal entry would be:

| Date | Account | Debit | Credit |
|---|---|---|---|
| May 22 | Transportation In | 200 | |
| | Cash | | 200 |
| | To record payment of shipping charges. | | |

## Purchase returns and allowances

A **purchase return** occurs when a buyer returns merchandise to a seller. When a buyer receives a reduction in the price of goods shipped *but does not return the merchandise*, a **purchase allowance** results.

Regardless of whether we have return or allowance, the process is **exactly** the same under the periodic inventory system.  Both returns and allowances reduce the buyer's debt to the seller (accounts payable) and decrease the cost of the goods purchased (purchases). The buyer may want to know the amount of returns and allowances as the first step in controlling the costs incurred in returning unsatisfactory merchandise or negotiating purchase allowances. For this reason, buyers record purchase returns and allowances in a separate **Purchase Returns and Allowances account.**

If Hanlon returned $350 of merchandise to Smith Wholesale on May 6 before paying for the goods, Hanlon would make this journal entry:

| Date | Account | Debit | Credit |
|---|---|---|---|
| May 6 | Accounts Payable | 350 | |
| | Purchase returns and allowances | | 350 |
| | To record return of merchandise for credit. | | |

The entry would have been the same to record a $ 350 allowance. Only the explanation would change.

If Hanlon had already paid the account, the debit would be to Cash instead of Accounts Payable, since Hanlon would receive a refund of cash. If the company took a discount at the time it paid the account, only the net amount would be refunded. For instance, if a 2% discount had been taken, the return amount would be $350 – (350 x 2%) or $343.  Discounts are recorded in a separate **purchase discounts account.**  Hanlon's journal entry for the return would be:

| Date | Account | Debit | Credit |
|---|---|---|---|
| May 6 | Cash | 343 | |
| | Purchase Discounts | 7 | |
| | Purchase returns and allowances | | 350 |
| | To record return of merchandise for refund after 2% discount. | | |

Notice a 2% discount is taken on the return since we already paid and received the 2% discount. We reduce the amount of the discount (originally recorded as a credit) since we can no longer claim that as a discount since the merchandise was returned.

## Paying for Inventory Purchased on Credit

When paying for inventory purchased on credit, we will decrease what we owe to the seller (accounts payable) and cash. If we take a discount for paying early, we record this discount in the purchase discount account under the periodic inventory method.

Using the purchase transaction from May 4 and no returns, Hanlon pays the amount owed on May 10. May 10 is within the discount period and Hanlon will take the 2% discount provided in the terms 2/10, n30 (remember, this means 2% discount if paid in 10 days of the invoice date otherwise, full amount is due in 30 days).

| Date | Account | Debit | Credit |
|---|---|---|---|
| May 10 | Accounts Payable | 30,000 | |
| | Purchase Discounts (30,000 x 2%) | | 600 |
| | Cash (30,000 – 600) | | 29,400 |
| | To record payment for merchandise less 2% discount. | | |

We reduce the full amount owed on May 4 and calculate the 2% discount based on this amount. The cash amount is the amount we owe – discount.

Assume we also had the return on May 6 of $350. Hanlon pays the amount owed less the return and takes the 2% discount on May 12. Notice how accounts payable has been reduced to reflect the return. The journal entry for this payment would be:

| Date | Account | Debit | Credit |
|---|---|---|---|
| May 12 | Accounts Payable (30,000 – 350) | 29,650 | |
| | Purchase Discounts (29,650 x 2%) | | 593 |
| | Cash (29,650 – 593) | | 29,057 |
| | To record payment for merchandise less 2% discount. | | |

We reduce the full amount owed on May 4 less the return of $350. The discount is calculated based on the amount owed less the return x 2%. The cash amount is the amount we owe – the return – the discount.

Finally, if instead Hanlon did not have any returns and did not pay the invoice within the discount period but paid the invoice from May 4 on May 30.  The entry would be:

| Date | Account | Debit | Credit |
|---|---|---|---|
| May 30 | Accounts Payable | 30,000 | |
| | Cash | | 30,000 |
| | To record payment of merchandise with no discount. | | |

## Summary

Under periodic inventory procedure, the Merchandise Inventory account is updated periodically after a physical count has been made.  Companies using periodic inventory procedure *make no entries to the Merchandise Inventory account* nor do they maintain unit records during the accounting period. Thus, these companies have no up-to-date balance against which to compare the physical inventory count at the end of the period.



# SELLER ENTRIES UNDER PERIODIC INVENTORY METHOD

Companies using the periodic inventory method make no attempt to determine the cost of goods sold at the time of each sale. Instead, they calculate the cost of all the goods sold during the accounting period at the end of the period. We will look at calculating cost of goods sold a little later.  Key point to remember:  *Under the periodic inventory method, a cost of good sold account is not used to record sales transactions*.

This section explains how to record sales revenues, including the effect of trade discounts. Then, we explain how to record two deductions from sales revenues—sales discounts and sales returns and allowances.

Usually sales are for cash or on account. When a sale is for cash, the company credits the Sales account and debits Cash. For example, it records a $20,000 sale for cash as follows:

| Account | Debit | Credit |
|---|---|---|
| Cash | 20,000 | |
| Sales | | 20,000 |
| *To record the sales of merchandise for cash.* | | |

When a sale is on account, it credits the Sales account and debits Accounts Receivable. The following entry records a  $20,000 sale on account:

| Account | Debit | Credit |
|---|---|---|
| Accounts Receivable | 20,000 | |
| Sales | | 20,000 |
| *To record the sales of merchandise on account.* | | |

When a company sells merchandise to a customer, the seller provides credit terms. Remember, terms tell a buyer when the invoice is due and if there is a discount allowed for paying early. Discounts are not recorded until payment is received since the seller does not know if the buyer will take the discount at the time of the sale.

## Sales returns and allowances

Merchandising companies usually allow customers to return goods that are defective or unsatisfactory for a variety of reasons, such as wrong color, wrong size, wrong style, wrong amounts, or inferior quality. A **sales return** is merchandise returned by a buyer. A **sales allowance** is a reduction of the price when the customer keeps the merchandise but is dissatisfied for any of a number of reasons, including inferior quality, damage, or deterioration in transit. The account entry is the same whether it is a sales return or allowance.

Sellers record sales returns and sales allowances in a separate **Sales Returns and Allowances account.** The Sales Returns and Allowances account is a contra revenue account (to Sales) that records the selling price of merchandise returned by buyers or reductions in selling prices granted.

Following are two examples illustrating the recording of sales returns in the Sales Returns and Allowances account:

- Assume that a customer returns $300 of goods sold on account. If payment has not yet been received, the required entry is:

| Account | Debit | Credit |
|---|---|---|
| Sales Returns and Allowances | 300 | |
| Accounts Receivable | | 300 |
| *To record a sales return from a customer.* | | |

- Assume that the customer has already paid the account and the seller gives the customer a cash refund. Now, the credit is to Cash rather than to Accounts Receivable. If the customer has taken a 2% discount when paying the account, the company would return to the customer the sales price less the sales discount amount. For example, if a customer returns goods that sold for $300, on which a 2% discount was taken, the following entry would be made:

| Account | Debit | Credit |
|---|---|---|
| Sales Returns and Allowances | 300 | |
| Cash (300 – 6) | | 294 |
| Sales Discount (300 x 2%) | | 6 |
| *To record a sales return from a customer who had taken a* | | |
| *discount and was sent a cash refund.* | | |

The debit to the Sales Returns and Allowances account is for the full selling price of the purchase. The $6 credit reduces the balance of the Sales Discounts account and the balance is the cash refund.

Next, we illustrate the recording of a sales allowance in the Sales Returns and Allowances account. Assume that a company grants a $400 allowance to a customer for damage resulting from improperly packed merchandise. If the customer has not yet paid the account, the required entry would be:

| Account | Debit | Credit |
|---|---|---|
| Sales Returns and Allowances | 400 | |
| Accounts Receivable | | 400 |
| *To record a sales allowance granted for damaged merchandise.* | | |

If the customer has already paid the account, the credit is to Cash instead of Accounts Receivable. If the customer took a 2% discount when paying the account, the company would refund only the net amount $ 392. Sales Discounts would be credited for $8. The entry would be:

| Account | Debit | Credit |
|---|---|---|
| Sales Returns and Allowances | 400 | |
| Cash (400 – 8) | | 392 |
| Sales Discount (400 x 2%) | | 8 |
| *To record a sales allowance when a customer has paid and* | | |
| *taken a 2% discount.* | | |

## Receiving Payment from Customers

Remember, the credit terms (or terms) provides information to the buyer about when the invoice is due and if there is a discount allowed for paying the invoice early. The discount is not recorded until payment is received because the seller does not know if a buyer will take the discount or not. Discounts are recorded in a contra-revenue account called Sales Discounts. We will be reducing the amount owed by the customer (accounts receivable) and increasing sales discounts (if any) and cash.

For example, we receives payment of the $20,000 and the customer took a 2% discount. The entry to record this transaction would be:

| Account | Debit | Credit |
|---|---|---|
| Sales Discounts (20,000 x 2%) | 400 | |
| Cash (20,000 – 400) | 19,600 | |
| Accounts Receivable | | 20,000 |
| *To record customer payment with 2% discount.* | | |

If the customer had returned merchandise for $300 before paying the invoice, the entry to record this transaction with a 2% discount would be:

| Account | Debit | Credit |
|---|---|---|
| Sales Discounts (19,700 x 2%) | 394 | |
| Cash (19,700 – 394) | 19,306 | |
| Accounts Receivable (20,000 – 300) | | 19,700 |
| *To record customer payment with 2% discount and return.* | | |

If the customer had a $400 allowance but paid the invoice after the discount period, the entry to record the transaction (less the allowance) would be:

| Account | Debit | Credit |
|---|---|---|
| Cash (20,000 – 400) | 19,600 | |
| Accounts Receivable (20,000 – 400) | | 19,600 |
| *To record customer payment less allowance and no discount.* | | |

## Cost of Goods Sold

Remember, companies using the periodic inventory method make no attempt to determine the cost of goods sold at the time of each sale. Instead, they calculate the cost of all the goods sold during the accounting period at the end of the period. To determine the cost of goods sold, a company must know:

- Beginning inventory (cost of goods on hand at the beginning of the period).
- Net cost of purchases during the period.
- Ending inventory (cost of unsold goods at the end of the period).

Inventory is a permanent account meaning the balance rolls over from period to period. *The ending inventory balance of on period is the beginning inventory of the next period.*

The net cost of purchases is calculated as Purchases + Transportation In – Purchase Discounts – Purchases Returns and Allowances.

Ending inventory is based on a physical count of inventory on hand before issuing financial statements. Taking a physical inventory consists of counting physical units of each type of merchandise on hand. To calculate inventory cost, they multiply the number of each kind of merchandise by its unit cost. Then, they combine the total costs of the various kinds of merchandise to provide the total ending inventory cost. When taking a physical inventory, company personnel must be careful to count all goods owned, regardless of where they are located, and include them in the inventory.

The company would show this information as follows:

| | |
|---|---|
| Beginning inventory | $ 34,000 |
| Add: Net cost of purchases during the period | 140,000 |
| Cost of goods available for sale during the period | $174,000 |

| | |
|---|---|
| Deduct: Ending inventory | 20,000 |
| Cost of goods sold during the period | $154,000 |

An adjusting entry would be made at year end to record the cost of goods sold expense and reduce inventory so the balance in inventory matches the physical count.  The entry for the example above would be:

| Account | Debit | Credit |
|---|---|---|
| Cost of goods sold | 154,000 | |
| Merchandise Inventory | | 154,000 |
| *To record cost of goods sold during period.* | | |

## Summary

Under the periodic inventory method, the seller will use the following accounts:

| Name | Account Type | Increases | Decreases |
|---|---|---|---|
| Cash | Current asset | Debit | Credit |
| Accounts Receivable | Current asset | Debit | Credit |
| Sales Revenue | Revenue | Credit | Debit |
| Sales Discounts* | Revenue | Debit | Credit |
| Sales Returns and Allowances* | Revenue | Debit | Credit |
| Delivery Expense | Expense | Debit | Credit |

Sales Discounts and Sales Returns and Allowances are contra-revenue accounts.  Remember, we do not record sales transactions using either merchandise inventory or cost of goods sold expense account under the periodic inventory method.  Instead, cost of goods sold is calculated at the end of the period and recorded in an adjusting journal entry.

# GLOSSARY: ACCOUNTING FOR A MERCHANDISING ENTERPRISE

# GLOSSARY

**Adjunct account** Closely related to another account; its balance is added to the balance of the related account in the financial statements.

**Administrative expenses** Expenses a company incurs in the overall management of a business.

**Cash discount** A deduction from the invoice price that can be taken only if the invoice is paid within a specified time. To the seller, it is a sales discount; to the buyer, it is a purchase discount.

**Chain discount** Occurs when the list price of a product is subject to a series of trade discounts.

**Classified income statement** Divides both revenues and expenses into operating and nonoperating items. The statement also separates operating expenses into selling and administrative expenses. Also called the multiple-step income statement.

**Consigned goods** Goods delivered to another party who attempts to sell the goods for the owner at a commission.

**Cost of goods available for sale** Equal to beginning inventory plus net cost of purchases.

**Cost of goods sold** Shows the cost to the seller of the goods sold to customers; under periodic inventory procedure, cost of goods sold is computed as Beginning inventory + Net cost of purchases – Ending inventory.

**Delivery expense** A selling expense recorded by the seller for freight costs incurred when terms are FOB destination.

**FOB destination** Means free on board at destination; goods are shipped to their destination without charge to the buyer; the seller is responsible for paying the freight charges.

**FOB shipping point** Means free on board at shipping point; buyer incurs all transportation costs after the merchandise is loaded on a railroad car or truck at the point of shipment.

**Freight collect** Terms that require the buyer to pay the freight bill on arrival of the goods.

**Freight prepaid** Terms that indicate the seller has paid the freight bill at the time of shipment.

**Gross margin or gross profit** Net sales – Cost of goods sold; identifies the number of dollars available to cover expenses other than cost of goods sold.

**Gross margin percentage** Gross margin divided by net sales.

**Gross selling price** (also called the invoice price) The list price less all trade discounts.

**Income from operations** Gross margin – Operating (selling and administrative) expenses.

**Invoice** A document prepared by the seller of merchandise and sent to the buyer. It contains the details of a sale, such as the number of units sold, unit price, total price billed, terms of sale, and manner of shipment. It is a purchase invoice from the buyer's point of view and a sales invoice from the seller's point of view.

**Manufacturers** Companies that produce goods from raw materials and normally sell them to wholesalers.

**Merchandise in transit** Merchandise in the hands of a freight company on the date of a physical inventory.

**Merchandise inventory** The quantity of goods available for sale at any given time.

**Net cost of purchases** Net purchases + Transportation-in.

**Net income** Income from operations + Nonoperating revenues – Nonoperating expenses.

**Net purchases** Purchases – (Purchase discounts +Purchase returns and allowances).

**Net sales** Gross sales – (Sales discounts + Sales returns and allowances).

**Nonoperating expenses** (other expenses) Expenses incurred by a business that are not related to the acquisition and sale of the products or services regularly offered for sale.

**Nonoperating revenues** (other revenues) Revenues not related to the sale of products or services regularly offered for sale by a business.

**Operating expenses** Those expenses other than cost of goods sold incurred in the normal business functions of a company.

**Operating revenues** Those revenues generated by the major activities of a business.

**Passage of title** A legal term used to indicate transfer of legal ownership of goods.

**Periodic inventory procedure** A method of accounting for merchandise acquired for sale to customers wherein the cost of merchandise sold and the cost of merchandise on hand are determined only at the end of the accounting period by taking a physical inventory.

**Perpetual inventory procedure** A method of accounting for merchandise acquired for sale to customers wherein the Merchandise Inventory account is continuously updated to reflect items on hand; this account is debited for each purchase and credited for each sale so that the current balance is shown in the account at all times.

**Physical inventory** Consists of counting physical units of each type of merchandise on hand.

**Purchase discount** See Cash discount.

**Purchase Discounts account** A contra account to Purchases that reduces the recorded gross invoice cost of the purchase to the price actually paid.

**Purchase Returns and Allowances account** An account used under periodic inventory procedure to record the cost of merchandise returned to a seller and to record reductions in selling prices granted by a seller because merchandise was not satisfactory to a buyer; viewed as a reduction in the recorded cost of purchases.

**Purchases account** An account used under periodic inventory procedure to record the cost of goods or merchandise bought for resale during the current accounting period.

**Retailers** Companies that sell goods to final consumers.

**Sales allowance** A deduction from original invoiced sales price granted to a customer when the customer keeps the merchandise but is dissatisfied for any of a number of reasons, including inferior quality, damage, or deterioration in transit.

**Sales discount** See Cash discount.

**Sales** Discounts account A contra revenue account to Sales; it is shown as a deduction from gross sales in the income statement.

**Sales return** From the seller's point of view, merchandise returned by a buyer for any of a variety of reasons; to the buyer, a purchase return.

**Sales** Returns and Allowances account A contra revenue account to Sales used to record the selling price of merchandise returned by buyers or reductions in selling prices granted.

**Selling expenses** Expenses a company incurs in selling and marketing efforts.

**Trade discount** A percentage deduction, or discount, from the specified list price or catalog price of merchandise to arrive at the gross invoice price; granted to particular categories of customers (e.g. retailers and wholesalers). Also see Chain discount.

**Transportation-In account** An account used under periodic inventory procedure to record inward freight costs incurred in the acquisition of merchandise; a part of cost of goods sold.

**Unclassified income statement** Shows only major categories for revenues and expenses. Also called the single-step income statement.

**Wholesalers** Companies that normally sell goods to other companies (retailers) for resale.



# EXERCISES: UNIT 5

## SHORT ANSWER QUESTIONS, EXERCISES AND PROBLEMS

### Questions

➢ Which account titles are likely to appear in a merchandising company's ledger that do not appear in the ledger of a service enterprise?

➢ What entry is made to record a sale of merchandise on account under periodic inventory procedure?

➢ Describe trade discounts and chain discounts.

➢ Sales discounts and sales returns and allowances are deducted from sales on the income statement to arrive at net sales. Why not deduct these directly from the Sales account by debiting Sales each time a sales discount, return, or allowance occurs?

➢ What are the two basic procedures for accounting for inventory? How do these two procedures differ?

➢ What useful purpose does the Purchases account serve?

➢ What do the letters FOB stand for? When terms are FOB destination, who incurs the cost of freight?

➢ What type of an expense is delivery expense? Where is this expense reported in the income statement?

➢ Periodic inventory procedure is said to afford little control over inventory. Explain why.

➢ How does the accountant arrive at the total dollar amount of the inventory after taking a physical inventory?

➢ How is cost of goods sold determined under periodic inventory procedure?

➢ If the cost of goods available for sale and the cost of the ending inventory are known, what other amount appearing on the income statement can be calculated?

➢ What are the major sections in a classified income statement for a merchandising company, and in what order do these sections appear?

➢ What is gross margin? Why might management be interested in the percentage of gross margin to net sales?

➢ (Appendix) After closing entries are posted to the ledger, which types of accounts have balances? Why?

➢ **Real World Example.** Research the financial statements for a merchandiser. What company did you choose? What were the cost of goods sold, occupancy, and buying costs? For each of the three years shown, what percentage of net sales were these expenses? Is the trend favorable or unfavorable?

## Exercises

**Exercise A** In the following table, indicate how to increase or decrease (debit or credit) each account, and indicate its normal balance (debit or credit).

| Title of Account | Increased by debit or credit | Decreased by debit or credit | Normal Balance (debit or credit) |
|---|---|---|---|
| Merchandise Inventory | | | |
| Sales | | | |
| Sales Returns and Allowances | | | |
| Sales Discounts | | | |
| Accounts Receivable | | | |
| Purchases | | | |
| Purchase Returns and Allowances | | | |
| Purchase Discounts | | | |

| | | | |
|---|---|---|---|
| Accounts Payable | | | |
| Transportation-In | | | |

**Exercise B** a. Silver Company purchased $ 56,000 of merchandise from Milton Company on account. Before paying its account, Silver Company returned damaged merchandise with an invoice price of $ 11,680. Assuming use of periodic inventory procedure, prepare entries on both companies' books to record both the purchase/sale and the return.

1. Show how any of the required entries would change assuming that Milton Company granted an allowance of $ 3,360 on the damaged goods instead of giving permission to return the merchandise.

**Exercise C** What is the last payment date on which the cash discount can be taken on goods sold on March 5 for $ 51,200; terms 3/10/EOM, n/60? Assume that the bill is paid on this date and prepare the correct entries on both the buyer's and seller's books to record the payment.

**Exercise D** You have purchased merchandise with a list price of $ 36,000. Because you are a wholesaler, you are granted a trade discount of 49.6 per cent. The cash discount terms are 2/EOM, n/60. How much will you remit if you pay the invoice by the end of the month of purchase? How much will discounts on payment you remit if you do not pay the invoice until the following month?

**Exercise E** Lasky Company sold merchandise with a list price of $ 60,000 on July 1. For each of the following independent assumptions, calculate (1) the gross selling price used to record the sale and (2) the amount that the buyer would have to remit when paying the invoice.

| Trade Discount Granted | Credit Terms | Date Paid |
|---|---|---|
| 30%, 20% | 2/10, n/30 | July 10 |
| 40%, 10% | 2/EOM, n/60 | August 10 |
| 30%, 10%, 5% | 3/10/EOM, n/60 | August 10 |
| 40% | 1/10, n/30 | July 12 |

**Exercise F** Raiser Company purchased goods at a gross selling price of $ 2,400 on August 1. Discount terms of 2/10, n/30 were available. For each of the following independent situations, determine (1) the cash discount available on the final payment and (2) the amount paid if payment is made within the discount period.

| Transportation Terms | Freight Paid (by) | Purchase Allowance Granted |
|---|---|---|
| FOB shipping point | $240 (buyer) | $480 |
| FOB destination | 120 (seller) | 240 |
| FOB shipping point | 180 (seller) | 720 |
| FOB destination | 192 (buyer) | 120 |

**Exercise G** Stuart Company purchased goods for $ 84,000 on June 14, under the following terms: 3/10, n/ 30; FOB shipping point, freight collect. The bill for the freight was paid on June 15, $ 1,200.

1. Assume that the invoice was paid on June 24, and prepare all entries required on Stuart Company's books.

2. Assume that the invoice was paid on July 11. Prepare the entry to record the payment made on that date.

**Exercise H** Cramer Company uses periodic inventory procedure. Determine the cost of goods sold for the company assuming purchases during the period were $ 40,000, transportation-in was $ 300, purchase returns and allowances were $ 1,000, beginning inventory was $ 25,000, purchase discounts were $ 2,000, and ending inventory was $ 13,000.

**Exercise I** In each case, use the following information to calculate the missing information:

| | Case 1 | Case 2 | Case 3 |
|---|---|---|---|
| Gross sales | $ 640,000 | $ ? | $ ? |
| Sales discounts | ? | 25,600 | 19,200 |
| Sales returns and allowances | 19,200 | 44,800 | 32,000 |
| Net sales | 608,000 | 1,209,600 | |
| Merchandise inventory, January 1 | 256,000 | | 384,000 |
| Purchases | 384,000 | 768,000 | |
| Purchase discounts | 7,680 | 13,440 | 12,800 |
| Purchase returns and allowances | 24,320 | 31,360 | 32,000 |
| Net purchases | 352,000 | | 672,000 |
| Transportation-in | 25,600 | 38,400 | 32,000 |
| Net cost of purchases | 377,600 | 761,600 | ? |
| Cost of goods available for sale | ? | 1,081,600 | 1,088,000 |
| Merchandise inventory, December 31 | ? | 384,000 | 448,000 |
| Cost of goods sold | 320,000 | ? | 640,000 |
| Gross margin | | 512,000 | 320,000 |

**Exercise J** In each of the following equations supply the missing term(s):

1. Net sales = Gross sales – (______________________ + Sales returns and allowances).
2. Cost of goods sold = Beginning inventory + Net cost of purchases – ________ ________.
3. Gross margin = ________ ________ – Cost of goods sold.
4. Income from operations = __________ _________ – Operating expenses.
5. Net income = Income from operations + _________ ________ – ________ ________.

**Exercise K** Given the balances in this partial trial balance, indicate how the balances would be treated in the work sheet. The ending inventory is $96.

| | Debit | Credit |
|---|---|---|

| | | |
|---|---|---|
| Merchandise Inventory | 120 | |
| Sales | | S40 |
| Sales Discounts | 18 | |
| Sales Returns and Allow. | 45 | |
| Purchases | 600 | |
| Purchase Discounts | | 12 |
| Purchase Returns and Allow. | | 24 |
| Transportation-In | 36 | |

**Exercise L** Using the data in the previous exercise prepare closing entries for the preceding accounts. Do not close the Income Summary account.

Problems

**Problem A** Spencer Sporting Goods Company engaged in the following transactions in April 2010

Apr. 1 Sold merchandise on account for $ 288,000; terms 2/10, n/30, FOB shipping point, freight collect.

5 $ 43,200 of the goods sold on account on April 1 were returned for a full credit. Payment for these goods had not yet been received.

8 A sales allowance of $ 5,760 was granted on the merchandise sold on April 1 because the merchandise was damaged in shipment.

10 Payment was received for the net amount due from the sale of April 1.

b. High Stereo Company engaged in the following transactions in July 2010.

July 2 Purchased stereo merchandise on account at a cost of $ 43,200; terms 2/10, n/30, FOB destination, freight prepaid.

15 Sold merchandise for $ 64,800, terms 2/10, n/30, FOB destination, freight prepaid.

16 Paid freight costs on the merchandise sold, $ 2,160.

20 High Stereo Company was granted an allowance of $ 2,880 on the purchase of July 2 because of damaged merchandise.

31 Paid the amount due on the purchase of July 2.

Prepare journal entries to record the transactions.

**Problem B** Mars Musical Instrument Company and Tiger Company engaged in the following transactions with each other during July 2010:

July 2 Mars Musical Instrument Company purchased merchandise on account with a list price of $ 48,000 from Tiger Company. The terms were 3/EOM, n/60, FOB shipping point, freight collect. Trade discounts of 15 per cent, 10 per cent, and 5 per cent were granted by Tiger Company.

5 The buyer paid the freight bill on the purchase of July 2, $ 1,104.

6 The buyer returned damaged merchandise with an invoice price of $ 2,790 to the seller and received full credit.

On the last day of the discount period, the buyer paid the seller for the merchandise.

Prepare all the necessary journal entries for the buyer and the seller.

**Problem C** The following data for June 2010 are for Rusk Company's first month of operations:

June 1 Rusk Company was organized, and the stockholders invested $ 1,008,000 cash, $ 336,000 of merchandise inventory, and a $ 288,000 plot of land in exchange for capital stock.

4 Merchandise was purchased for cash, $ 432,000; FOB shipping point, freight collect.

9 Cash of $ 10,080 was paid to a trucking company for delivery of the merchandise purchased June 4.

13 The company sold merchandise on account, $ 288,000; terms 2/10, n/ 30.

15 The company sold merchandise on account, $ 230,400; terms 2/10, n/30.

16 Of the merchandise sold June 13, $ 31,680 was returned for credit.

20 Salaries for services received were paid as follows: to office employees, $ 31,680; to salespersons, $ 83,520.

22 The company collected the amount due on the remaining $ 256,320 of accounts receivable arising from the sale of June 13.

24 The company purchased merchandise on account at a cost of $ 345,600; terms 2/10, n/30, FOB shipping point, freight collect.

26 The company returned $ 57,600 of the merchandise purchased June 24 to the vendor for credit.

27 A trucking company was paid $ 7,200 for delivery to Rusk Company of the goods purchased June 24.

29 The company sold merchandise on account, $ 384,000; terms 2/10, n/30.

30 Sold merchandise for cash, $ 172,800.

30 Payment was received for the sale of June 15.

30 Paid store rent for June, $ 43,200.

30 Paid the amount due on the purchase of June 24.

The inventory on hand at the close of business June 30 was $ 672,000 at cost.

1. Prepare journal entries for the transactions.
2. Post the journal entries to the proper ledger accounts.

3. Prepare a trial balance as of June 30.

**Problem D** The Western Wear Company, a wholesaler of western wear clothing, sells to retailers. The company entered into the following transactions in May 2010:

May 1 The Western Wear Company was organized as a corporation. The stockholders purchased stock at par for the following assets in the business: $ 462,000 cash, $ 168,000 merchandise, and $ 105,000 land.

1 Paid rent on administrative offices for May, $ 25,200.

5 The company purchased merchandise from Carl Company on account, $ 189,000; terms 2/10, n/30. Freight terms were FOB shipping point, freight collect.

8 Cash of $ 8,400 was paid to a trucking company for delivery of the merchandise purchased May 5.

14 The company sold merchandise on account, $ 315,000; terms 2/10, n/30.

15 Paid Carl Company the amount due on the purchase of May 5.

16 Of the merchandise sold May 14, $ 13,860 was returned for credit.

19 Salaries for services received were paid for May as follows: office employees, $ 16,800; salespersons, $ 33,600.

24 The company collected the amount due on $ 126,000 of the accounts receivable arising from the sale of May 14.

25 The company purchased merchandise on account from Bond Company, $ 151,200; terms 2/10, n/30. Freight terms were FOB shipping point, freight collect.

27 Of the merchandise purchased May 25, $ 25,200 was returned to the vendor.

28 A trucking company was paid $ 2,100 for delivery to The Western Wear Company of the goods purchased May 25.

29 The company sold merchandise on open account, $ 15,120; terms 2/10, n/30.

30 Cash sales were $ 74,088.

30 Cash of $ 100,800 was received from the sale of May 14.

31 Paid Bond Company for the merchandise purchased on May 25, taking into consideration the merchandise returned on May 27.

The inventory on hand at the close of business on May 31 is $ 299,040.

From the data given for The Western Wear Company:

1. Prepare journal entries for the transactions.
2. Post the journal entries to the proper ledger accounts.

**Alternate problems**

**Alternate problem A** a. Candle Carpet Company engaged in the following transactions in August 2010:

Aug. 2 Sold merchandise on account for $ 300,000; terms 2/10, n/30, FOB shipping point, freight collect.

18 Received payment for the sale of August 2.

20 A total of $ 10,000 of the merchandise sold on August 2 was returned, and a full refund was made because it was the wrong merchandise.

28 An allowance of $ 16,000 was granted on the sale of August 2 because some merchandise was found to be damaged; $ 16,000 cash was returned to the customer.

1. Lee Furniture Company engaged in the following transactions in August 2010:

Aug. 4 Purchased merchandise on account at a cost of $ 140,000; terms 2/10, n/30, FOB shipping point, freight collect.

6 Paid freight of $ 2,000 on the purchase of August 4.

10 Sold goods for $ 100,000; terms 2/10, n/30.

12 Returned $ 24,000 of the merchandise purchased on August 4.

14 Paid the amount due on the purchase of August 4.

Prepare journal entries for the transactions.

**Alternate problem B** Edwardo Auto Parts Company and Spoon Company engaged in the following transactions with each other during August 2010:

Aug.15 Edwardo Auto Parts Company purchased merchandise on account with a list price of $ 192,000 from Spoon Company. Trade discounts of 20 per cent and 10 per cent were allowed. Terms were 2/10, n/30, FOB destination, freight prepaid.

16 The seller paid the freight charges, $ 2,400.

17 The buyer requested an allowance of $ 4,512 against the amount due because the goods were damaged in transit.

20 The seller granted the allowance requested on August 17.

The buyer paid the amount due on the last day of the discount period. Record all of the entries required on the books of both the buyer and the seller.

**Alternate problem C** Gardner Company engaged in the following transactions in June 2010, the company's first month of operations:

June 1 Stockholders invested $ 384,000 cash and $ 144,000 of merchandise inventory in the business in exchange for capital stock.

3 Merchandise was purchased on account, $ 192,000; terms 2/10, n/30, FOB shipping point, freight collect.

4 Paid height on the June 3 purchase, $ 5,280.

7 Merchandise was purchased on account, $ 96,000; terms 2/10, n/30, FOB destination, freight prepaid.

10 Sold merchandise on account, $ 230,400; terms 2/10, n/30, FOB shipping point, freight collect.

11 Returned $ 28,800 of the merchandise purchased on June 3.

12 Paid the amount due on the purchase of June 3.

13 Sold merchandise on account, $ 240,000; terms 2/10, n/30, FOB destination, height prepaid.

14 Paid height on sale of June 13, $ 14,400.

20 Paid the amount due on the purchase of June 7.

21 $ 48,000 of the goods sold on June 13 were returned for credit.

22 Received the amount due on sale of June 13.

25 Received the amount due on sale of June 10.

29 Paid rent for the administration building for June, $ 19,200.

30 Paid sales salaries of $ 57,600 for June.

30 Purchased merchandise on account, $ 48,000; terms 2/10, n/30, FOB destination, freight prepaid.

The inventory on hand on June 30 was $ 288,000.

1. Prepare journal entries for the transactions.
2. Post the journal entries to the proper ledger accounts.
3. Prepare a trial balance as of 2010 June 30.

**Alternate problem D** Organized on 2010 May 1, Noah Cabinet Company engaged in the following transactions:

May 1 The stockholders invested $ 900,000 in this new business by purchasing capital stock.

1 Purchased merchandise on account from String Company, $ 46,800; terms n/60, FOB shipping point, freight collect.

3 Sold merchandise for cash, $ 28,800.

6 Paid transportation charges on May 1 purchase, $ 1,440 cash.

7 Returned $ 3,600 of merchandise to String Company due to improper size.

10 Requested and received an allowance of $ 1,800 from String Company for improper quality of certain items.

14 Sold merchandise on account to Texas Company, $ 18,000; terms 2/20, n/30, FOB shipping point, freight collect.

16 Issued cash refund for return of merchandise relating to sale made on May 3, $ 180.

18 Purchased merchandise on account from Tan Company invoiced at $ 28,800; terms 2/15, n/30, FOB shipping point, freight collect.

18 Received a bill for freight charges of $ 900 from Ball Trucking Company on the purchase from Tan Company.

19 Texas Company returned $ 360 of merchandise purchased on May 14.

24 Returned $ 2,880 of defective merchandise to Tan Company. Received full credit.

28 Texas Company remitted balance due on sale of May 14.

31 Paid Tan Company for the purchase of May 18 after adjusting for transaction of May 24.

31 Paid miscellaneous selling expenses of $ 7,200.

31 Paid miscellaneous administrative expenses of $ 10,800.

The May 31st inventory is $ 57,600. From the data for Noah Cabinet Company:

1. Journalize the transactions. Round all amounts to the nearest dollar.
2. Post the entries to the proper ledger accounts.

3. Prepare a trial balance.

**Beyond the numbers—Critical thinking**

**Business decision case A** Candy's Shirts, Inc., has an opportunity to purchase 40,000 shirts with the logo of her favorite school in January 2009. Candy, who is not currently in business, is considering buying these shirts and then renting a display cart from which to sell these shirts (called a kiosk) in a shopping mall. Based on the following information and estimates, Candy needs to decide if the business would be profitable:

- Cost of the 40,000 shirts, all of which must be purchased in January 2009, is $ 440,000.
- Candy thinks it would take two years to sell all of the shirts. She estimates her sales at 25,000 shirts in 2009 and 15,000 shirts in 2010.
- Rent of the kiosk would be $ 1,500 per month in 2009 and $ 1,600 per month in 2010.
- Candy can buy some counters on which to display the merchandise for $ 4,000. She could sell the counters for $ 500 at the end of the second year.
- Candy estimates the cost to decorate her kiosk would be $ 2,500.
- Candy would hire employees and pay them $ 1 per shirt sold.
- Candy plans to sell the shirts for $ 17 each.
- Candy and her husband purchased $ 100,000 of capital stock in the business. Therefore, she plans to borrow $ 400,000 from their family banker. Interest expense on this loan will be $ 52,000 in 2009 and $ 6,500 in 2010. Candy plans to repay $ 300,000 on 2010 January 2, and the remaining $ 100,000 on 2010 July 1
- Candy needs to rent some storage space because all 40,000 shirts cannot be stored at the kiosk. Storage space costs $ 2,500 per year.

1. Prepare estimated income statements for 2009 and 2010 for Candy's business. Does it appear that the business will be profitable?
2. Will Candy have the cash available to pay the bank loan as she planned?

**Business decision case B** In the Annual report appendix, refer to the consolidated statements of earnings for The Limited's most recent three years. Calculate the gross margin percentage and write an explanation of what the results mean for each of the three years.

**Annual report analysis C** Refer to the consolidated statements of income of The Limited in the Annual report appendix. Identify the 2000, 1999, and 1998 net sales; cost of goods sold; gross profit; selling, administrative, and general expenses; and operating income. Do the results present a favorable trend? Comment on the results.

**Ethics case – Writing experience D** Based on the ethics case related to World Auto Parts Corporation, respond in writing to the following questions:

1. Do you agree that the total impact of this practice could be as much as $ 10 million?
2. Are the small suppliers probably better off going along with the practice?
3. Is this practice ethical?

**Group project E** In teams of two or three students, go to the library (or find an annual report at www.sec.gov/edgar.shtml) to locate one merchandising company's annual report for the most recent year. Calculate the company's gross margin percentage for each of the most recent three years. As a team, write a memorandum to the instructor showing your calculations and commenting on the results. The heading of the memorandum should contain the date, to whom it is written, from whom, and the subject matter.

**Group project F** In a team of two or three students, contact a variety of businesses in your area and inquire as to the types of sales discount terms they offer to credit customers and the types of purchase discount terms they are offered by their suppliers. Calculate the approximate annual rate of interest implied in several of the more common discount terms. For instance, the book states that the implied annual rate of interest on terms of 2/10, n/30 is 36 per cent, assuming we use a 360-day year. Present your findings in a written report to your instructor.

**Group project G** In a team of two or three students, obtain access to several annual reports of companies in different industries (see www.sec.gov/edgar.shtml.) Examine their income statements and identify differences in their formats. Discuss these differences within your group and then present your findings in a report to your instructor.

### Using the Internet—A view of the real world

Visit the Fat Brains Toys website at:

http://fatbraintoys.com website

Browse around the site for interesting information. What products do they sell? What journal entries would they make to record sales of these products? Write a report to your instructor summarizing your experience at this site.

# UNIT 6: FINANCIAL REPORTING FOR A MERCHANDISING ENTERPRISE

## ADJUSTING ENTRIES FOR A MERCHANDISING COMPANY

Remember this?

| Accounting Cycle | | |
|---|---|---|
| 1. Analyze Transactions | 5. Prepare Adjusting Journal Entries | 9. Prepare Closing Entries |
| 2. Prepare Journal Entries | 6. Post Adjusting Journal Entries | 10. Post Closing Entries |
| 3. Post journal Entries | 7. Prepare Adjusted Trial Balance | 11. Prepare Post-Closing Trial Balance |
| 4. Prepare Unadjusted Trial Balance | 8. Prepare Financial Statements | |

We learned how the accounting cycle applies to a service company but guess what? The same accounting cycle applies to any business. We spent the last section discussing the journal entries for sales and purchase transactions. Now we will look how the remaining steps are used in a merchandising company. Those wonderful adjusting entries we learned in previous sections still apply.

Adjusting entries reflect unrecorded economic activity that has taken place but has not yet been recorded because it is either more convenient to wait until the end of the period to record the activity, or because no source document concerning that activity has yet come to the accountant's attention. Additionally, periodic reporting and the matching principle necessitate the preparation of adjusting entries. Remember, the matching principle indicates that expenses have to be matched with revenues as long as it is reasonable to do so. To follow this principle, adjusting entries are journal entries made at the end of an accounting period or at any time financial statements are to be prepared to bring about a proper *matching* of revenues and expenses.

Each adjusting entry has a dual purpose: (1) to make the income statement report the proper revenue or expense and (2) to make the balance sheet report the proper asset or liability. Thus, every adjusting entry affects at least one income statement account and one balance sheet account. Adjusting entries fall into two broad classes: accrued (meaning to grow or accumulate) items and deferred (meaning to postpone or delay) items. The entries can be further divided into accrued revenue, accrued expenses, unearned revenue and prepaid expenses.

For a merchandising company, Merchandise Inventory falls under the prepaid expense category since we purchase inventory in advance of using (selling) it. We record it as an asset (merchandise inventory) and record an expense (cost of goods sold) as it is used. The adjusting journal entry we do depends on the inventory method BUT each begins with a physical inventory.

A physical inventory is typically taken once a year and means the actual amount of inventory items is counted by hand.  The physical inventory is used to calculate the amount of the adjustment.

## Perpetual Inventory Method

Under the perpetual inventory method, we compare the physical inventory count value to the unadjusted trial balance amount for inventory.  If there is a difference (there almost always is for a variety of reasons including theft, damage, waste, or error), an adjusting entry must be made.  If the physical inventory is less than the unadjusted trial balance inventory amount, we call this an **inventory shortage**.  This is the most common reason for an adjusting journal entry.

Watch this video online: https://youtu.be/YVVFrXptzTw

The video showed an example of an inventory shortage.  Let's look at another example.  Our company has an unadjusted trial balance in inventory of $45,000 and $150,000 in cost of goods sold.  The physical inventory count came to $43,000.  We have a difference in inventory of $2,000 ($45,000 unadjusted inventory – $43,000 physical count) that needs to be recorded.  We want to reduce our inventory and increase our expense account Cost of Goods Sold.  The journal entry would be:

| Account | Debit | Credit |
|---|---|---|
| Cost of goods sold | 2,000 | |
| Merchandise Inventory | | 2,000 |
| *To adjust inventory to match the physical count.* | | |

When we post this adjusting journal entry, you can see the ending inventory balance matches the physical inventory count and cost of good sold has been increased.

| Account: Merchandise Inventory | Debit | Credit | Balance |
|---|---|---|---|
| Unadjusted Balance | | | 45,000 |
| Adjust for shortage | | 2,000 | **43,000** |

| Account: Cost of goods sold | Debit | Credit | Balance |
|---|---|---|---|
| Unadjusted Balance | | | 150,000 |
| Adjust for shortage | 2,000 | | **152,000** |

On the rare occasion when the physical inventory count is more than the unadjusted inventory balance, we increase (debit) inventory and decrease (credit) cost of goods sold for the difference.

## Periodic Inventory Method

Under the periodic inventory method, we do not record any purchase or sales transactions directly into the inventory account.  The unadjusted trial balance for inventory represents last period's ending balance and includes nothing from the current period.  We have not record any cost of goods sold during the period either.  We will use the physical inventory count as our ending inventory balance and use this to calculate the amount of the adjustment needed.

Watch this video online: https://youtu.be/jgd0HuRHFoY

To determine the cost of goods sold, a company must know:

- Beginning inventory (cost of goods on hand at the beginning of the period).
- Net cost of purchases during the period (purchases + transportation in – purchase discounts – purchase returns and allowances)
- Ending inventory (cost of unsold goods at the end of the period).

To illustrate, Hanlon Food Store had the following unadjusted trial balance amounts:

| Trial Balance Accounts | Debit | Credit |
|---|---|---|
| Merchandise Inventory | 24,000 | |
| Purchases | 167,000 | |
| Purchase discounts | | 3,000 |
| Purchase returns and allowances | | 8,000 |
| Transportation In | 10,000 | |

The unadjusted trial balance amount for inventory represents the ending inventory from last period. In our first adjusting entry, we will close the purchase related accounts into inventory to reflect the inventory transactions for this period. *Remember, to close means to make the balance zero and we do this by entering an entry opposite from the balance in the trial balance.*

| Account | Debit | Credit |
|---|---|---|
| Merchandise Inventory | 166,000 | |
| Purchase discounts | 3,000 | |
| Purchase returns and allowances | 8,000 | |
| Purchases | | 167,000 |
| Transportation In | | 10,000 |
| *To close net purchases into inventory.* | | |

Next we can look at recording cost of goods sold. The beginning inventory is the unadjusted trial balance amount of $24,000. The net cost of purchases for the year is $ 166,000 (calculated as Purchases $167,000 + Transportation In $10,000 – Purchase discounts $3,000 – Purchase returns and allowances $8,000). On December 31, the physical count of merchandise inventory was $ 31,000, meaning that this amount was left unsold. We calculate cost of goods sold as follows:

Beg. Inventory $24,000 + Net Purchases $166,000 – Ending inventory count $31,000 = $159,000 cost of goods sold

The second adjusting journal would increase (debit) cost of goods sold and decrease (credit) inventory for the calculated amount of cost of goods sold and would look like:

| Account | Debit | Credit |
|---|---|---|
| Cost of goods sold | 159,000 | |

| | | |
|---|---|---|
| Merchandise Inventory | | 159,000 |
| *To record cost of goods sold for the period.* | | |

Next we would post these adjusting journal entries. We will look at the how the merchandise inventory account changes based on these transactions. The physical inventory count of $31,000 should match the reported ending inventory balance.

| Account: Merchandise Inventory | Debit | Credit | Balance |
|---|---|---|---|
| Unadjusted Balance | | | 24,000 |
| (1) Close net purchases | 166,000 | | 190,000 |
| (2) Record cost of goods sold | | 159,000 | **31,000** |

Notice how the ending inventory balance equals physical inventory of $31,000 (unadjusted balance $24,000 + net purchases $166,000 – cost of goods sold $159,000).

## Summary

The perpetual inventory method has ONE additional adjusting entry at the end of the period. This entry compares the physical count of inventory to the inventory balance on the unadjusted trial balance and adjusts for any difference. The difference is recorded into cost of goods sold and inventory.

The periodic inventory methods has TWO additional adjusting entries at the end of the period. The first entry closes the purchase accounts (purchases, transportation in, purchase discounts, and purchase returns and allowances) into inventory by increasing inventory. The second entry records cost of goods sold for the period calculated as beginning inventory (unadjusted trial balance amount) + net purchases – ending inventory (physical inventory account) from the inventory account.



# MERCHANDISING FINANCIAL STATEMENTS

A merchandising company uses the same 4 financial statements we learned before: Income statement, statement of retained earnings, balance sheet, and statement of cash flows. The balance sheet used is the classified balance sheet. The income statement for a merchandiser is expanded to include groupings and subheadings necessary to make it easier for investors to read and understand. We will look at the income statement only as the other statements have been discussed previously.

**Multi-Step (or classified) income statement**

In preceding chapters, we illustrated the income statement with only two categories—revenues and expenses. In contrast, a **multi-step income statement** divides both revenues and expenses into operating and nonoperating (other) items. The statement also separates operating expenses into selling and administrative expenses. A multi-step income statement is also called a classified income statement.

Watch this video online: https://youtu.be/YBWrDtBuRkA

The multi-step income statement shows important relationships that help in analyzing how well the company is performing. For example, by deducting cost of goods sold from operating revenues, you can determine by what amount sales revenues exceed the cost of items being sold. If this margin, called gross margin, is lower than desired, a company may need to increase its selling prices and/or decrease its cost of goods sold. The classified income statement subdivides operating expenses into selling and administrative expenses. Thus, statement users can see how much expense is incurred in selling the product and how much in administering the business. Statement users can also make comparisons with other years' data for the same business and with other businesses. Nonoperating revenues and expenses appear at the bottom of the income statement because they are less significant in assessing the profitability of the business.

Management chooses which income statement to present a company's financial data. This choice may be based either on how their competitors present their data or on the costs associated with assembling the data.

The major headings of the classified multi-step income statement are explained below:

- Net Sales are the revenues generated by the major activities of the business—usually the sale of products or services or both less any sales discounts and sales returns and allowances.
- Cost of goods sold is the major expense in merchandising companies and represents what the seller paid for the inventory it has sold.
- Gross margin or gross profit is the net sales – cost of goods sold and represents the amount we charge customers above what we paid for the items. This is also referred to as a company's markup.
- Operating expenses for a merchandising company are those expenses, other than cost of goods sold, incurred in the normal business functions of a company. Usually, operating expenses are either selling expenses or administrative expenses. Selling expenses are expenses a company incurs in selling and marketing efforts. Examples include salaries and commissions of salespersons, expenses for salespersons' travel, delivery, advertising, rent (or depreciation, if owned) and utilities on a sales building, sales supplies used, and depreciation on delivery trucks used in sales. Administrative expenses are expenses a company incurs in the overall management of a business. Examples include administrative salaries, rent (or depreciation, if owned) and utilities on an administrative building, insurance expense, administrative supplies used, and depreciation on office equipment.
- Income from Operations is Gross profit (or margin) – operating expenses and represents the amount of income directly earned by business operations.
- Other revenues and expenses are revenues and expenses not related to the sale of products or services regularly offered for sale by a business. This typically includes interest earned (interest revenue) and interest owed (interest expense).
- Net Income is the income earned after other revenues are added and other expenses are subtracted.

Look at these selected accounts from Hanlon's adjusted trial balance:

| Adjusted Trial Balance | Debit | Credit |
|---|---|---|
| Sales | | 275,000 |
| Sales discounts | 2,000 | |
| Sales returns and allowances | 1,000 | |
| Interest revenue | | 150 |
| Cost of goods sold | 159,000 | |
| Commissions expense | 10,000 | |
| Advertising expense | 7,000 | |
| Sales Salaries expense | 20,000 | |
| Rent expense – sales | 12,000 | |

| | | |
|---|---|---|
| Rent expense – office | 12,000 | |
| Office Salaries expense | 40,000 | |
| Utilities expense | 5,000 | |
| Interest expense | 50 | |

We can prepare Hanlon's Multi-step Income statement as:

| Multi-step Income Statement | | | |
|---|---|---|---|
| For the Year Ended December 31 | | | |
| Sales | | $275,000 | |
| Less: Sales Discounts | 2,000 | | |
| Sales Returns and allowances | 1,000 | 3,000 | |
| Net Sales (275,000 – 3,000) | | | $272,000 |
| Cost of goods sold | | | 159,000 |
| Gross Profit (272,000 – 159,000) | | | $113,000 |
| Operating expenses: | | | |
| Selling expenses | | | |
| Commissions expense | 10,000 | | |
| Advertising expense | 7,000 | | |
| Sales Salaries expense | 20,000 | | |
| Rent expense – sales | 12,000 | | |
| Total Selling expenses | | 49,000 | |
| Administrative expenses | | | |
| Rent expense – office | 12,000 | | |
| Office Salaries expense | 40,000 | | |
| Utilities expense | 5,000 | | |
| Total Admin. Expenses | | 57,000 | |
| Total Operating expenses (49,000 + 57,000) | | | 106,000 |
| **Income from operations** (113,000 – 106,000) | | | **7,000** |
| Other Revenue (Expense) | | | |

| | | | |
|---|---|---|---|
| Interest Revenue | | 150 | |
| Interest Expense | | -50 | |
| Total Other Revenue (expense) (150 – 50) | | | 100 |
| **NET INCOME** (7,000 + 100) | | | **7,100** |

## Reporting Cost of Goods Sold

Cost of goods sold can be reported two ways: as a single line item or as detailed section showing net purchases and calculating cost of goods sold. When using the perpetual inventory method, cost of goods sold is reported as a single line item (as illustrated in video and example above).

Under the periodic method, you can use a single line item in the multi-step income statement with a separate schedule of cost of goods sold OR you can report the cost of goods sold within the income statement itself. The following video reviews the periodic method entries and shows how to complete the cost of goods sold section with in the multi-step income statement.

Watch this video online: https://youtu.be/4-T9njmqKkQ

To illustrate a cost of goods sold statement, Hanlon Food Store had the following unadjusted trial balance amounts:

| | Debit | Credit |
|---|---|---|
| Merchandise Inventory | 24,000 | |
| Purchases | 167,000 | |
| Purchase discounts | | 3,000 |
| Purchase returns and allowances | | 8,000 |
| Transportation In | 10,000 | |

Remember, the merchandise inventory on the unadjusted trial balance is the beginning balance (or ending balance from the previous period. A physical count of inventory on December 31 showed inventory of $31,000 unsold. The Cost of Goods Sold Statement would appear as:

| | | | |
|---|---|---|---|
| Hanlon Food Store | | | |
| Cost of Goods Sold Statement | | | |
| For the year ended December 31 | | | |
| Merchandise Inventory, January 1 | | | 24,000 |
| Purchases | | 167,000 | |
| Less: Purchase discount | 3,000 | | |
| Purchase returns and allowances | 8,000 | 11,000 | |
| Net Purchases (167,000 – 156,000) | | 156,000 | |

| | | | |
|---|---|---|---|
| Add: Transportation In | | 10,000 | |
| Net cost of purchases (156,000 + 10,000) | | | 166,000 |
| Cost of goods available for sale (24,000 + 166,000) | | | 190,000 |
| Less: Merchandise Inventory, December 31 | | | 31,000 |
| Cost of goods sold (190,000 – 31,000) | | | 159,000 |

## Other financial statements

After the income statement is complete, we would use the net income to calculate ending retained earnings on the statement of retained earnings. We would use ending retained earnings in preparing the balance sheet. Finally, we would prepare the statement of cash flows. These financial statements are prepared the same way under either the perpetual or periodic inventory methods.

## Summary

To summarize the important relationships in the income statement of a merchandising firm in equation form:

- **Net sales** = Sales revenue – Sales discounts – Sales returns and allowances.
- **Gross margin** = Net sales – Cost of goods sold.
- **Total Operating Expenses** = Selling expenses + Administrative expenses.
- **Income from operations** = Gross margin – Operating (selling and administrative) expenses.
- **Total other revenues (expenses)** = Other Revenues – Other Expenses
- **Net income** = Income from operations + Other revenues – Other expenses.

Each of these relationships is important because of the way it relates to an overall measure of business profitability. For example, a company may produce a high gross margin on sales. However, because of large sales commissions and delivery expenses, the owner may realize only a very small amount of the gross margin as profit.



# JOURNALIZING CLOSING ENTRIES FOR A MERCHANDISING ENTERPRISE

At this point in the accounting cycle, we have prepared the financial statements. Now we do the last part, the closing entries. The videos in the adjusting entry section gave you a preview into this process but we will discuss it in more detail.

Accounting Cycle

| | | |
|---|---|---|
| 1. Analyze Transactions | 5. Prepare Adjusting Journal Entries | **9. Prepare Closing Entries** |
| 2. Prepare Journal Entries | 6. Post Adjusting Journal Entries | **10. Post Closing Entries** |
| 3. Post journal Entries | 7. Prepare Adjusted Trial Balance | **11. Prepare Post-Closing Trial Balance** |
| 4. Prepare Unadjusted Trial Balance | 8. Prepare Financial Statements | |

The closing entries will be a review as the process for closing does not change for a merchandising company. Do you remember why we do closing entries? They are the journal entry version of the statement of retained earnings to ensure the balance we report on the statement of retained earnings and the balance sheet matches the ending balance of retained earnings in our general ledger. Closing entries also set the balances of all temporary accounts (revenues, expenses, dividends) to zero for the next period.

If the process is the same, why do we need to review it? We have many new accounts learned for a merchandiser and we want to see how they fit into the closing process. The new accounts remaining for a merchandiser after adjusting entries are:

| Account | Account Type |
|---|---|
| Sales Revenue | Revenue |
| Sales Discount* | Revenue |
| Sales Returns and Allowances* | Revenue |
| Cost of Goods Sold | Expense |
| Delivery Expense | Expense |

Revenue accounts typically have normal credit balances (credit to increase, debit to decrease) but Sales Discounts and Sales Returns and Allowances are contra-accounts because they are revenue accounts but have normal debit balances (debit to increase, credit to decrease). Expenses have normal debit balances.

The four basic steps in the closing process are modified slightly:

- **Closing the revenue accounts with credit balances**—transferring the credit balances in the revenue accounts to a clearing account called Income Summary.
- **Closing the expense accounts and contra-revenue accounts**—transferring the debit balances in the expense accounts and contra-revenue accounts to a clearing account called Income Summary.
- **Closing the Income Summary account**—transferring the balance of the Income Summary account to the Retained Earnings account (this should always equal net income or loss from the income statement).
- **Closing the Dividends account**—transferring the debit balance of the Dividends account to the Retained Earnings account.

To illustrate, let's look at the adjusted trial balance from Hanlon from the previous section:

| Adjusted Trial Balance | Debit | Credit |
|---|---|---|
| Retained Earnings | 25,000 | |
| Dividends* | 8,000 | |
| Sales Revenue | | 275,000 |

| | | |
|---|---|---|
| Sales discounts* | 2,000 | |
| Sales returns and allowances* | 1,000 | |
| Interest revenue | | 150 |
| Cost of goods sold | 159,000 | |
| Commissions expense | 10,000 | |
| Advertising expense | 7,000 | |
| Sales Salaries expense | 20,000 | |
| Rent expense – sales | 12,000 | |
| Rent expense – office | 12,000 | |
| Office Salaries expense | 40,000 | |
| Utilities expense | 5,000 | |
| Interest expense | 50 | |

*Contra-accounts

We will prepare the closing entries for Hanlon. Remember to close means to make the balance zero. To do this, we will do the opposite of the balance in the adjusted trial balance in a journal entry and use Income Summary to balance the entry.

1. **Close the revenue accounts with credit balances.** We have 2 revenue accounts with a credit balance, Sales Revenue (or Sales) and Interest Revenue.

| Account | Debit | Credit |
|---|---|---|
| Sales Revenue | 275,000 | |
| Interest Revenue | 150 | |
| Income Summary | | 275,150 |
| *To close revenue accounts with credit balances.* | | |

2. **Close contra-revenue accounts and expense accounts with debit balances.** We will close sales discounts, sales returns and allowances, cost of goods sold, and all other operating and nonoperating expenses.

| Account | Debit | Credit |
|---|---|---|
| Income Summary | 268,050 | |
| Sales Discounts | | 2,000 |
| Sales Returns and Allowances | | 1,000 |
| Cost of Goods Sold | | 159,000 |

| | | |
|---|---|---|
| Commissions Expense | | 10,000 |
| Advertising Expense | | 7,000 |
| Sales Salaries Expense | | 20,000 |
| Rent Expense – Sales | | 12,000 |
| Rent Expense – Office | | 12,000 |
| Office Salaries Expense | | 40,000 |
| Utilities Expense | | 5,000 |
| Interest Expense | | 50 |
| *To close contra-revenue and expense accounts.* | | |

**3. Close income summary into retained earnings.** We will take the difference between income summary in step 1 $275,150 and subtract the income summary balance in step 2 $268,050 to get the adjustment amount of $7,100. *This should always match net income calculated on the income statement.*

| Account | Debit | Credit |
|---|---|---|
| Income Summary (275,150 – 268,050) | 7,100 | |
| Retained Earnings | | 7,100 |
| *To close net income into retained earnings.* | | |

**4. Close the debit balance of dividends into retained earnings.** Remember, dividends are earnings of the company given back to the owner and will reduce retained earnings. Retained earnings is an equity account and is decreased with a debit. Dividends is a contra-account because it is an equity account but has a normal debit balance. *Do not use the retained earnings balance in this entry!*

| Account | Debit | Credit |
|---|---|---|
| Retained Earnings | 8,000 | |
| Dividends | | 8,000 |
| *To close dividends into retained earnings.* | | |

To check our work, the Statement of Retained Earnings would look like this:

| Hanlon Food Store | |
|---|---|
| Statement of Retained Earnings | |
| For Year Ended December 31 | |
| Retained Earnings, January 1 | 25,000 |
| Add: Net Income | 7,100 |

| | |
|---|---|
| Less: Dividends | (8,000) |
| **Retained Earnings, December 31** | **24,100** |

When we post the closing entries to the general ledger, the revenues, expenses and dividends accounts are all zero.  The retained earnings ledger card would look like:

| Account: Retained Earnings | Debit | Credit | Balance |
|---|---|---|---|
| Beginning Balance | | | 25,000 |
| (3) Close income summary | | 7,100 | 32,100 |
| (4) Close dividends | 8,000 | | **24,100** |

The final step in the merchandising accounting cycle would be to prepare a post-closing trial balance.  The post closing trial balance will contain assets, liabilities, common stock and the new ending balance calculated for retained earnings.



# IMPACTS OF INVENTORY ERRORS ON FINANCIAL STATEMENTS

## Importance of proper inventory valuation

A merchandising company can prepare accurate income statements, statements of retained earnings, and balance sheets only if its inventory is correctly valued. On the income statement, the cost of inventory sold is recorded as cost of goods sold. Since the cost of goods sold figure affects the company's net income, it also affects the balance of retained earnings on the statement of retained earnings. On the balance sheet, incorrect inventory amounts affect both the reported ending inventory and retained earnings. Inventories appear on the balance sheet under the heading "Current Assets", which reports current assets in a descending order of liquidity. Because inventories are consumed or converted into cash within a year or one operating cycle, whichever is longer, inventories usually follow cash and receivables on the balance sheet.

Recall that in each accounting period, the appropriate expenses must be matched with the revenues of that period to determine the net income. Applied to inventory, matching involves determining (1) how much of the cost of goods available for sale during the period should be deducted from current revenues and (2) how much should be allocated to goods on hand and thus carried forward as an asset (merchandise inventory) in the balance sheet to be matched against future revenues.  Net income for an accounting period depends directly on the valuation of ending inventory. This relationship involves three items:

- First, a merchandising company must be sure that it has properly valued its ending inventory. If the ending inventory is overstated, cost of goods sold is understated, resulting in an overstatement of gross margin and net income. Also, overstatement of ending inventory causes current assets, total assets, and retained earnings to be overstated. Thus, any change in the calculation of ending inventory is reflected, dollar for dollar (ignoring any income tax effects), in net income, current assets, total assets, and retained earnings.

- Second, when a company misstates its ending inventory in the current year, the company carries forward that misstatement into the next year. This misstatement occurs because the ending inventory amount of the current year is the beginning inventory amount for the next year.
- Third, an error in one period's ending inventory automatically causes an error in net income in the opposite direction in the next period. After two years, however, the error washes out, and assets and retained earnings are properly stated.

Thus, in contrast to an overstated ending inventory, resulting in an overstatement of net income, an overstated beginning inventory results in an understatement of net income. If the beginning inventory is overstated, then cost of goods available for sale and cost of goods sold also are overstated. Consequently, gross margin and net income are understated. Note, however, that when net income in the second year is closed to retained earnings, the retained earnings account is stated at its proper amount. The overstatement of net income in the first year is offset by the understatement of net income in the second year. For the two years combined the net income is correct. At the end of the second year, the balance sheet contains the correct amounts for both inventory and retained earnings. Exhibit 3 summarizes the effects of errors of inventory valuation:

| Account | Inventory Error | |
|---|---|---|
| Cost of goods sold | Overstated | Understated |
| Net Income | Understated | Overstated |
| Ending Inventory | Understated | Overstated |

Exhibit 3: Inventory errors

# ACCOUNTING IN THE HEADLINES

## What is the gross margin on the Apple iPhone 5S and 5C?

According to the GottaBe Mobile website in September 2013, the Apple iPhone 5S with 16 GB memory sells off-contract for $649, while the iPhone 5C with 16 GB memory sells off-contract for $549.  The same phones with 32 GB memory sell off-contract for $749 and $649.

According to Bloomberg Businessweek and IHS iSuppli, the iPhone 5S model with 16 GB memory costs $199 to produce.  IHS iSuppli also reports that the 5C model of the iPhone (also with 16 GB of memory) costs $166 to produce. An extra 16 GB of memory for each phone (to bring it to a total of 32 GB memory) costs Apple about $0.71 per GB.

Questions

1. Calculate the gross margin (or profit) in dollars for each of the following phone models/configurations:

- iPhone 5S with 16 GB memory
- iPhone 5S with 32 GB memory
- iPhone 5C with 16 GB memory
- iPhone 5C with 32 GB memory

2. Calculate the gross margin in percentage (gross margin in dollars / sales) for each of the following phone models/configurations:

- iPhone 5S with 16 GB memory
- iPhone 5S with 32 GB memory
- iPhone 5C with 16 GB memory
- iPhone 5C with 32 GB memory

3. Which phone model is most profitable for Apple?

4. Apple has made a conscious decision to not make its phones' memory cards swappable (i.e., the phone owner cannot purchase a larger memory card at a later date to give the phone more memory).  The consumer must upgrade to an entire new phone if additional memory is needed at a later date.  Why do you think Apple has made this choice?  Do you think Apple's decision is ethical and sustainable?  Provide your rationale for your answer.

# EXERCISES: UNIT 6

## SHORT ANSWER QUESTIONS, EXERCISES AND PROBLEMS

### Questions

➢ Sales discounts and sales returns and allowances are deducted from sales on the income statement to arrive at net sales. Why not deduct these directly from the Sales account by debiting Sales each time a sales discount, return, or allowance occurs?

➢ What useful purpose does the Purchases account serve?

➢ What type of an expense is delivery expense? Where is this expense reported in the income statement?

➢ How does the accountant arrive at the total dollar amount of the inventory after taking a physical inventory?

➢ How is cost of goods sold determined under periodic inventory procedure?

➢ If the cost of goods available for sale and the cost of the ending inventory are known, what other amount appearing on the income statement can be calculated?

➢ What are the major sections in a multi-step income statement for a merchandising company, and in what order do these sections appear?

➢ What is gross margin? Why might management be interested in the percentage of gross margin to net sales?

➢ How are adjusting entries different under perpetual and periodic inventory methods?

➢ After closing entries are posted to the ledger, which types of accounts have balances? Why?

Exercises

**Exercise 1 (periodic)** Cramer Company uses periodic inventory procedure. Determine the cost of goods sold for the company assuming purchases during the period were $ 40,000, transportation-in was $ 300, purchase returns and allowances were $ 1,000, beginning inventory was $ 25,000, purchase discounts were $ 2,000, and ending inventory was $ 13,000.

**Exercise 2** In each case, use the following information to calculate the missing information:

| | Case 1 | Case 2 | Case 3 |
|---|---|---|---|
| Gross sales | $ 640,000 | $ ? | $ ? |
| Sales discounts | ? | 25,600 | 19,200 |
| Sales returns and allowances | 19,200 | 44,800 | 32,000 |
| Net sales | 608,000 | 1,209,600 | ? |

| | | | |
|---|---|---|---|
| Merchandise inventory, January 1 | 256,000 | ? | 384,000 |
| Purchases | 384,000 | 768,000 | |
| Purchase discounts | 7,680 | 13,440 | 12,800 |
| Purchase returns and allowances | 24,320 | 31,360 | 32,000 |
| Net purchases | 352,000 | ? | 672,000 |
| Transportation-in | 25,600 | 38,400 | 32,000 |
| Net cost of purchases | 377,600 | 761,600 | ? |
| Cost of goods available for sale | ? | 1,081,600 | 1,088,000 |
| Merchandise inventory, December 31 | ? | 384,000 | 448,000 |
| Cost of goods sold | 320,000 | ? | 640,000 |
| Gross margin | ? | 512,000 | 320,000 |

Exercise 3 In each of the following equations supply the missing term(s):

1. Net sales = Gross sales – (______________________ + Sales returns and allowances).
2. Cost of goods sold = Beginning inventory + Net cost of purchases – ________ ________.
3. Gross margin = ________ ________ – Cost of goods sold.
4. Income from operations = __________ _________ – Operating expenses.
5. Net income = Income from operations + _________ ________ – ________ ________.

**Exercise 4 (periodic)** A partial trial balance is presented below. The ending physical count of inventory is $96. Prepare the 2 adjusting entries required under the periodic inventory method.

| Trial Balance | | |
|---|---|---|
| | Debit | Credit |
| Merchandise Inventory | 120 | |
| Sales | | S40 |
| Sales Discounts | 18 | |
| Sales Returns and Allowances | 45 | |
| Purchases | 600 | |
| Purchase Discounts | | 12 |
| Purchase Returns and Allowances | | 24 |
| Transportation-In | 36 | |

**Exercise 5 (perpetual)** Under the perpetual inventory method, prepare the adjusting entry for inventory if ending merchandise inventory is $101,000 and the physical count of inventory is $96,000.

**Problems**

**Problem 1 (periodic)** The following data are for Leone Lumber Company:

| Leone Lumber Company | | |
|---|---|---|
| Trial Balance | | |
| As of December 31 | | |
| | Debit | Credit |
| Cash | 70,640 | |
| Accounts Receivable | 159,520 | |
| Merchandise Inventory, January 1 | 285,200 | |
| Supplies on Hand | 5,360 | |
| Prepaid Insurance | 4,800 | |
| Prepaid Rent | 57,600 | |
| Equipment | 88,000 | |
| Accumulated Depreciation—Equipment | | 17,600 |
| Accounts Payable | | 102,800 |
| Capital Stock | | 200,000 |
| Retained Earnings, January 1 | | 219,640 |
| Sales | | 1,122,360 |
| Sales Returns and Allowances | 5,160 | |
| Interest Revenue | | 1,000 |
| Purchases | 500,840 | |
| Purchases Returns and Allowances | | 4,040 |
| Transportation-In | 7,840 | |
| Advertising Expense | 78,000 | |
| Sales Salaries Expense | 138,400 | |
| Office Salaries Expense | 80,800 | |

| | | |
|---|---|---|
| Officers' Salaries Expense | 160,000 | |
| Utilities Expense | 4,800 | |
| Legal and Accounting Expense | 10,000 | |
| Interest Expense | 600 | |
| Miscellaneous Administrative Expense | 9,880 | |
| TOTALS | 1,667,440 | 1,667,440 |

- A total of $3,400 of the prepaid insurance has expired.
- An inventory of supplies showed that $1,700 are still on hand.
- Prepaid rent expired during the year is $ 50,600.
- Depreciation expense on store equipment is $8,800.
- Accrued sales salaries are $4,000.
- Accrued office salaries are $3,000.
- Merchandise inventory on hand is $350,000.

Prepare the following:

1. The adjusting entries required under the periodic inventory method.
2. A multi-step income statement showing the detailed calculation of cost of goods sold. The only selling expenses are sales salaries, advertising, supplies, and depreciation expense—equipment.
3. A statement of retained earnings.
4. The required closing entries.

**Problem 2 (perpetual)** The following data are for Bayer Lamp Company:

| Bayer Lamp Company | | |
|---|---|---|
| Trial Balance | | |
| December 31 | | |
| Account Title | Debits | Credits |
| | | |
| Cash | $ 228,800 | |
| Accounts Receivable | 193,200 | |
| Merchandise Inventory | 222,000 | |
| Prepaid Insurance | 11,600 | |
| Land | 240,000 | |
| Building | 440,000 | |
| Accumulated Depreciation – Building | | $ 132,000 |
| Store Fixtures | 222,400 | |

| | | |
|---|---|---|
| Accumulated Depreciation – Store Fixtures | | 44,480 |
| Accounts Payable | | 151,600 |
| Common Stock | | 400,000 |
| Retained Earnings, January 1 | | 480,720 |
| Sales | | 2,206,000 |
| Sales Discounts | 14,800 | |
| Sales Returns and Allowances | 8,000 | |
| Interest Revenue | | 1,600 |
| Cost of Goods Sold | 1,209,200 | |
| Advertising Expense | 48,000 | |
| Sales Salaries Expense | 256,000 | |
| Office Salaries Expense | 296,000 | |
| Delivery Expense | 18,400 | |
| Interest Expense | 8,000 | |
| Totals | $ 3,416,400 | $ 3,416,400 |

- Depreciation expense on the store building is $8,800.
- Depreciation expense on the store fixtures is $22,240.
- Accrued sales salaries are $5,600.
- Insurance expired for the year is $10,000.
- Cost of merchandise inventory on hand December 31 is $221,000.

Prepare the following:

1. The required adjusting journal entries under the perpetual inventory method.
2. A multi-step income statement. The only administrative expenses are office salaries and insurance. The building depreciation is on the store building.
3. A statement of retained earnings.
4. The required closing entries.

**Comprehensive problems**

**Alternate problem 1 (perpetual)** Gardner Company engaged in the following transactions in June, the company's first month of operations:

June 1 Stockholders invested $ 384,000 cash and $ 144,000 of merchandise inventory in the business in exchange for capital stock.

3 Merchandise was purchased on account, $ 192,000; terms 2/10, n/30, FOB shipping point.

4 Paid height on the June 3 purchase, $ 5,280.

7 Merchandise was purchased on account, $ 96,000; terms 2/10, n/30, FOB destination.

10 Sold merchandise on account, $ 230,400; terms 2/10, n/30, FOB shipping point.

11 Returned $ 28,800 of the merchandise purchased on June 3.

12 Paid the amount due on the purchase of June 3.

13 Sold merchandise on account, $ 240,000; terms 2/10, n/30, FOB destination.

14 Paid height on sale of June 13, $ 14,400.

20 Paid the amount due on the purchase of June 7.

21 $ 48,000 of the goods sold on June 13 were returned for credit.

22 Received the amount due on sale of June 13.

25 Received the amount due on sale of June 10.

29 Paid rent for the administration building for June, $ 19,200.

30 Paid sales salaries of $ 57,600 for June.

30 Purchased merchandise on account, $ 48,000; terms 2/10, n/30, FOB destination.

1. Prepare journal entries for the transactions using the perpetual inventory method.
2. Post the journal entries to the proper ledger accounts.
3. Prepare an adjusting entry for inventory (if needed). The physical inventory on June 30 was $288,000.
4. Prepare an adjusted trial balance as of June 30.
5. Prepare a multi-step income statement for the month ended June 30.
6. Prepare a statement of retained earnings.
7. Prepare a classified balance sheet.
8. Prepare the required closing entries.

**Alternate problem 2 (periodic)** Organized on May 1, Noah Cabinet Company engaged in the following transactions:

May 1 The stockholders invested $ 900,000 in this new business by purchasing capital stock.

1 Purchased merchandise on account from String Company, $ 46,800; terms n/60, FOB shipping point, freight collect.

3 Sold merchandise for cash, $ 28,800.

6 Paid transportation charges on May 1 purchase, $ 1,440 cash.

7 Returned $ 3,600 of merchandise to String Company due to improper size.

10 Requested and received an allowance of $ 1,800 from String Company for improper quality of certain items.

14 Sold merchandise on account to Texas Company, $ 18,000; terms 2/20, n/30, FOB shipping point, freight collect.

16 Issued cash refund for return of merchandise relating to sale made on May 3, $ 180.

18 Purchased merchandise on account from Tan Company invoiced at $ 28,800; terms 2/15, n/30, FOB shipping point, freight collect.

18 Received a bill for freight charges of $ 900 from Ball Trucking Company on the purchase from Tan Company.

19 Texas Company returned $ 360 of merchandise purchased on May 14.

24 Returned $ 2,880 of defective merchandise to Tan Company. Received full credit.

28 Texas Company remitted balance due on sale of May 14.

31 Paid Tan Company for the purchase of May 18 after adjusting for transaction of May 24.

31 Paid miscellaneous selling expenses of $ 7,200.

31 Paid miscellaneous administrative expenses of $ 10,800.

From the data for Noah Cabinet Company:

1. Journalize the transactions using the periodic inventory method. Round all amounts to the nearest dollar.
2. Post the entries to the proper ledger accounts.
3. Prepare an unadjusted trial balance.
4. Prepare the adjusting entries required under the periodic inventory method. The May 31st inventory was $57,600.
5. Prepare a multi-step income statement for the month ended May 31 showing the detailed cost of goods sold calculation.
6. Prepare a statement of retained earnings.
7. Prepare a classified balance sheet.
8. Prepare the closing entries.

Beyond the numbers—Critical thinking

Business decision case A Candy's Shirts, Inc., has an opportunity to purchase 40,000 shirts with the logo of her favorite school in January 2009. Candy, who is not currently in business, is considering buying these shirts and then renting a display cart from which to sell these shirts (called a kiosk) in a shopping mall. Based on the following information and estimates, Candy needs to decide if the business would be profitable:

- Cost of the 40,000 shirts, all of which must be purchased in January 2009, is $ 440,000.
- Candy thinks it would take two years to sell all of the shirts. She estimates her sales at 25,000 shirts in 2009 and 15,000 shirts in 2010.
- Rent of the kiosk would be $ 1,500 per month in 2009 and $ 1,600 per month in 2010.
- Candy can buy some counters on which to display the merchandise for $ 4,000. She could sell the counters for $ 500 at the end of the second year.
- Candy estimates the cost to decorate her kiosk would be $ 2,500.
- Candy would hire employees and pay them $ 1 per shirt sold.
- Candy plans to sell the shirts for $ 17 each.
- Candy and her husband purchased $ 100,000 of capital stock in the business. Therefore, she plans to borrow $ 400,000 from their family banker. Interest expense on this loan will be $ 52,000 in 2009 and $ 6,500 in 2010. Candy plans to repay $ 300,000 on 2010 January 2, and the remaining $ 100,000 on 2010 July 1
- Candy needs to rent some storage space because all 40,000 shirts cannot be stored at the kiosk. Storage space costs $ 2,500 per year.

1. Prepare estimated income statements for 2009 and 2010 for Candy's business. Does it appear that the business will be profitable?
2. Will Candy have the cash available to pay the bank loan as she planned?

Business decision case B In the Annual report appendix, refer to the consolidated statements of earnings for The Limited's most recent three years. Calculate the gross margin percentage and write an explanation of what the results mean for each of the three years.

Annual report analysis C Refer to the consolidated statements of income of The Limited in the Annual report appendix. Identify the 2000, 1999, and 1998 net sales; cost of goods sold; gross profit; selling, administrative, and general expenses; and operating income. Do the results present a favorable trend? Comment on the results.

Ethics case – Writing experience D Based on the ethics case related to World Auto Parts Corporation, respond in writing to the following questions:

1. Do you agree that the total impact of this practice could be as much as $ 10 million?
2. Are the small suppliers probably better off going along with the practice?
3. Is this practice ethical?

Group project E In teams of two or three students, go to the library (or find an annual report at www.sec.gov/edgar.shtml) to locate one merchandising company's annual report for the most recent year. Calculate the company's gross margin percentage for each of the most recent three years. As a team, write a memorandum to the instructor showing your calculations and commenting on the results. The heading of the memorandum should contain the date, to whom it is written, from whom, and the subject matter.

Group project F In a team of two or three students, contact a variety of businesses in your area and inquire as to the types of sales discount terms they offer to credit customers and the types of purchase discount terms they are offered by their suppliers. Calculate the approximate annual rate of interest implied in several of the more common discount terms. For instance, the book states that the implied annual rate of interest on terms of 2/10, n/30 is 36 per cent, assuming we use a 360-day year. Present your findings in a written report to your instructor.

Group project G In a team of two or three students, obtain access to several annual reports of companies in different industries (see www.sec.gov/edgar.shtml.) Examine their income statements and identify differences in their formats. Discuss these differences within your group and then present your findings in a report to your instructor.

Using the Internet—A view of the real world

Visit the Fat Brains Toys website at:

http://fatbraintoys.com website

Browse around the site for interesting information. What products do they sell? What journal entries would they make to record sales of these products? Write a report to your instructor summarizing your experience at this site.

# UNIT 7: INVENTORY VALUATION METHODS

## MERCHANDISE INVENTORY

### LEARNING OBJECTIVES

You will be able to describe the basis for inventory valuation and  you will be able to:

- Define merchandise inventory.
- Calculate ending inventory and cost of goods sold under the *periodic* inventory system using FIFO, LIFO, Weighted Average and Specific Identification methods.
- Describe factors considered when selecting and inventory method and the effects of such a selection on the financial statements.
- Apply the lower-of-cost-or-market rule.
- Explain internal control issues and procedures for inventory.
- Describe the impact of inventory errors on financial statements.
- Calculate ending inventory and cost of goods sold under the *perpetual* inventory system using FIFO, LIFO, and Weighted Average methods.

What is merchandise inventory?  Watch this short video to find out.

Watch this video online: https://youtu.be/yB-J2mFntWs

Inventory is often the largest and most important asset owned by a merchandising business. The inventory of some companies, like car dealerships or jewelry stores, may cost several times more than any other asset the company owns. As an asset, the inventory figure has a direct impact on reporting the solvency of the company in the balance sheet. As a factor in determining cost of goods sold, the inventory figure has a direct impact on the profitability of the company's operations as reported in the income statement. Thus, the importance of the inventory figure should not be underestimated.

# INVENTORY METHODS FOR ENDING INVENTORY AND COST OF GOODS SOLD

Cost of goods sold and Inventory

Remember, cost of goods sold is the cost to the seller of the goods sold to customers. Cost of Goods Sold is an EXPENSE item. Even though we do not see the word Expense this in fact is an expense item found on the Income Statement as a *reduction to Revenue*. For a merchandising company, the cost of goods sold can be relatively large. All merchandising companies have a quantity of goods on hand called merchandise inventory to sell to customers. Merchandise inventory (or inventory) is the quantity of goods available for sale at any given time.

You will now learn how to calculate the Cost of Goods Sold using 4 different methods.

The 4 methods of Cost of Goods Sold you will learn are:

- FIFO (First in, First out) – this means you will use the OLDEST inventory first to fill orders. This also means the oldest costs will appear in Cost of Goods Sold (since this is an Expense account this also means oldest costs will appear in the Income Statement). The most recent costs are shown in the Inventory asset account balances and are provided on the Balance Sheet. This is an advantage because you are now reporting Inventory at the current cost which better reflects what it would cost to replace inventory if that would become necessary due to a disaster. FIFO shows the actual flow of goods…typically you will sell the oldest inventory before the newest inventory.
- LIFO (Last in, First out) – this means you will use the MOST RECENT inventory first to fill orders. Cost of goods sold will reflect the current or most recent costs and are a better representation of matching since you are matching revenue will current costs of the inventory. The Balance Sheet will show inventory at the oldest inventory costs and may not represent current market value.
- Weighted Average (also called Average Cost) – this method is best used when the prices change from purchase to purchase and you want consistency. The weighted average method smooths out price changes so you have a steady stream of cost instead of sharp increases and decreases. You will calculate a new Average Cost after each Purchase (Sales will not change the average cost).
- Specific Identification – clearly, this will be your favorite method…it is the easiest to calculate in our examples because it specifically tells you which purchases inventory comes from. This is most often used for high priced inventory – think car sales for example. When a car dealership purchases a blue BMW convertible for $20,000 and later sells it for $60,000…they will want to show the exact cost of the BMW it sold as opposed to the cost of another car. So, specific identification exactly matches the costs of the inventory with the revenue it creates.

Okay, enough theory – how do these calculations work exactly? There are a couple of ways you can do them – there is an Inventory Record or a shortcut calculation. You will see both because they are both beneficial. Most computer systems will show you the Inventory Record form so you need to understand how to read it. However, it can be time consuming and not practical for homework and test situations so you learn the alternative method as well. ***We will be using the perpetual inventory system in these examples which constantly updates the inventory account balance to reflect inventory on hand.***

When calculating the Cost of Goods Sold for a sale, you must *IGNORE* the selling price. The selling price has NOTHING to do with the cost. We are trying to determine how much the items we sold originally COST us – that is the purpose behind cost of goods sold. Next thing to remember, you can only use items that occurred BEFORE the sale (meaning, you cannot use a purchase from August 28 when calculating cost of goods sold on August 14 – why? It hasn't happened yet). We will pick inventory from the different purchases and use the purchase price to calculate the cost of goods sold.

FIFO (First in, First Out)

Under the FIFO method, we will use the oldest inventory *at the time of the sale* first. You must calculate Cost of Goods Sold for each sale individually. Watch this video on the FIFO Method.

Watch this video online: https://youtu.be/BkxcgocMUVo

Using the inventory record format, the transactions from the video would look like this under the FIFO method:

| Date | Goods Purchased | Cost of Goods Sold | Inventory Balance (or Ending Inventory) |
|---|---|---|---|
| Jan 1 | Beginning Balance | | 300 units x $10 = $3,000 |
| Jan 2 | 200 x $15 = $3,000 | | 300 units x $10 = $3,000 (from Jan 1)<br>200 units x $15 = $3,000 (from Jan 2)<br>TOTALS 500 units $6,000<br>(sum of purchases to date, $3,000 +$ 3,000) |
| Jan 8 | | 300 units x $10 = $3,000 (from Jan 1)<br>Total COGS for 300 units $ 3,000 | 200 units x $15 = $3,000<br>(beg inventory is zero and the Jan 2 purchase remains) |
| Jan 11 | 100 x $17 = $1,700 | | 200 units x $15 = $3,000 (from Jan 2)<br>100 units x $17 = $1,700 (from Jan 11)<br>TOTALS 300 units $4,700 |
| Jan 15 | | 200 units x $15 = $3,000 (from Jan 2)<br>50 units x $17 = $850 (from Jan 11)<br>TOTAL COGS for 250 units $3,850 | 50 units x $17 = $850 (from Jan 11)<br>(Jan 2 purchase has been used and 50 units from the Jan 11 purchase remains) |
| Jan 18 | 300 x $20 = $6,000 | | 50 units x $17 = $850 (from Jan 11)<br>300 units x $20 = $6,000<br>TOTALS (End. Inventory) 350 Units $6,850 |

Total cost of goods sold for January would be $6,850 (3,000 + 3,850). Sales would be Jan 8 Sales ( 300 units x $30) $9,000 + Jan 11 Sales (250 units x $40) $10,000 or $19,000. The gross profit (or margin) would be $12,150 ($19,000 Sales – 6,850 cost of goods sold). The journal entries for these transactions would be (assuming all transactions on credit):

*Note: No journal entry is prepared for beginning inventory since it is a rollover from last period's ending balance.*

| Date | Account | Debit | Credit |
|---|---|---|---|
| Jan 2 | Merchandise Inventory | 3,000 | |
| | Accounts Payable | | 3,000 |

| | | | |
|---|---|---|---|
| Jan 8 | Accounts Receivable | 9,000 | |
| | Sales | | 9,000 |
| | Cost of goods sold | 3,000 | |
| | Merchandise Inventory | | 3,000 |
| Jan 11 | Merchandise Inventory | 1,700 | |
| | Accounts Payable | | 1,700 |
| Jan 15 | Accounts Receivable | 10,000 | |
| | Sales | | 10,000 |
| | Cost of goods sold | 3,850 | |
| | Merchandise Inventory | | 3,850 |
| Jan 18 | Merchandise Inventory | 6,000 | |
| | Accounts Payable | | 6,000 |

LIFO (Last in, First out)

Under the LIFO method, we will use **most recent purchases** *at the time of the sale* first. You must calculate Cost of Goods Sold for each sale individually. Let's look at the this video:

Watch this video online: https://youtu.be/FcCINxN_oH8

Using the inventory record format, the transactions from the video would look like this under the LIFO method:

| Date | Goods Purchased | Cost of Goods Sold | Inventory Balance (or Ending Inventory) |
|---|---|---|---|
| Jan 1 | Beginning Balance | | 300 units x $10 = $3,000 |
| Jan 2 | 200 x $15 = $3,000 | | 300 units x $10 = $3,000 (from Jan 1)<br><br>200 units x $15 = $3,000 (from Jan 2)<br><br>TOTALS 500 units $6,000<br><br>(sum of purchases to date, $3,000 +$ 3,000) |
| Jan 8 | | 200 units x $15 = $3,000 (from Jan 2)<br><br>100 units x $10 = $1,000 (from Jan 1) | 200 units x $10 = $2,000 (from Jan 1)<br><br>(Jan 2 purchase has been used and 200 units from Jan 1 remain) |

| | | | |
|---|---|---|---|
| | | Total COGS for 300 units $ 4,000 | |
| Jan 11 | 100 x $17 = $1,700 | | 200 units x $10 = $2,000 (from Jan 1)<br><br>100 units x $17 = $1,700 (from Jan 11)<br><br>TOTALS 300 units $3,700 |
| Jan 15 | | 100 units x $17 = $1,700 (from Jan 11)<br><br>150 units x $10 = $1,500 (from Jan 1)<br><br>TOTAL COGS for 250 units $3,200 | 50 units x $10 = $500 (from Jan 1)<br><br>(Jan 11 purchase has been used and 50 units from the Jan 1 beg bal remains) |
| Jan 18 | 300 x $20 = $6,000 | | 50 units x $10 = $500 (from Jan 1)<br><br>300 units x $20 = $6,000<br><br>TOTALS (End. Inventory) 350 Units $6,500 |

Total cost of goods sold for the month would be $7,200 (4,000 + 3,200). Since total Sales would the same as we calculated above Jan 8 Sales ( 300 units x $30) $9,000 + Jan 11 Sales (250 units x $40) $10,000 or $19,000. The gross profit (or margin) would be $11,800 ($19,000 Sales – 7,200 cost of goods sold). The journal entries for these transactions would be would be the same as show above the only thing changing would be the AMOUNT of cost of goods sold used in the Jan 8 and Jan 15 entries.

Weighted Average (or Average Cost)

The Weighted Average method strives to smooth out price changes during the period. To do this, we will calculate an average cost of inventory at the end of the month under the periodic method (perpetual method calculates average cost of inventory after each purchase). Sales of inventory will not affect the average cost of inventory. It does NOT matter which purchase the inventory comes from when using the average cost method. Instead, we will use the average cost calculated to determine cost of goods sold for any sales transactions. Average Cost is calculated by taking the TOTAL COST of INVENTORY / TOTAL INVENTORY QUANITY. Let's look at a video:

Watch this video online: https://youtu.be/7oNqWQhK3b8

The Inventory Record for this information in the video would be:

| | Purchases | Cost of goods sold | Inventory Balance | Avg Cost | |
|---|---|---|---|---|---|
| Jan 1 | | | 300 units $3,000 | $10.00 | ($3,000 / 300 units) |
| Jan 2 | 200 units x $15 = $3,000 | | 500 units $6,000<br><br>(add Jan 1 and Jan 2 together) | $12.00 | ($6,000 / 500 units) |
| Jan 8 | | 300 units x $12 avg cost = $3,600 | 200 units $2,400<br><br>(take Jan 2 balance – Jan 8 cogs) | | |

| | | | | | |
|---|---|---|---|---|---|
| Jan 11 | 100 units x $17 = $1,700 | | 300 units $4,100<br><br>(add Jan 8 balance and Jan 11 purchase) | 13.67<br><br>(rounded) | ($4,100 / 300 units) |
| Jan 15 | | 250 units x $13.67 avg cost = $3,417.50 | 50 units $682.50**<br><br>(take Jan 11 balance – Jan 15 cogs) | | |
| Jan 16 | 300 units x $20 = $6,000 | | 350 units $6,682.50<br><br>(add Jan 15 balance and Jan 16 purchase) | 19.09 (rounded) | ($6,682.50 / 350 units) |

***Jan 15 and 16 off a little from the information in the video due to rounding of the average cost*.

Total cost of goods sold for January would be $7,017.50 ($3600 + 3,417.50). Since total Sales would the same as we calculated before $19,000. The gross profit (or margin) would be $11,982.50 ($19,000 Sales – 7017.50 cost of goods sold). The journal entries for these transactions would be would be the same as show above the only thing changing would be the AMOUNT of cost of goods sold used in the Jan 8 and Jan 15 entries.

Specific Identification

Finally, the last method – we are saving the easiest one for last. Specific identification will tell you exactly which purchase to use when determining cost.

Easy, huh? No guess work, no hard thinking – just take the information given and calculate based on the purchase prices given. Let's look at another example:

| Date | Description | Qty | Price per Unit | Total Amount |
|---|---|---|---|---|
| May 1 | Beginning Inventory | 150 | $ 300 | $ 45,000 |
| May 6 | Purchase | 350 | 350 | 122,500 |
| May 17 | Purchase | 80 | 450 | 36,000 |
| May 25 | Purchase | 100 | 458 | 45,800 |
| May 30 | Sold | 300 | 1,400 | 420,000 |

- On May 9, you sold 180 units consisting of 80 units from beginning inventory and 100 units from the May 6 purchase.
- May 30 sold 300 units consisting of 200 units from the May 6 purchase and 100 units from the May 25 purchase

Using an Inventory Record, cost of goods sold would look like this:

| Date | Goods Purchased | Cost of Goods Sold | Inventory Balance |
|---|---|---|---|
| May 1 | Beginning Balance | | 150 x $300 = $ 45,000 |
| May 6 | 350 x $350 = $122,500 | | 150 x $300 = $45,000 |

| | | | |
|---|---|---|---|
| | | | 350 x $350 = 122,500<br>TOTALS 500 units $167,500 |
| May 9 | | 80 x $300 = 24,000<br>100 x $350 = 35,000<br>COGS 180 units $ 59,000 | 70 x $300 = $21,000<br>250 x $350 = 87,500<br>TOTALS 320 units $108,500 |
| May 17 | 80 x $450 = $36,000 | | 70 x $300 = $21,000<br>250 x $350 = 87,500<br>80 x $450 = 36,000<br>TOTALS 400 units $144,500 |
| May 25 | 100 x $458 = $45,800 | | 70 x $300 = $21,000<br>250 x $350 = 87,500<br>80 x $450 = 36,000<br>100 x $458 = 45,800<br>TOTALS 500 units $190,300 |
| May 30 | | 200 x $350 = 70,000<br>100 x $458 = 45,700<br>COGS 300 units $ 174,800 | 70 x $300 = $21,000<br>50 x $350 = 17,500<br>80 x $450 = 36,000<br>**End. Inventory** 200 units $74,500 |

The total cost of goods sold for May would be $233,800 (59,000 + 174,800).



# METHODS UNDER A PERIODIC INVENTORY SYSTEM

The good news for you is the inventory valuation methods under FIFO, LIFO, weighted average (or average cost), and specific identification are calculated basically the same under the periodic and perpetual inventory systems! The bad news is the periodic method does do things just a little differently.

- Perpetual inventory: Calculates cost of good sold for each sales and records a journal entry for cost of goods sold with each sales transaction.

- Periodic inventory: Follows the same basic principle but it calculates ONE cost of goods sold amount at the end of the month for all items based on the beginning inventory + all purchases and does not record cost of goods sold with each sales transaction.

The data we have been working with from the videos in the previous section is:

| | Units | Cost | Amount |
|---|---|---|---|
| Jan 1 Beg Inventory | 300 | 10 | $3,000 |
| Jan 2 Purchase | 200 | 15 | $3,000 |
| Jan 11 Purchase | 100 | 17 | $1,700 |
| Jan 18 Purchase | 300 | 20 | $6,000 |
| Total Purchases | 900 | | $13,700 |
| | | | |
| | Units | Sales Price | Sales Amount |
| Jan 8 Sales | 300 | 30 | $9,000 |
| Jan 15 Sale | 250 | 40 | $10,000 |
| Total Sales | 550 | | $19,000 |

FIFO Method

Under the FIFO Method, we use the *oldest inventory first* and work our way forward until the sales are complete. Under the periodic inventory, cost of goods sold is assigned at the end of the period only and not with each sales transaction. There were a total of 55o units sold (remember, price doesn't have anything to do with cost) and we will assign cost as follows:

| | Units | Cost | Amount |
|---|---|---|---|
| Jan 1 Beg Inventory | 300 | 10 | $3,000 |
| Jan 2 Purchase | 200 | 15 | $3,000 |
| Jan 11 Purchase | 50 | 17 | $850 |
| Total cost of goods sold | 550 | | $6,850 |
| | | | |
| Jan 11 Purchase | 50 | 17 | $850 |
| Jan 18 Purchase | 300 | 20 | $6,000 |
| Ending Inventory | 350 | | $6,850 |

The journal entries under the periodic inventory method using FIFO would be (see how cost of good sold is recorded once at the end of the period, in this case end of the month):

| Date | Account | Debit | Credit |
|---|---|---|---|

| | | | |
|---|---|---|---|
| Jan 2 | Merchandise Inventory | 3,000 | |
| | Accounts Payable | | 3,000 |
| Jan 8 | Accounts Receivable | 9,000 | |
| | Sales | | 9,000 |
| Jan 11 | Merchandise Inventory | 1,700 | |
| | Accounts Payable | | 1,700 |
| Jan 15 | Accounts Receivable | 10,000 | |
| | Sales | | 10,000 |
| Jan 18 | Merchandise Inventory | 6,000 | |
| | Accounts Payable | | 6,000 |
| Jan 31 | Cost of goods sold | 6,850 | |
| | Merchandise Inventory | | 6,850 |

LIFO Method

Under the LIFO Method, cost of goods sold is calculated using the *most recent inventory first* and then working our way backwards until the sales order has been filled.

| | Units | Cost | Amount |
|---|---|---|---|
| Jan 18 Purchase | 300 | 20 | $6,000 |
| Jan 11 Purchase | 100 | 17 | $1,700 |
| Jan 2 Purchase | 150 | 15 | $2,250 |
| Total cost of goods sold | 550 | | $9,950 |
| | | | |
| Jan 1 Beg Inventory | 300 | 10 | $3,000 |
| Jan 2 Purchase | 50 | 15 | $750 |
| Ending Inventory | 350 | | $3,750 |

The journal entries under FIFO would be the same but the entry to cost of goods sold and merchandise inventory done on January 31 and would be:

| | | | |
|---|---|---|---|
| Jan 31 | Cost of goods sold | 9,950 | |
| | Merchandise Inventory | | 9,950 |

Weighted Average (or Average Cost)

Watch this video from Note Pirate to understand the periodic inventory method using average cost:

Using the information from the video, average cost was calculated as total value of beginning inventory and purchase $13,700 /900 total units in beginning inventory and purchased to get $15.22. This average cost can then be applied to the 550 units in sales during January and would be calculated as 550 units x $15.22 with the following journal entry (all other entries presented under FIFO would be the same):

| | | | |
|---|---|---|---|
| Jan 31 | Cost of goods sold | 8,371 | |
| | Merchandise Inventory | | 8,371 |

**Specific Identification**

Since the specific identification method, identifies exactly which cost the purchase comes from it does not change under perpetual or periodic. The only thing that changes is the timing of the entry. Under the perpetual method, cost of goods sold is calculated and recorded with every sale. Under the periodic inventory method, cost of goods sold is calculated at the end of the period only and recorded in one entry.



# EFFECTS OF CHOOSING DIFFERENT INVENTORY METHODS

## Effects of Choosing Different Inventory Methods

In the video, we saw how the cost of goods sold, inventory cost, and gross margin for each of the four basic costing methods using perpetual and periodic inventory procedures was different. The differences for the four methods occur because the company paid different prices for goods purchased. No differences would occur if purchase prices were constant. Since a company's purchase prices are seldom constant, inventory costing method affects cost of goods sold, inventory cost, gross margin, and net income. Therefore, companies must disclose on their financial statements which inventory costing methods were used.

**Advantages and disadvantages of FIFO** The FIFO method has four major advantages: (1) it is easy to apply, (2) the assumed flow of costs corresponds with the normal physical flow of goods, (3) no manipulation of income is possible, and (4) the balance sheet amount for inventory is likely to approximate the current market value. All the advantages of FIFO occur because when a company sells goods, the first costs it removes from inventory are the oldest unit costs. A company cannot manipulate income by choosing which unit to ship because the cost of a unit sold is not determined by a serial number. Instead, the cost attached to the unit sold is always the oldest cost. Under FIFO, purchases at the end of the period have no effect on cost of goods sold or net income.

The disadvantages of FIFO include (1) the recognition of paper profits and (2) a heavier tax burden if used for tax purposes in periods of inflation. We discuss these disadvantages later as advantages of LIFO.

**Advantages and disadvantages of LIFO** The advantages of the LIFO method are based on the fact that prices have risen almost constantly for decades. LIFO supporters claim this upward trend in prices leads to inventory, or paper, profits if the FIFO method is used. During periods of inflation, LIFO shows the largest cost of goods sold of any of the costing methods because the newest costs charged to cost of goods sold are also the highest costs. The larger the cost of goods sold, the smaller the net income.

Those who favor LIFO argue that its use leads to a better matching of costs and revenues than the other methods. When a company uses LIFO, the income statement reports both sales revenue and cost of goods sold in current dollars. The resulting gross margin is a better indicator of management's ability to generate income than gross margin computed using FIFO, which may include substantial inventory (paper) profits.

Supporters of FIFO argue that LIFO (1) matches the cost of goods not sold against revenues, (2) grossly understates inventory, and (3) permits income manipulation.

The first criticism—that LIFO matches the cost of goods not sold against revenues—is an extension of the debate over whether the assumed flow of costs should agree with the physical flow of goods. LIFO supporters contend that it makes more sense to match current costs against current revenues than to worry about matching costs for the physical flow of goods.

The second criticism—that LIFO grossly understates inventory—is valid. A company may report LIFO inventory at a fraction of its current replacement cost, especially if the historical costs are from several decades ago. LIFO supporters contend that the increased usefulness of the income statement more than offsets the negative effect of this undervaluation of inventory on the balance sheet.

The third criticism—that LIFO permits income manipulation—is also valid. Income manipulation is possible under LIFO. For example, assume that management wishes to reduce income. The company could purchase an abnormal amount of goods at current high prices near the end of the current period, with the purpose of selling the goods in the next period. Under LIFO, these higher costs are charged to cost of goods sold in the current period, resulting in a substantial decline in reported net income. To obtain higher income, management could delay making the normal amount of purchases until the next period and thus include some of the older, lower costs in cost of goods sold.

Tax benefit of LIFO The LIFO method results in the lowest taxable income, and thus the lowest income taxes, when prices are rising. The Internal Revenue Service allows companies to use LIFO for tax purposes only if they use LIFO for financial reporting purposes. Companies may also report an alternative inventory amount in the notes to their financial statements for comparison purposes. Because of high inflation during the 1970s, many companies switched from FIFO to LIFO for tax advantages.

Advantages and disadvantages of weighted-average When a company uses the weighted-average method and prices are rising, its cost of goods sold is less than that obtained under LIFO, but more than that obtained under FIFO. Inventory is not as badly understated as under LIFO, but it is not as up-to-date as under FIFO. Weighted-average costing takes a middle-of-the-road approach. A company can manipulate income under the weighted-average costing method by buying or failing to buy goods near year-end. However, the averaging process reduces the effects of buying or not buying.

The four inventory costing methods, specific identification, FIFO, LIFO, and weighted-average, involve assumptions about how costs flow through a business. In some instances, assumed cost flows may correspond with the actual physical flow of goods. For example, fresh meats and dairy products must flow in a FIFO manner to avoid spoilage losses. In contrast, firms use coal stacked in a pile in a LIFO manner because the newest units purchased are unloaded on top of the pile and sold first. Gasoline held in a tank is a good example of an inventory that has an average physical flow. As the tank is refilled, the new gasoline mixes with the old. Thus, any amount used is a blend of the old gas with the new.

Although physical flows are sometimes cited as support for an inventory method, accountants now recognize that an inventory method's assumed cost flows need not necessarily correspond with the actual physical flow of the goods. In fact, good reasons exist for simply ignoring physical flows and choosing an inventory method based on other criteria.

Advantages and disadvantages of specific identification Companies that use the specific identification method of inventory costing state their cost of goods sold and ending inventory at the actual cost of specific units sold and on hand. Some accountants argue that this method provides the most precise matching of costs and revenues and is, therefore, the most theoretically sound method. This statement is true for some one-of-a-kind items, such as autos or real estate. For these items, use of any other method would seem illogical.

One disadvantage of the specific identification method is that it permits the manipulation of income. For example, assume that a company bought three identical units of a given product at different prices. One unit cost $ 2,000, the second cost $ 2,100, and the third cost $ 2,200. The company sold one unit for $ 2,800. The units are alike, so the customer does not care which of the identical units the company ships. However, the gross margin on the sale could be either $ 800, $ 700, or $ 600, depending on which unit the company ships.

**Which is the correct method?** All four methods of inventory costing are acceptable; no single method is the only correct method. Different methods are attractive under different conditions.

If a company wants to match sales revenue with current cost of goods sold, it would use LIFO. If a company seeks to reduce its income taxes in a period of rising prices, it would also use LIFO. On the other hand, LIFO often charges against revenues the cost of goods not actually sold. Also, LIFO may allow the company to manipulate net income by changing the timing of additional purchases.

The FIFO and specific identification methods result in a more precise matching of historical cost with revenue. However, FIFO can give rise to paper profits, while specific identification can give rise to income manipulation. The weighted-average method also allows manipulation of income. Only under FIFO is the manipulation of net income not possible.

Generally, companies use the inventory method that best fits their individual circumstances. However, this freedom of choice does not include changing inventory methods every year or so, especially if the goal is to report higher income. Continuous switching of methods violates the accounting principle of consistency, which requires using the same accounting methods from period to period in preparing financial statements. Consistency of methods in preparing financial statements enables financial statement users to compare statements of a company from period to period and determine trends. If we switch inventory methods, we must restate all years presented on financial statements using the same inventory method.



# LOWER OF COST OR MARKET RULE

Generally, companies should use historical cost to value inventories and cost of goods sold. However, some circumstances justify departures from historical cost. One of these circumstances is when the utility or value of inventory items is less than their cost. A decline in the selling price of the goods or their replacement cost may indicate such a loss of utility. This section explains how accountants handle some of these departures from the cost basis of inventory measurement.

The **lower-of-cost-or-market** (LCM) method is an inventory costing method that values inventory at the lower of its historical cost or its current market (replacement) cost. The term cost refers to historical cost of inventory as determined under the specific identification, FIFO, LIFO, or weighted-average inventory method. Market generally refers to a merchandise item's replacement cost in the quantity usually purchased. The basic assumption of the LCM method is that if the purchase price of an item has fallen, its selling price also has fallen or will fall. The LCM method has long been accepted in accounting.

Watch this video online: https://youtu.be/PupmFC2pxH4

Under LCM, inventory items are written down to market value when the market value is less than the cost of the items. For example, assume that the market value of the inventory is $39,600 and its cost is $40,000. Then, the company would record a $ 400 loss because the inventory has lost some of its revenue-generating ability. The company must recognize the loss in the period the loss occurred. The journal entry would be:

| Account | Debit | Credit |
|---|---|---|
| Cost of goods sold | $400 | |
| Inventory | | $400 |

On the other hand, if ending inventory has a market value of $ 45,000 and a cost of $ 40,000, the company would not recognize this increase in value and no adjusting entry would be required.

**LCM applied** A company may apply LCM to each inventory item (such as Monopoly), each inventory class (such as games or toys), or total inventory (as seen in the above examples). To see how the company would apply the method to individual items, look at Exhibit 19.

| | | | | | | LCM on |
|---|---|---|---|---|---|---|
| | | Unit | Unit | Total | Total | Item-by-Item |
| Item | Quantity | Cost | Market | Cost | Market | Basis |
| 1 | 100 units | $10 | $9.00 | $1,000 | $900 | $900 (market lower ) |
| 2 | 200 units | 8 | 8.75 | $1,600 | $1,75 0 | 1,600 (cost lower) |
| 3 | 500 units | 5 | 5 | $2,500 | $2,500 | 2,500 (same) |
| | Totals | | | $5,100 | $5,150 | $5,000 |

If LCM is applied on an item-by-item basis, ending inventory would be $ 5,000. The company would report $5,000 value for inventory in the current assets section of the balance sheet by making an adjustment to inventory for $100 ($5,100 inventory cost – $5,000 LCM basis):

| Account | Debit | Credit |
|---|---|---|
| Cost of goods sold | $100 | |
| Inventory | | $100 |

Under the class method, a company applies LCM to the total cost and total market for each class of items. One class might be games; another might be toys. Then, the company compares each class total at the lower of its cost or market amount.

| | | | | | | LCM on |
|---|---|---|---|---|---|---|
| | | Unit | Unit | Total | Total | PER CLASS |
| Item | Quantity | Cost | Market | Cost | Market | Basis |
| Toy 1 | 100 units | $10 | $9.00 | $1,000 | $900 | |
| Toy 2 | 200 units | 8 | 8.75 | $1,600 | $1,750 | |
| | Toy | Totals | | $2,600 | $2,650 | $2,600 (since total toy cost lower) |
| | | | | | | |
| Games 1 | 500 units | $5 | $5 | $2,500 | $2,500 | |
| Games 2 | 300 units | 7.00 | 6.00 | $2,100 | $1,800 | |

| | | | | | | |
|---|---|---|---|---|---|---|
| | Games | Totals | | $4,600 | $4,300 | $4,300 (since total games market lower) |
| | | | | | | |
| | Inventory | Totals | | $7,200 | $6,950 | $6,900 (2600 + 4300) |

Inventory on the balance sheet would be reported at $6,900 with the following adjusting entry for $300 ($7,200 inventory cost – $6,900 LCM by item class):

| Account | Debit | Credit |
|---|---|---|
| Cost of goods sold | $300 | |
| Inventory | | $300 |

The lower-of-cost-or-market method is really as simple as it sounds. We are taking the LOWER of the cost or the market value of the inventory.



# INTERNAL CONTROL ISSUES AND PROCEDURES FOR INVENTORY

## Internal control

Internal control for inventory is especially important so we protect against theft and waste.

Watch this video online: https://youtu.be/oIOBUwnsJMg

An effective **internal control structure** for inventory includes a company's plan of organization and all the procedures and actions it takes to:

- Protect its assets against theft and waste.
- Ensure compliance with company policies and federal law.
- Evaluate the performance of all personnel to promote efficient operations.
- Ensure accurate and reliable operating data and accounting reports.

## Protect Assets

Companies protect their assets by (1) segregating employee duties, (2) assigning specific duties to each employee, (3) rotating employee job assignments, and (4) using mechanical devices.

**Segregation of employee duties** Segregation of duties requires that someone other than the employee responsible for safeguarding an asset must maintain the accounting records for that asset. Also, employees share responsibility for related transactions so that one employee's work serves as a check on the work of other employees.

When a company segregates the duties of employees, it minimizes the probability of an employee being able to steal assets and cover up the theft. For example, an employee could not steal inventory from a company and have the theft go undetected unless someone else changes the inventory records to cover the shortage. To change the records, the employee stealing the inventory must also maintain the inventory records or be in collusion with the employee who maintains the inventory records.

**Assignment of specific duties to each employee** When the responsibility for a particular work function is assigned to one employee, that employee is accountable for specific tasks. Should a problem occur, the company can quickly identify the responsible employee.

When a company gives each employee specific duties, it can trace lost documents or determine how a particular transaction was recorded. Also, the employee responsible for a given task can provide information about that task. Being responsible for specific duties gives people a sense of pride and importance that usually makes them want to perform to the best of their ability.

**Rotation of employee job assignments** Some companies rotate job assignments to discourage employees from engaging in long-term schemes to steal from them. Employees realize that if they steal from the company, the next employees assigned to their positions may discover the theft.

Frequently, companies have the policy that all employees must take an annual vacation. This policy also discourages theft because many dishonest schemes collapse when the employee does not attend to the scheme on a daily basis.

**Use of mechanical devices** Companies use several mechanical devices to help protect their assets. Bar codes scanners make it difficult for employees to steal inventory and alter company documents and records.

## Accurate and Reliable Inventory Records

Companies should maintain complete and accurate accounting records. The best method to ensure such accounting records is to hire and train competent and honest individuals. Periodically, supervisors evaluate an employee's performance to make sure the employee is following company policies. Inaccurate or inadequate accounting records serve as an invitation to theft by dishonest employees because theft can be concealed more easily.

One or more business documents support most accounting transactions. These source documents are an integral part of the internal control structure. For optimal control, source documents should be serially numbered.

Since source documents serve as documentation of business transactions, from time to time firms check the validity of these documents. For example, to review a purchase transaction, they check the documents used to record the transaction against the proper accounting records. When the accounting department records a purchase transaction, it should receive copies of the following four documents:

- A **purchase requisition** is a written request from an employee inside the company to the purchasing department to purchase certain items.

| | | |
|---|---|---|
| | PURCHASE REQUISITION | **No.** 2416 |
| | BRYAN WHOLESALE COMPANY | **Date:** November20 |
| **Fro:** Automotive Supplies Department | | |
| **To:** Purchasing Department | **Suggested supplier:** Wilkes Radio Company | |

| | | | |
|---|---|---|---|
| Please purchase the following items: | | | |
| Description | Item Number | Quantity | Estimated Price |
| | Model No. 5868–24393 | 200 | $50perunit |
| Reason for request: | | To be filled in by purchasing department: | |
| Customer order | | Dated ordered November 29 | |
| Baier Company | | Purchase order number N-MS | |
| | | Approved R.S.T. | |

- A **purchase order** is a document sent from the purchasing department to a supplier requesting that merchandise or other items be shipped to the purchaser.

| | | | | |
|---|---|---|---|---|
| | PURCHASE ORDER | No. | N-145 | |
| | BRYAN WHOLESALE COMPANY | Date: November 21 | | |
| | 476 Mason Street | Ship by: December 20 | | |
| | Detroit, Michigan 48823 | | | |
| To: Wilkes Radio Company | | | | |
| 2515 West Peachtree Street | | | | |
| Atlanta, Georgia 30303 | | | | |
| Ship to: Above address | | FOB terms requested: | Destination | |
| | | Discount terms requested: 2/10, n/30 | | |
| Please send the foil owing item; | | | | |
| Description | Item Number | Quantity | Price Per Unit | Total Amount |
| True-tone stereo radios | Model No. 5868-24393 | 200 | $50 | $10,000 |
| Ordered by: Jane Knight | Please include order number on all | | | |
| | invoice and shipments. | | | |

- An **invoice** is the statement sent by the supplier to the purchaser requesting payment for the merchandise shipped.

| | | | | |
|---|---|---|---|---|
| | INVOICE | Invoice No. 1574<br><br>Date: Dec. 15 | | |
| | WILXES RADIO COMPANY<br><br>2515 West Peachtree Street<br><br>Atlanta, Georgia 30303 | | | |
| Customer's Orders No. | N-14S | | | |
| Sold to: Bryan Wholesale Co. | | | | |
| Address: 475 Mason Street | | | | |
| Detroit, Michigan 4S823 | | | | |
| Terms: 2/10, n/30, FOB destination | Date shipped: December 15 | | | |
| | Shipped by: Nagel Trucking Co. | | | |
| Description | Item Number | Quantity | Price Per Unit | Total Amount |
| | Model No. 5868-24393 | 200 | $50 | $10,000 |
| | | Total | | $10 |

- A **receiving report** is a document prepared by the receiving department showing the descriptions and quantities of all items received from a supplier in a particular shipment. A copy of the purchase order can serve as a receiving report if the quantity ordered is omitted. Then, because receiving department personnel do not know what quantity to expect, they will count the quantity received more accurately.

These four documents together serve as authorization to pay for merchandise and should be checked against the accounting records. Without these documents, a company might fail to pay a legitimate invoice, pay fictitious invoices, or pay an invoice more than once. Companies can accomplish proper internal control only by periodically checking the source documents of business transactions with the accounting records of those transactions.

Unfortunately, even though a company implements all of these features in its internal control structure, theft may still occur. If employees are dishonest, they can usually figure out a way to steal from a company, thus circumventing even the most effective internal control structure. Therefore, companies should carry adequate casualty insurance on assets. This insurance reimburses the company for loss of a nonmonetary asset such as specialized equipment.

## Inventory Management Systems

An inventory management system is a series of procedures, often aided by computer software, that tracks assets progression through inventory. For example, assume a set amount of raw material is acquired by the company.

When the company receives that material, the amount should be noted in the inventory management system. As the material is processed into the goods for resale, the amount of raw material used should be deducted from the “raw material inventory” and the amount of goods that result from the process should be added to the “finished goods inventory. ” As each finished item is sold, the “finished goods inventory” should be decreased by that amount.

The benefit of a properly used and maintained inventory management system is that it allows management to be able to know how much inventory it has at any given time.

### Physical Inventory Count

Physical inventory counts are a way of ensuring that a company’s inventory management system is accurate and as a check to make sure goods are not being lost or stolen. A detailed physical count of a company’s entire inventory is generally taken prior to the issuance of a company’s balance sheet, to ensure that the company accurately report its inventory levels.

### Cycle Counts

Companies usually conduct cycle counts periodically throughout an accounting period as a means to ensure that the information in its inventory management system is correct. To conduct a cycle count, an auditor will select a small subset of inventory, in a specific location, and count it on a specified day. The auditor will then compare the count to the related information in the inventory management system. If the counts match, no further action is taken. If the numbers differ, the auditor will take additional steps to determine why the counts do not match.

Cycle counts contrast with traditional physical inventory in that a full physical inventory may stop operation at a facility while all items are counted at one time. Cycle counts are less disruptive to daily operations, provide an ongoing measure of inventory accuracy and procedure execution, and can be tailored to focus on items with higher value, higher movement volume, or that are critical to business processes. Cycle counting should only be performed in facilities with a high degree of inventory accuracy.

# Accounting in the Headlines

## What internal controls might have prevented a former Smucker employee from stealing $4.1 million over 16 years?

In October 2014, a former Smucker employee, Mark Kershey, was charged with defrauding the J.M. Smucker Company of more than $4.1 million over a 16 year period.

Kershey was the chief airplane mechanic at the company’s hangar at the Akron-Canton Airport in Ohio from 1990 until he was discharged by Smucker in 2013. From 1997 until he left Smucker, Kershey invoiced Smucker for more than $4.1 million by using a fictitious entity he created. He billed Smucker for nonexistent parts and/or work that he himself actually performed as part of his duties as a salaried employee. Most of these invoices were for less than $10,000, which Kershey himself was authorized to approve. A supervisor to Kershey approved the few invoices that were for more than $10,000 based on his trust in Kershey.

To carry out his false billing scheme, Kershey set up a post office box in Lake Township in Ohio using the fictitious entity name of Aircraft Parts Services Co (APS). He (as APS) would then invoice Smucker using non-sequential invoice numbers, so it looked like APS was invoicing other companies too.

Kershey used the proceeds to purchase and maintain two planes, several automobiles, and to make payments on his house.

Kershey was eventually caught in late 2012 when three checks written by Smucker to APS totaling $44,000 were not cashed. When a Smucker employee questioned Kershey about the APS uncashed checks, Kershey indicated that APS had been sold to another Smucker vendor. The false billing scheme began to unravel and Kershey was fired by Smucker. The Special Assistant United States Attorney has charged Kershey with mail fraud following an investigation by the Federal Bureau of Investigation, Canton, Ohio. Charges were filed in October 2014 and the case is pending.

Questions

1. What internal controls could have been used to prevent Kershey from carrying out the false billing scheme?
2. What factors might have contributed to the weak internal control environment that allowed this scheme to exist for 16 years?



# EXERCISES: UNIT 7

## SHORT-ANSWER QUESTIONS, EXERCISES, AND PROBLEMS

**Questions**➢ Why is proper inventory valuation so important?➢ Why does an understated ending inventory understate net income for the period by the same amount?➢ Why does an error in ending inventory affect two accounting periods?➢ What is the meaning of taking a physical inventory?➢ What is the accountant's responsibility regarding taking a physical inventory?➢ Which cost elements are included in inventory? What practical problems arise by including the costs of such elements?

➢ Which accounts that are used under periodic inventory procedure are not used under perpetual inventory procedure?

➢ What entries are necessary under perpetual inventory procedure when goods are sold?

➢ Why is there closer control over inventory under perpetual inventory procedure than under periodic inventory procedure?

➢ Why is perpetual inventory procedure being used increasingly in business?

➢ What is the cost flow assumption? What is meant by the physical flow of goods? Does a relationship between cost flows and the physical flow of goods exist, or should such a relationship exist?

➢ Indicate how a company can manipulate its net income if it uses LIFO. Is the same opportunity available under FIFO? Why or why not?

➢ What are the main advantages of using FIFO and LIFO?

➢ Which inventory method is the correct one? Can a company change inventory methods?

➢ Why are ending inventory and cost of goods sold the same under FIFO perpetual and FIFO periodic?

➢ Would you agree with the following statement? Reducing the amount of taxes payable currently is a valid objective of business management and, since LIFO results in such a reduction, all businesses should use LIFO.

➢ What is net realizable value, and how is it used?

➢ Why is it acceptable accounting practice to recognize a loss by writing down an item in inventory to market, but unacceptable to recognize a gain by writing up an inventory item?

➢ Under what conditions would the gross margin method of computing an estimated inventory yield approximately correct amounts?

➢ What are the main reasons for estimating ending inventory?

➢ Should a company rely exclusively on the gross margin method to determine the ending inventory and cost of goods sold for the end-of-year financial statements?

➢ How can the retail method be used to estimate inventory?

➢ The Limited Based on the notes to the financial statements of The Limited contained in the Annual Report Appendix, what inventory methods were used?

Exercises

Exercise A Crocker Company reported annual net income as follows:

| | |
|---|---|
| 2008 | $484,480 |
| 2009 | 487,680 |
| 2010 | 409,984 |

Analysis of its inventories revealed the following incorrect inventory amounts and these correct amounts:

| | Incorrect Inventory Amount | Correct inventory amount |
|---|---|---|
| 2008 December 31 | $ 76,800 | $89,600 |
| 2009 December 31 | 86,400 | 77,600 |

Compute the annual net income for each of the three years assuming the correct inventories had been used.

Exercise B Slate Truck Company manufactures trucks and identifies each truck with a unique serial plate. On December 31, a customer ordered 5 trucks from the company, which currently has 20 trucks in its inventory. Ten of these trucks cost $ 20,000 each, and the other 10 cost $ 25,000 each. If Slate wished to minimize its net income, which trucks would it ship? By how much could Slate reduce net income by selecting units from one group versus the other group?

Exercise C Miami Discount Company inventory records show:

| | | Unit Cost | Total Cost |
|---|---|---|---|
| Beginning inventory | 3,000 | $38.00 | $114,000 |
| Purchases: | | | |
| February 14 | 900 | 39.00 | 35,100 |

| | | | |
|---|---|---|---|
| March 18 | 2,400 | 40.00 | 96,000 |
| July 21 | 1,800 | 40.30 | 72,540 |
| September 27 | 1,800 | 40.60 | 73,080 |
| November 27 | 600 | 41.00 | 24,600 |
| Sales: | | | |
| April 15 | 2,800 | | |
| August 20 | 2,000 | | |
| October 3 | 1,500 | | |

The December 31 inventory was 4,200 units. Miami Discount Company uses perpetual inventory procedure. Present a schedule showing the measurement of the ending inventory using FIFO perpetual inventory procedure.

Exercise D Using the data in the previous exercise for Miami Discount Company, present a schedule showing the measurement of the ending inventory using LIFO perpetual inventory procedure.

Exercise E London Company had a beginning inventory of 160 units at $ 24 (total = $ 3,840) and the following inventory transactions during the year:

January 8, sold 40 units.

January 11, purchased 80 units at $ 30.00.

January 15, purchased 80 units at $ 32.00.

January 22, sold 80 units.

Using the preceding information, price the ending inventory at its weighted-average cost, assuming perpetual inventory procedure.

Exercise F Kettle Company made the following purchases of Product A in its first year of operations:

| | Units | | Unit Cost ($) |
|---|---|---|---|
| January 2 | 1,400 | @ | 7.40 |
| March 31 | 1,200 | @ | 7.00 |
| July 5 | 2,400 | @ | 7.60 |
| November 1 | 1,800 | @ | 8.00 |

The ending inventory that year consisted of 2,400 units. Kettle uses periodic inventory procedure.

1. Compute the cost of the ending inventory using each of the following methods: (1) FIFO, (2) LIFO, and (3) weighted-average.
2. Which method would yield the highest amount of gross margin? Explain why it does.

**Exercise G** The following are selected transactions and other data of the Custer Company:

Purchased 20 units at $ 360 per unit on account on 2010 September 18.

Sold 6 units on account for $ 576 per unit on 2010 September 20.

Discovered a shortage of $ 2,640 at year-end after a physical inventory.

Prepare journal entries for these transactions using FIFO perpetual inventory procedure. Assume the beginning inventory consists of 20 units at $ 336 per unit.

**Exercise H** Following are selected transactions of Gamble Company:

Purchased 100 units of merchandise at $ 240 each; terms 2/10, n/30.

Paid the invoice in transaction 1 within the discount period.

Sold 80 units at $ 384 each for cash.

Purchased 100 units at $ 360; terms 2/10, n/30.

Paid the invoice in transaction 4 within the discount period.

Sold 60 units at $ 552 each for cash.

Prepare journal entries for the six preceding items. Assume Gamble uses FIFO perpetual inventory procedure.

**Exercise I** Wells Company had the following transactions during February:

Purchased 135 units at $ 65 on account.

Sold 108 units at $ 90 on account.

Purchased 170 units at $ 75 on account.

Sold 122 units at $ 95 on account.

Sold 67 units at $ 100 on account.

The beginning inventory consisted of 67 units purchased at a cost of $ 55.

Prepare the journal entries relating to inventory for these five transactions, assuming Wells accounts for inventory using perpetual inventory procedure and the LIFO inventory method. Do not record the entries for sales.

**Exercise J** Following are inventory data for Kintech Company:

January 1 inventory on hand, 400 units at $ 28.80.

January sales were 80 units.

February sales totaled 120 units.

March 1, purchased 200 units at $ 30.24.

Sales for March through August were 160 units.

September 1, purchased 40 units at $ 33.12.

September through December sales were 180 units.

**Exercise K** A company purchased 1,000 units of a product at $ 12.00 and 2,000 units at $ 13.20. It sold all of these units at $ 18.00 each at a time when the current cost to replace the units sold was $ 13.80. Compute the amount of gross margin under FIFO that LIFO supporters would call inventory, or paper, profits.

**Exercise L** Clayton Company's inventory was 12,000 units with a cost of $ 160 each on 2010 January 1. During 2010, numerous units were purchased and sold. Also during 2010, the purchase price of this product fell steadily until at year-end it was $ 120. The inventory at year-end was 18,000 units. State which method of inventory measurement, LIFO or FIFO, would have resulted in higher reported net income, and explain briefly.

**Exercise M** Levi Motor Company owns a luxury automobile that it has used as a demonstrator for eight months. The auto has a list or sticker price of $ 85,000 and cost Levi $ 75,000. At the end of the fiscal year, the auto is on hand and has an expected selling price of $ 80,000. Costs expected to be incurred to sell the auto include tune-up and maintenance costs of $ 3,000, advertising of $ 1,000, and a commission of 5 per cent of the selling price to the employee selling the auto. Compute the amount at which the auto should be carried in inventory.

**Exercise N** Pure Sound Systems used one sound system as a floor model. It cost $ 3,600 and had an original selling price of $ 4,800. After six months, the sound system was damaged and replaced by a newer model. The sound system had an estimated selling price of $ 2,880, but when the company performed $ 480 in repairs, it could be sold for $ 3,840. Prepare the journal entry, if any, that must be made on Pure Sound's books to record the decline in market value.

**Exercise O** Your assistant has compiled the following data:

| Item | Quantity (units) | Unit Cost ($) | Unit Market ($) | Total Cost ($) | Total Market ($) |
|---|---|---|---|---|---|
| A | 300 | 57.60 | 55.20 | 17,280 | 16,560 |
| B | 300 | 28.80 | 33.60 | 8,640 | 10,080 |
| C | 900 | 21.60 | 21.60 | 19,440 | 19,440 |
| D | 500 | 12.00 | 13.20 | 6,000 | 6,600 |

Calculate the dollar amount of the ending inventory using the LCM method, applied on an item-by-item basis, and the amount of the decline from cost to lower-of-cost-or-market.

**Exercise P** Use the data in the previous exercise to compute the cost of the ending inventory using the LCM method applied to the total inventory.

**Exercise Q** Tilley-Mill Company takes a physical inventory at the end of each calendar-year accounting period to establish the ending inventory amount for financial statement purposes. Its financial statements for the past few years indicate an average gross margin on net sales of 25 per cent. On July 18, a fire destroyed the entire store building and its contents. The records in a fireproof vault were intact. Through July 17, these records show:

Merchandise inventory, January 1 $ 672,000

Merchandise purchases $ 9,408,000

Purchase returns $ 134,400

Transportation-in $ 504,000

Sales $ 14,336,000

Sales returns $ 672,000

The company was fully covered by insurance and asks you to determine the amount of its claim for loss of merchandise.

**Exercise R** Ryan Company takes a physical inventory at the end of each calendar-year accounting period. Its financial statements for the past few years indicate an average gross margin on net sales of 30 per cent.

On June 12, a fire destroyed the entire store building and the inventory. The records in a fireproof vault were intact. Through June 11, these records show:

| | |
|---|---|
| Merchandise inventory, January 1 | $120,000 |
| Merchandise purchases | $3,000,000 |
| Purchase returns | $36,000 |
| Transportation -in | $204,000 |
| Sales | $3,720,000 |

The company was fully covered by insurance and asks you to determine the amount of its claim for loss of merchandise.

**Exercise S** Victoria Falls Company, Inc., records show the following account balances for the year ending 2010 December 31:

| | Cost | Retail |
|---|---|---|
| Beginning inventory | $ 42,000 | $ 57,500 |
| Purchases | 25000 | 37500 |
| Transportation-in | 500 | |
| Sales | | 52500 |

Using these data, compute the estimated cost of ending inventory using the retail method of inventory valuation.

**Problems**

**Problem A** Kelley Company reported net income of $ 358,050 for 2009, $ 371,400 for 2010, and $ 325,800 for 2011, using the incorrect inventory amounts shown for 2009 December 31, and 2010. Recently, Kelley corrected the inventory amounts for those dates. Kelley used the correct 2011 December 31, inventory amount in calculating 2011 net income.

| | Incorrect | Correct |
|---|---|---|
| 2009 December 31 | $ 72,600 | $ 86,200 |
| 2010 December 31 | 84000 | 70200 |

Prepare a schedule that shows: (a) the reported net income for each year, (b) the amount of correction needed for each year, and (c) the correct net income for each year.

**Problem B** An examination of the financial records of Lanal Company on 2009 December 31, disclosed the following with regard to merchandise inventory for 2009 and prior years:

2005 December 31, inventory was correct.

2006 December 31, inventory was overstated $ 200,000.

2007 December 31, inventory was overstated $ 100,000.

2081 December 31, inventory was understated $ 220,000.

2009 December 31, inventory was correct.

The reported net income for each year was:

| | |
|---|---|
| 2006 | $384,000 |
| 2007 | 544,000 |
| 2008 | 670,000 |
| 2009 | 846,000 |

9. Prepare a schedule of corrected net income for each of the four years, 2006-2009.
10. What error(s) would have been included in each December 31 balance sheet? Assume each year's error is independent of the other years' errors.
11. Comment on the implications of your corrected net income as contrasted with reported net income.

**Problem C** Brett Company sells personal computers and uses the specific identification method to account for its inventory. On 2010 November 30, the company had 46 Orange III personal computers on hand that were acquired on the following dates and at these stated costs:

| | Units | | Unit cost |
|---|---|---|---|
| July 3 | 10 | @ | $10,080 |
| September 10 | 20 | @ | $ 9,600 |
| November 29 | 16 | @ | $10,700 |

Brett sold 36 Orange III computers at $ 12,720 each in December. There were no purchases of this model in December.

1. Compute the gross margin on December sales of Orange III computers assuming the company shipped those units that would maximize reported gross margin.
2. Repeat part (a) assuming the company shipped those units that would minimize reported gross margin for December.
3. In view of your answers to parts (a) and (b), what would be your reaction to an assertion that the specific identification method should not be considered an acceptable method for costing inventory?

**Problem D** The inventory records of Thimble Company show the following:

March 1 Beginning inventory consists of 10 units costing $ 40 per unit.

3 Sold 5 units at $ 94 per unit.

10 Purchased 16 units at $ 48 per unit.

12 Sold 8 units at $ 96 per unit.

20 Sold 7 units at $ 96 per unit.

25 Purchased 16 units at $ 50 per unit.

31 Sold 8 units at $ 96 per unit.

Assume all purchases and sales are made on credit.

Using FIFO perpetual inventory procedure, prepare the appropriate journal entries for March.

**Problem E** The following purchases and sales for Ripple Company are for April 2010. There was no inventory on April 1.

| | Units | Unit Cost ($) | | Sales (Units) |
|---|---|---|---|---|
| April 3 | 3,200 | @33.00 | April 6 | 1,500 |
| April 10 | 1,600 | @34.00 | April 12 | 1,400 |
| April 22 | 2,000 | @35.00 | April 25 | 2,300 |
| April 28 | 1,800 | @36.00 | | |

1. Compute the ending inventory as of 2010 April 30, using perpetual inventory procedure, under each of the following methods: (1) FIFO, (2) LIFO, and (3) weighted-average (carry unit cost to four decimal places and round total cost to nearest dollar).
2. Repeat a using periodic inventory procedure.

**Problem F** Refer to the data in problem E

1. Using LIFO perpetual inventory procedure, prepare the journal entries for the purchases and sales (Cost of Goods Sold entry only).
2. Repeat (a) using LIFO periodic inventory procedure, including closing entries. (Note: You may want to refer to the Appendix in Chapter 6 for this part.)

**Problem G** The following data relate to the beginning inventory, purchases, and sales of Braxton Company for the year 2010:

| | | | |
|---|---|---|---|
| | | | Unit |
| | Units | | Cost |
| Merchandise Inventory, January 1 | 1,400 | @ | $5.04 |
| Purchases: | | | |
| February 2 | 1,000 | @ | 4.80 |

| | | | |
|---|---|---|---|
| April 5 | 2,000 | @ | 3.60 |
| June 15 | 1,200 | @ | 3.00 |
| September 30 | 1,400 | @ | 2.88 |
| November 28 | 1,800 | @ | 4.20 |
| Sales: | | | |
| March 10 | 900 | | |
| May 15 | 1,800 | | |
| July 6 | 800 | | |
| August 23 | 600 | | |
| December 22 | 2,500 | | |

1. Assuming use of perpetual inventory procedure, compute the ending inventory and cost of goods sold under each of the following methods: (1) FIFO, (2) LIFO, and (3) weighted-average (carry unit cost to four decimal places and round total cost to nearest dollar).
2. Repeat (a) assuming use of periodic inventory procedure.

**Problem H** Welch Company accounts for a product it sells using LIFO periodic inventory procedure. Product data for the year ended 2009 December 31, are shown below. Merchandise inventory on January 1 was 3,000 units at $ 14.40 each.

| | Purchases (Units) | | Unit Cost | | Sales (Units) | | Unit Cost |
|---|---|---|---|---|---|---|---|
| January 5 | 6,000 | @ | $18.00 | January 10 | 4,000 | @ | $28.80 |
| March 31 | 18,000 | @ | 21.60 | April 2 | 15,000 | @ | 32.40 |
| August 12 | 12,000 | @ | 27.00 | August 22 | 16,000 | @ | 36.00 |
| December 26 | 6,000 | @ | 28.80 | December 24 | 3,000 | @ | 39.60 |

9. Compute the gross margin earned on sales of this product for 2009.
10. Repeat part (a) assuming that the December 26 purchase was made in January 2010.
11. Recompute the gross margin assuming that 10,000 rather than 6,000 units were purchased on December 26 at the same cost per unit.
12. Solve parts (a), (b), and (c) using the FIFO method.

**Problem I** The accountant for Gentry Company prepared the following schedule of the company's inventory at 2009 December 31, and used the LCM method applied to total inventory in determining cost of goods sold:

| | | | |
|---|---|---|---|
| Item | Quantity | Unit Cost | Unit Market |
| Q | 4,200 | $7.20 | $7.20 |

| | | | |
|---|---|---|---|
| R | 2,400 | 6.00 | 5.76 |
| S | 5,400 | 4.80 | 4.56 |
| T | 4,800 | 4.20 | 4.32 |

1. State whether this approach is an acceptable method of inventory measurement and show the calculations used to determine the amounts.
2. Compute the amount of the ending inventory using the LCM method on an item-by-item basis.
3. State the effect on net income in 2009 if the method in (b) was used rather than the method referred to in (a).

**Problem J** As part of a loan agreement with a local bank, Brazos Company must present quarterly and cumulative income statements for the year 2009. The company uses periodic inventory procedure and marks its merchandise to sell at a price yielding a gross margin of 30 per cent. Selected data for the first six months of 2009 are as follows:

| | | |
|---|---|---|
| | First Quarter | Second Quarter |
| Sales | $248,000 | $256,000 |
| Purchases | 160,000 | 184,000 |
| Purchase returns and allowances | 9,600 | 11,200 |
| Purchase discounts | 3,200 | 3,520 |
| Sales returns and allowances | 8,000 | 4,800 |
| Transportation-in | 8,000 | 8,320 |
| Miscellaneous selling expenses | 25,600 | 24,000 |
| Miscellaneous administrative expenses | 9,600 | 8,000 |

The cost of the physical inventory taken 2008 December 31, was $ 30,400.

9. Indicate how income statements can be prepared without taking a physical inventory at the end of each of the first two quarters of 2009.
10. Prepare income statements for the first quarter, the second quarter, and the first six months of 2009.

Cobb Company records show the following information for 2010:

| | Cost | Retail |
|---|---|---|
| Sales | | $350,400 |
| Purchases | $2/0,000 | 420,000 |
| Transportation-in | 26,280 | — |
| Merchandise inventory, | | |

| | | |
|---|---|---|
| January 1 | 12,000 | 1/,400 |
| Purchase returns | 15,120 | 18,600 |

Compute the estimated year-end inventory balance at cost using the retail method of estimating inventory.

**Alternate problems**

**Alternate problem A** Harris Company reported net income of $ 312,000 for 2009, $ 324,000 for 2010, and $ 348,000

Recently Harris corrected these inventory amounts. Harris used the correct 2011 December 31, inventory amount in calculating 2011 net income.

| | | |
|---|---|---|
| 2009 December 31 | $96,000 | $108,000 |
| 2010 December 31 | 91,200 | 84,000 |

Prepare a schedule that shows: (a) the reported net income for each year, (b) the amount of correction needed for each year, and (c) the correct net income for each year.

**Alternate problem B** An examination of the financial records of Jersey Company on 2009 December 31, disclosed the following with regard to merchandise inventory for 2009 and prior years:

2008 December 31, inventory was correct.

2009 December 31, inventory was understated $ 50,000.

2010 December 31, inventory was overstated $ 35,000.

2011 December 31, inventory was understated $ 30,000.

2012 December 31, inventory was correct.

The reported net income for each year was:

| | |
|---|---|
| 2009 | $292,500 |
| 2010 | $355,000 |
| 2011 | $382,500 |
| 2012 | $350,000 |

2. Prepare a schedule of corrected net income for each of the four years, 2009-2012.
3. What errors would have been included in each December 31 balance sheet? Assume each year's error is independent of the other years' errors.
4. Comment on the implications of the corrected net income as contrasted with reported net income.

**Alternate problem C** High Surf Company sells the Ultra-Light model wind surfer and uses the specific identification method to account for its inventory. The Ultra-Lights are identical except for identifying serial numbers. On 2009 August 1, the company had three Ultra-Lights that cost $ 14,000 each in its inventory. During the month, the company purchased the following:

| | Units | | Unit cost |
|---|---|---|---|
| August 3 | 5 | @ | $13,000 |
| August 17 | 6 | @ | $14,500 |
| August 28 | 6 | @ | 15,000 |

High Surf Company sold 13 Ultra-Lights in August at $ 20,000 each.

1. Compute the gross margin earned by the company in August if it shipped the units that would maximize gross margin.
2. Repeat part (a) assuming the company shipped the units that would minimize gross margin.
3. Do you think High Surf Company should be permitted to use the specific identification method of accounting for Ultra-Lights in view of the manipulation possible as shown by your calculations in (a) and (b)?

**Alternate problem D** The inventory records of Coral Company show the following:

Jan. 1 Beginning inventory consists of 12 units costing $ 48 per unit.

5 Purchased 15 units @ $ 49.92 per unit.

10 Sold 9 units @ $ 108 per unit.

12 Sold 7 units @ USD108 per unit.

20 Purchased 20 units @ $ 50.16 per unit.

22 Purchased 5 units @ $ 48 per unit.

30 Sold 20 units @ $ 110.40 per unit.

Assume all purchases and sales are made on account.

1. Using FIFO perpetual inventory procedure, compute cost of goods sold for January.
2. Using FIFO perpetual inventory procedure, prepare the journal entries for January.
3. Compute the cost of goods sold under FIFO periodic inventory procedure. Is there a difference between the amount computed using the two different procedures?

**Alternate problem E** Following are data for Dandy Company for the year 2010:

| | Units | | Unit<br>Cost |
|---|---|---|---|
| Merchandise Inventory, January 1 | 700 | @ | $20.40 |
| Purchases: | | | |
| February 2 | 500 | @<br>@ | 21.00 |
| April 5 | 1,000 | | 24.00 |
| June 1 5 | 600 | @ | 2/.00 |

| | | | |
|---|---|---|---|
| September 30 | 700 | @ | 30.00 |
| November 28 | 900<br>4,400 | @ | 31.20 |
| Sales: | | | |
| March 5 | 400 | | |
| July 18 | 1,200 | | |
| August 12 | 800 | | |
| October 15 | 900<br>3,300 | | |

1. Compute the ending inventory as of 2010 December 31, assuming use of perpetual inventory procedure, under each of the following methods: (1) FIFO, (2) LIFO, and (3) weighted-average (carry unit cost to four decimal places and round total cost to nearest dollar).
2. Compute the ending inventory as of 2010 December 31, assuming use of periodic inventory procedure, under each of the following methods: (1) FIFO, (2) LIFO, and (3) weighted-average.

**Alternate problem F** Refer to the data in alternate problem E

1. Give the journal entries to record the purchases and sales (Cost of Goods Sold entry only) for the year under FIFO perpetual.
2. Give the journal entries to record the purchases for the year and necessary year-end entries to charge Income Summary with the cost of goods sold for the year under FIFO periodic. (Note: You may want to refer to the Appendix in Chapter 6 for this part.)

**Alternate problem G** Following are data related to a product of Coen Company for the year 2010:

| | | | |
|---|---|---|---|
| | | | Unit |
| | Units | | Cost |
| Merchandise Inventory, January 1 | 2,100 | @ | $12.60 |
| Purchases: | | | |
| March 10 | 1,500 | @ | 12.00 |
| May 24 | 3,000 | @ | 11.20 |
| July 15 | 1,800 | @ | 10.50 |
| September 20 | 2,100 | @ | 9.00 |
| December 1 | 2,700 | @ | 10.00 |
| Sales: | | | |
| April 5 | 1,400 | | |

| | | | |
|---|---|---|---|
| June 13 | 2,900 | | |
| October 9 | 2,300 | | |
| November 21 | 1,700 | | |

1. Assuming use of perpetual inventory procedure, compute the ending inventory and cost of goods sold under each of the following methods: (1) FIFO, (2) LIFO, and (3) weighted-average (carry unit cost to four decimal places and round total cost to nearest dollar).
2. Assuming use of periodic inventory procedure, compute the ending inventory and cost of goods sold under each of the following methods: (1) FIFO, (2), LIFO, and (3) weighted-average (carry unit cost to four decimal places and round total cost to nearest dollar).

**Alternate problem H** Star Company accounts for its inventory using the LIFO method under periodic inventory procedure. Data on purchases, sales, and inventory for the year ended 2009 December 31, are:

| | Units | | Unit Cost |
|---|---|---|---|
| Merchandise inventory, | | | |
| January 1 | 2,000 | @ | $20 |
| Purchases: | | | |
| January / | 5,000 | @ | 24 |
| July 7 | 10,000 | @ | 28 |
| December 21 | 6,000 | @ | 32 |

During 2009, 16,000 units were sold for $ 1,280,000, leaving an inventory on 2009 December 31, of 7,000 units.

9. Compute the gross margin earned on sales during 2009.
10. Compute the change in gross margin that would have resulted if the purchase of December 21 had been delayed until 2010 January 6.
11. Recompute the gross margin assuming that 9,000 units rather than 6,000 units were purchased on December 21 at the same cost per unit.
12. Solve parts (a), (b), and (c) using the FIFO method.

**Alternate problem I** Data on the ending inventory of Jannis Company on 2009 December 31, are:

| Item | Quantity | Unit Cost | Unit Market |
|---|---|---|---|
| 1 | 8,400 | $3.20 | $3.12 |
| 2 | 16,800 | 2.88 | 3.04 |
| 3 | 5,600 | 2.80 | 2.88 |
| 4 | 14,000 | 3.84 | 3.60 |

| | | | |
|---|---|---|---|
| 5 | 11,200 | 3.60 | 3.68 |
| 6 | 2,800 | 3.04 | 2.88 |

1. Compute the ending inventory applying the LCM method to the total inventory.
2. Determine the ending inventory by applying the LCM method on an item-by-item basis.

**Alternate problem J** The sales and cost of goods sold for Lively Company for the past five years were as follows:

| | Sales | Cost of |
|---|---|---|
| Year | (net) | Goods Sold |
| 2004 | $ 9,984,960 | $ 6,240,600 |
| 2005 | 10,794,240 | 6,746,400 |
| 2006 | 12,346,560 | 7,716,600 |
| 2007 | 11,926,080 | 7,272,000 |
| 2008 | 12,747,840 | 7,920,000 |

The following information is for the seven months ended 2009 July 31:

| | |
|---|---|
| Sales | $7,748,000 |
| Purchases | 4,588,800 |
| Purchase returns | 28,800 |
| Sales returns | 173,760 |
| Merchandise inventory, | |
| 2009 January 1 | 948,000 |

To secure a loan, Lively Company has been asked to present current financial statements. However, the company does not wish to take a complete physical inventory as of 2009 July 31.

1. Indicate how financial statements can be prepared without taking a complete physical inventory.
2. From the data given, compute the estimated inventory as of 2009 July 31.

**Alternate problem K** Apple Company's records contained the following inventory information:

| | Cost | Retail |
|---|---|---|
| Sales | | $420,000 |
| Purchases | $396,000 | 582,000 |
| Purchase returns | 8,400 | 12,000 |

| | | |
|---|---|---|
| Transportation-in | 10,800 | — |
| Merchandise inventory | | |
| January 1 | 21,600 | 30,000 |

Beyond the numbers—Critical thinking

**Business decision case A** Susan Green and Carol Lewis, were interested in starting part-time business activities to supplement their family incomes. Both heard a presentation by the manufacturer of an exercise device and decided to become a distributor of this exerciser. Green's sales territory is Cobb County, and Lewis's sales territory is Gwinnett County. Each owns her own business.

To induce Green and Lewis to become distributors, the manufacturer made price concessions on the first 1,000 units purchased. The manufacturer sold the first 200 units at $ 15 each, the next 300 at $ 18 per unit, and the next 500 at $ 19 per unit. After that, Green and Lewis had to pay $ 20 per unit.

During the first year, each bought 1,200 units; coincidentally, both sold exactly 950 units for $ 27 each. Green had $ 2,600 of selling expenses; Lewis incurred $ 1,700 of selling expenses. (Green's expenses were considerably higher because on December 28 she distributed 4,000 sales brochures to households in her territory at a cost of $ 800. The brochures stressed that people would want to take off the extra pounds gained during the holiday season; also, these exercisers were inexpensive and could be used at home.)

At the end of the year, both had to determine their net incomes. Green received a B in the accounting course she took at State University. She remembered the FIFO inventory method and plans to use it. Lewis knows nothing about inventory costing methods. However, her husband is acquainted with the LIFO inventory method used at the company where he works. He will help her compute the cost of the ending inventory and the cost of goods using LIFO.

1. Prepare income statements for Green and Lewis.
2. Which business has performed better? Explain why.
3. Determine the inventory turnovers for Green and Lewis.

**Business decision case B** Connie Dalton owns and operates a sporting goods store. On February 2 the store suffered extensive fire damage, and all of the inventory was destroyed. Dalton uses periodic inventory procedure and has the following information in her accounting records, which were undamaged:

| | |
|---|---|
| Merchandise Inventory, January 1 | $ 80,000 |
| Purchases: | |
| January 8 | 32,000 |
| January 20 | 48,000 |
| January 30 | 64,000 |
| Net Sales: | |
| During January | 240,000 |
| February 1 and 2 | 16,000 |

Dalton's gross margin rate on net sales has been 40 per cent for the past three years. Her insurance company offered to pay $ 56,000 to settle this inventory loss unless Dalton can show that she suffered a greater loss. She has asked you, her CPA, to help her in determining her loss.

Answer these questions: Based on your analysis, should Dalton settle for $ 56,000? If not, how can she show that she suffered a greater loss? What is your estimate of her loss?

Annual report analysis C Refer to the financial statements of The Limited in the Annual Report Appendix. Describe how inventory values are determined (see Footnote 1). Also, determine the inventory turnover ratio for 2000.

Ethics case – Writing experience D Respond in writing to the following questions based on the ethics case concerning Terry Dorsey:

1. Do you believe that Terry's scheme will work?
2. What would you do if you were Terry's accountant?
3. Comment on each of Terry's points of justification.

Group project E In teams of two or three students, interview the manager of a merchandising company. Inquire about inventory control methods, inventory costing methods, and any other information about the company's inventory procedures. As a team, write a memorandum to your instructor summarizing the results of the interview. The heading of the memorandum should include the date, to whom it is written, from whom, and the subject matter.

Group project F In a team of two or three students, locate and visit a nearby retail store that uses perpetual inventory procedure and a computerized inventory management system. Investigate how the system works by interviewing a knowledgeable person in the company. Write a report to your instructor and make a short presentation to the class on your findings.

Group project G With a small group of students, identify and visit a retail store that uses periodic inventory procedure and uses the retail inventory method for preparing interim (monthly or quarterly) financial reports. Discover how the retail inventory method is applied and how the end-of-year inventory amount is calculated. Write a report to your instructor summarizing your findings.

Using the Internet—A view of the real world

Visit the National Association of State Boards of Accountancy website at:

Homepage

Find the address of the state board of accountancy in your state. Also check out some of the information provided at websites of other state boards by clicking on any sites that appear at the end of a listing for a particular state. In a report to your instructor, summarize what you learned about state boards at some of these sites.

Visit the Lexis-Nexis website at:

http://www.lexis-nexis.com

Determine the kinds of information that can be obtained at this site. Specifically, what kinds of products and services are available? What is the background of Lexis-Nexis? What pricing information is available for using its services? Write a report to your instructor summarizing your findings.

# UNIT 8: ACCOUNTING INFORMATION SYSTEMS

## PRINCIPLES OF ACCOUNTING SYSTEMS

### Accounting systems: From manual to computerized

The manual accounting system with general journal entry to general ledger has been in use for hundreds of years and is still used by some very small companies and is what you have learned so far.

Watch this video online: https://youtu.be/zilLsZLKA-w

Gradually, some manual systems evolved to include multiple journals and ledgers for increased efficiency.  The journals included in these systems include:

- a **sales journal** to record all credit sales
- a **purchases journal** to record all credit purchases
- a **cash receipts journal** to record all cash receipts
- a **cash disbursements journal** to record all cash payments; and
- a **general journal** to record adjusting and closing entries and any other entries that do not fit in one of the special journals.

Watch this video online: https://youtu.be/frOVDlHbHBE

Besides the general ledger, such a system normally has subsidiary ledgers (think secondary) for accounts receivable, inventory and accounts payable showing how much each customer owes, how much of each inventory part we have and how much is owed to each supplier. The general ledger shows the total amount of accounts receivable, inventory and accounts payable, but the details in the subsidiary ledgers allow companies to send bills to customers, purchase additional inventory items and pay bills to suppliers.

Watch this video online: https://youtu.be/BZqpNyimEuk

Currently,  many businesses maintain all accounting functions using a computerized accounting system. However, some small business owners still use manual systems because they are familiar and meet their needs. Your knowledge of the basic manual accounting system described in these first chapters enables you to better understand a computerized accounting system. The computer automatically performs some of the steps in the accounting cycle, such as posting journal entries to the ledger accounts, closing the books, and preparing the financial statements. However, if you understand all of the steps in the accounting cycle, you will better understand how to use the resulting data in decision making. We need to understand the how to follow the accounting process manually so that in the event there is an error made from a computerized system, you can "unwind" what was done from software with our knowledge of how to do things manually.

An **accounting system** is a set of records and the procedures and equipment used to perform the accounting functions. Manual systems consist of journals and ledgers on paper. Computerized accounting systems consist of accounting software, computer files, computers, and related peripheral equipment such as printers.

Regardless of the system, the functions of accountants include:

1. observing, identifying, and measuring economic events;
2. recording, classifying, and summarizing measurements; and
3. reporting economic events and interpreting financial statements.

Both internal and external users tell accountants their information needs. The accounting system enables a company's accounting staff to supply relevant accounting information to meet those needs. As internal and external users make decisions that become economic events, the cycle of information, decisions, and economic events begins again.

The primary focus of the first four chapters has been on how you can use an accounting system to prepare financial statements. However, we also discussed how to use that information in making decisions. Later chapters also show how to prepare information and how that information helps users to make informed decisions. We have not eliminated the preparation aspects because we believe that the most informed users are ones who also understand how the information was prepared. These users understand not only the limitations of the information but also its relevance for decision making.

In this chapter we will look at how each special journal operates.



# SPECIAL JOURNALS

Look at the following transactions of Fooz Ball Town:

- July 5 Sold $5,000 of merchandise inventory, terms 1/15, n 30, FOB Destination with a cost of goods sold of $3,000 to Robby Red.
- July 6 Paid shipping cost of $200 on merchandise sold on July 5.
- July 10 Sold $1,500 of merchandise inventory for cash, FOB Shipping Point, with a cost of goods sold of $1,000.
- July 12 Purchased $10,000 of merchandise inventory, terms 2/15, n 45, FOB Destination from Gus Grass.
- July 15 Received payment from Robby Red from July 5 sale less the discount.
- July 16 Returned $2,500 of merchandise damaged in shipment from July 12 purchase.
- July 20 Paid the utility bill for $300.
- July 25 Paid for the July 15 purchase less the return and discount.
- July 30 Sold $7,000 of merchandise inventory, terms 1/15, n 30, FOB Shipping point with cost of goods sold $5,000 to Bobby Blue.

You can see how these journal entries (using the perpetual inventory method) would be recorded in the general ledger as by clicking fooz ball town to save space.

*Note: The entries would be slightly different under the periodic inventory method as cost of goods sold and merchandise inventory are not updated until the end of the period instead of with each sale or purchase.*

The list of entries for these 9 transactions is long…can you imagine what it would look like when a company has hundreds of transactions a day? It will be overwhelming so there needs to be a better way. Special journals are a quicker and more efficient way to enter transactions. Remember, we have 5 special journals:

- a **sales journal** to record ALL CREDIT SALES
- a **purchases journal** to record ALL CREDIT PURCHASES
- a **cash receipts journal** to record ALL CASH RECEIPTS
- a **cash disbursements journal** to record ALL CASH PAYMENTS; and

- a **general journal** to record adjusting and closing entries and any other entries that do not fit in one of the special journals.

Now we will classify Fooz Ball Town's transactions into the proper special journals:

| Date | Transaction Summary | Special Journal |
|---|---|---|
| July 5 | Sold to Robby Red on credit. | Sales Journal |
| July 6 | Paid shipping cost. | Cash Disbursements Journal |
| July 10 | Sold inventory for cash. | Cash Receipts Journal |
| July 12 | Purchased inventory on credit. | Purchases Journal |
| July 15 | Received payment from Robby Red. | Cash Receipts Journal |
| July 16 | Returned damaged merchandise to supplier . | General Journal |
| July 20 | Paid utility bill. | Cash Disbursements Journal |
| July 25 | Paid for July 15 purchase. | Cash Disbursements Journal |
| July 30 | Sold to Bobby Blue on credit. | Sales Journal |

The July 10 sales is not recorded in the sales journal — why not? It was a cash sale and not on credit. The discussion continues by looking at each special journal in detail.

## Sales Journal

The sales journal is used to record **all sales on credit**. This means the customer has not paid but we will receive payment in the future. The video shows an example of a sales journal under the periodic inventory method:

Watch this video online: https://youtu.be/IJKK_qtq-Ec

Under the perpetual inventory system, the Sales Journal would have another column to show Debit to Cost of Goods Sold and a Credit to Inventory. For Fooz Ball Town, we identified the following transactions for the sales journal:

- July 5 Sold $5,000 of merchandise inventory, terms 1/15, n 30, FOB Destination with a cost of goods sold of $3,000 to Robby Red.
- July 30 Sold $7,000 of merchandise inventory, terms 1/15, n 30, FOB Shipping point with cost of goods sold $5,000 to Bobby Blue.

These entries would be recorded in the sales journal (instead of general journal entries) as:

| Sales Journal | | | |
|---|---|---|---|
| Date | Customer | DR Accounts Receivable | DR Cost of goods sold |
| | | CR Sales | CR Inventory |
| July 5 | Robby Red | $5,000 | $3,000 |
| July 30 | Bobby Blue | 7,000 | 5,000 |

| TOTALS | | $12,000 | $8,000 |
|---|---|---|---|

The subsidiary (customer) ledgers would be updated daily but at the end of the period, the TOTALS only would be recorded in posted directly into the accounts listed with no journal entry necessary.

## Cash Receipts Journal

The cash receipts journal is used to record **all receipts of cash** for any reason. Anytime money comes into the company, the cash receipts journal should be used.

Watch this video online: https://youtu.be/uxT1UxD-6w4

The cash receipts journal, under the perpetual inventory would, would also contain a column to Debit cost of goods sold and Credit inventory used for any cash sales. For Fooz Ball Town, we identified two transactions for the cash receipts journal:

- July 10 Sold $1,500 of merchandise inventory for cash, FOB Shipping Point, with a cost of goods sold of $1,000.
- July 15 Received payment from Robby Red from $5,000 sale less the 1% discount.

The cash receipts journal for these transactions would be:

| Cash Receipts Journal | | | | | | |
|---|---|---|---|---|---|---|
| Date | Account | DR Cash | DR Sales Discounts | CR Accounts Receivable | CR Sales | DR Cost of goods Sold CR Inventory |
| July 10 | Checking | 1,500 | | | 1,500 | 1,000 |
| July 15 | Checking | 4,950 | 50 | 5,000 | | |
| TOTALS | | 6,450 | 50 | 5,000 | 1,500 | 1,000 |

At the end of the period, the TOTALS only would be recorded in posted directly into the accounts listed with no journal entry necessary.

## Purchase Journal

The purchases journal is used to record **all purchases on credit**. This means purchases we have not paid for but will pay for in the future. There was one transaction identified for the purchase journal for Fooz Ball Town:

- July 12 Purchased $10,000 of merchandise inventory, terms 2/15, n 45, FOB Destination from Gus Grass.

This would be record in a purchases journal (under the perpetual inventory system as):

| Purchases Journal | | |
|---|---|---|
| Date | Vendor | DR Merchandise Inventory CR Accounts Payable |
| July 12 | Gus Grass | 10,000 |

| TOTALS | | 10,000 |
|---|---|---|

The purchase from Gus Grass would be recorded in the accounts payable subsidiary ledger and the total would be recorded at the end on the period by posting directly to merchandise inventory and accounts payable.

This video demonstrates the purchase journal and cash disbursement journal:

Watch this video online: https://youtu.be/64vQGe8i74U

## Cash Disbursement Journal

The cash disbursement journal is used to record **all payments of cash** regardless of the reason. Anytime cash leaves the company, it should be recorded in the cash disbursement journal. We identified these transaction from Fooz Ball Town for the cash disbursement journal:

- July 6 Paid shipping cost of $200 on merchandise sold on July 5.
- July 20 Paid the utility bill for $300.
- July 25 Paid for the July 15 purchase from Gus Grass of $10,000 less the 2% discount and $2,500 return.

These entries would be recorded into a cash disbursement journal (under the perpetual inventory method) as:

| Cash Disbursement Journal | | | | | | |
|---|---|---|---|---|---|---|
| Date | Check # | Account | DR Accts Payable | DR Other | CR Mdse Inventory | CR Cash |
| July 6 | | Merchandise Inventory | | 200 | | 200 |
| July 20 | | Utilities Expense | | $300 | | $300 |
| July 25 | | Gus Grass | 7,500 | | 150 | 7,350 |
| TOTALS | | | $7,500 | $300 | $150 | $7,650 |

At the end of the period, we would post the totals of $7,650 credit to cash, the $7,500 debit to accounts payable, and the $150 credit to merchandise inventory. The DR (debit) Other column would be handled a little differently as you need to look to the account column to find out where these individual amounts should be posted. In this case, we would post a $200 debit to merchandise inventory and a $300 debit to utility expense. Under the periodic inventory method, the July 6 shipping costs would go to a Transportation In account and the July 25 discount would go to Purchases Discounts.

## General Journal

When using special journals, the general journal is used to record **all adjusting entries, closing entries and anything else that doesn't fit into the other special journals.** An example of this would be any returns or allowances coming from either the sales or purchase side. For Fooz Ball Town, there is one transaction for the general journal:

- July 16 Returned $2,500 of merchandise damaged in shipment from July 12 purchase.

This journal entry is recorded, under the perpetual inventory method as:

| Date | Account | Debit | Credit |
|---|---|---|---|

| | | | |
|---|---|---|---|
| July 16 | Accounts Payable | 2,500 | |
| | Merchandise Inventory | | 2,500 |

This entry would then be posted to the accounts payable and merchandise inventory accounts both for $2,500. Under the periodic inventory method, the credit would be to Purchase Returns and Allowances.



# SUBSIDIARY LEDGERS AND CONTROL ACCOUNTS

A subsidiary ledger is a detailed list to support a control account. A control account appears on the balance sheet in summary or total, and are accounts like accounts receivable, accounts payable, and inventory. This video explains the theory (the video refers to a Debitor account which is Accounts Receivable and and a Creditor account which is Accounts Payable. A Debtor is a customer and a Creditor is a vendor)

Watch this video online: https://youtu.be/_U5ZyGibqKQ

This section will look at the transactions for Fooz Ball Town and how to post to subsidiary ledgers for accounts receivable and accounts payable.

## Accounts Receivable Subsidiary Ledger

The accounts receivable subsidiary ledger will contain an account for each individual customer. The sales, payments, and returns and allowances are recorded into the individual customer accounts as well as the bigger picture (control account) accounts receivable account. For Fooz Ball Town, the sales entries were:

- July 5 Sold $5,000 of merchandise inventory, terms 1/15, n 30, FOB Destination with a cost of goods sold of $3,000 to Robby Red.
- July 10 Sold $1,500 of merchandise inventory for cash, FOB Shipping Point, with a cost of goods sold of $1,000.
- July 15 Received payment from Robby Red from July 5 sale less the discount.
- July 30 Sold $7,000 of merchandise inventory, terms 1/15, n 30, FOB Shipping point with cost of goods sold $5,000 to Bobby Blue.

These entries were recorded in the sales journal and cash receipts journal as follows:

| Sales Journal | | | |
|---|---|---|---|
| Date | Customer | DR Accounts Receivable | DR Cost of goods sold |
| | | CR Sales | CR Inventory |
| July 5 | Robby Red | $5,000 | $3,000 |

| | | | |
|---|---|---|---|
| July 30 | Bobby Blue | 7,000 | 5,000 |
| TOTALS | | $12,000 | $8,000 |

| Cash Receipts Journal | | | | | | |
|---|---|---|---|---|---|---|
| Date | Customer | DR Cash | DR Sales Discounts | CR Accounts Receivable | CR Sales | DR Cost of goods Sold CR Inventory |
| July 10 | Cash Sale | 1,500 | | | 1,500 | 1,000 |
| July 15 | Robby Red | 4,950 | 50 | 5,000 | | |
| TOTALS | | 6,450 | 50 | 5,000 | 1,500 | 1,000 |

These journals would be posted to the Accounts Receivable control account like this:

| Account: Accounts Receivable | | | | |
|---|---|---|---|---|
| Date | Description | Debit | Credit | Balance |
| July 31 | from Sales Journal | 12,000 | | 12,000 |
| July 31 | from Cash Receipts Journal | | 5,000 | 7,000 |

The customer (subsidiary) ledger would be updated for Robby Red and Bobby Blue as:

| Customer Account: Robby Red | | | | |
|---|---|---|---|---|
| Date | Description | Debit | Credit | Balance |
| July 5 | Sale | 5,000 | | 5,000 |
| July 15 | Payment | | 5,000 | -0- |
| | | | | |
| Customer Account: Bobby Blue | | | | |
| Date | Description | Debit | Credit | Balance |
| July 15 | Sale | 7,000 | | 7,000 |

At the end of the period, a schedule is prepared to verify (or prove) the Accounts Receivable (control account) balance reported on the balance sheet. This schedule is a listing of all customers with the ending amounts owed and should always match the ending balance in Accounts Receivable. The schedule of accounts receivable for Fooz Ball Town would be:

| Fooz Ball Town |
|---|
| Schedule of Accounts Receivable |

| July 31 | |
|---|---|
| | |
| Robby Red | $0 |
| Bobby Blue | 7,000 |
| Total Accounts Receivable | $ 7,000 |

*Note: It would not be necessary to include customers with zero balances but it is included here just so you can see how the subsidiary ledger works.* Notice how the schedule of accounts receivable balance equals the ending accounts receivable balance (control account).

## Accounts Payable Subsidiary Ledger

The accounts payable subsidiary ledgers works the same way as accounts receivable with the control account of accounts payable and the subsidiary ledger a vendor ledger to provide a listing of everyone we owe. The purchases, payments, returns and allowances are recorded in the individual vendor accounts as well as in the accounts payable account. The purchase transactions for Fooz Ball Town are:

- July 12 Purchased $10,000 of merchandise inventory, terms 2/15, n 45, FOB Destination from Gus Grass.
- July 16 Returned $2,500 of merchandise damaged in shipment from July 12 purchase.
- July 25 Paid for the July 15 purchase from Gus Grass less the return and discount.

These transactions were recorded, under the perpetual inventory method, in the following journals:

| Purchases Journal | | |
|---|---|---|
| Date | Vendor | DR Merchandise Inventory<br>CR Accounts Payable |
| July 12 | Gus Grass | 10,000 |
| TOTALS | | 10,000 |

| Cash Disbursement Journal | | | | |
|---|---|---|---|---|
| Date | Account | DR Accts Payable | CR Mdse Inventory | CR Cash |
| July 25 | Gus Grass | 7,500 | 150 | 7,350 |

| General Journal | | | |
|---|---|---|---|
| Date | Account | Debit | Credit |
| July 16 | Accounts Payable | 2,500 | |
| | Merchandise Inventory | | 2,500 |

These journals would be posted to the Accounts Payable control account like this:

| Account: Accounts Payable | | | | |
|---|---|---|---|---|
| Date | Description | Debit | Credit | Balance |
| July 16 | Gus Grass Return | 2,500 | | -2,500 |
| July 31 | from Purchases Journal | | 10,000 | 7,500 |
| July 31 | from Cash Disbursements Journal | | 7,500 | -0- |

The vendor (subsidiary) ledger would be updated for Gus Grass:

| Vendor Account: Gus Grass | | | | |
|---|---|---|---|---|
| Date | Description | Debit | Credit | Balance |
| July 12 | Purchase | | 10,000 | 10,000 |
| July 16 | Return | 2,500 | | 7,500 |
| July 25 | Payment | | 7,500 | -0- |

The vendor balance for Gus Grass is $0 and the accounts payable balance is $0. Since both are zero and match, it would not be necessary to prepare a schedule of accounts payable. If there is a balance, a schedule of accounts payable would be prepared in the same manner as accounts receivable.



# INTERNAL CONTROL AND ACCOUNTING SYSTEM DESIGN

**Internal control**, as defined in accounting and auditing, is a process for assuring achievement of an organization’s objectives in operational effectiveness and efficiency, reliable financial reporting, and compliance with laws, regulations and policies. A broad concept, internal control involves everything that controls risks to an organization.

It is a means by which an organization’s resources are directed, monitored, and measured. It plays an important role in detecting and preventing fraud and protecting the organization’s resources, both physical (e.g., machinery and property) and intangible (e.g., reputation or intellectual property such as trademarks).

Keeping track of Inventory

*Clerk conducting physical inventory count using a handheld computer in a Tesco Lotus supermarket in Sakon Nakhon, Thailand*

At the organizational level, internal control objectives relate to the reliability of financial reporting, timely feedback on the achievement of operational or strategic goals, and compliance with laws and regulations. At the specific transaction level, internal control refers to the actions taken to achieve a specific objective (e.g., how to ensure the organization's payments to third parties are for valid services rendered.) Internal control procedures reduce process variation, leading to more predictable outcomes. Internal control is a key element of the Foreign Corrupt Practices Act(FCPA) of 1977 and the Sarbanes–Oxley Act of 2002, which required improvements in internal control in United States public corporations. Internal controls within business entities are also referred to as **operational controls.**

Internal control plays an important role in the prevention and detection of fraud. Under the Sarbanes-Oxley Act, companies are required to perform a fraud risk assessment and assess related controls. This typically involves identifying scenarios in which theft or loss could occur and determining if existing control procedures effectively manage the risk to an acceptable level. The risk that senior management might override important financial controls to manipulate financial reporting is also a key area of focus in fraud risk assessment. The AICPA, IIA, and ACFE also sponsored a guide published during 2008 that includes a framework for helping organizations manage their fraud risk.

Controls can be evaluated and improved to make a business operation run more effectively and efficiently. For example, automating controls that are manual in nature can save costs and improve transaction processing. If the internal control system is thought of by executives as only a means of preventing fraud and complying with laws and regulations, an important opportunity may be missed. Internal controls can also be used to systematically improve businesses, particularly in regard to effectiveness and efficiency.

### Internal control

An effective **internal control structure** includes a company's plan of organization and all the procedures and actions it takes to:

•Protect its assets against theft and waste.

•Ensure compliance with company policies and federal law.

•Evaluate the performance of all personnel to promote efficient operations.

•Ensure accurate and reliable operating data and accounting reports.

As you study the basic procedures and actions of an effective internal control structure, remember that even small companies can benefit from using some internal control measures. Preventing theft and waste is only a part of internal control.

In general terms, the purpose of internal control is to ensure the efficient operations of a business, thus enabling the business to effectively reach its goals.

Companies protect their assets by (1) segregating employee duties, (2) assigning specific duties to each employee, (3) rotating employee job assignments, and (4) using mechanical devices.

Unfortunately, even though a company implements all of these features in its internal control structure, theft may still occur. If employees are dishonest, they can usually figure out a way to steal from a company, thus circumventing even the most effective internal control structure. Therefore, companies should carry adequate casualty insurance on assets. This insurance reimburses the company for loss of a nonmonetary asset such as specialized equipment. Companies should also have **fidelity bonds** on employees handling cash and other negotiable instruments. These bonds ensure that a company is reimbursed for losses due to theft of cash and other monetary assets. With both casualty insurance on assets and fidelity bonds on employees, a company can recover at least a portion of any loss that occurs.

## Internal Control Responsibility

Internal control is the general responsibility of all members in an organization. However, the following three groups have specific responsibilities regarding the internal control structure.

- Management holds ultimate responsibility for establishing and maintaining an effective internal control structure. Through leadership and example, management demonstrates ethical behavior and integrity within the company.

- The board of directors provides guidance to management. Because board members have a working knowledge of the functions of the company, they help shield the company from managers who try to override some control procedures for dishonest purposes. Often, an efficient board that has access to the company's internal auditors can discover such fraud.
- Auditors within the organization evaluate the effectiveness of the internal control structure and determine whether company policies and procedures are being followed. All employees are part of a communications network that enables an internal control structure to work effectively.

## Computer Controls

Computerized financial records require the same internal control principles of separation of duties and control over access as a manual accounting system. The exact control steps depend on whether a company is using mainframe computers and minicomputers or microcomputers.

In a personal computer environment, the following controls can be useful:

Exhibit 68: Flow of documents and goods in a merchandising transaction.

•Require computer users to have tight control over storage of programs and data. Just as one person maintains custody over a certain set of records in a manual system, in a computer system one person maintains custody over certain information (such as the accounts receivable subsidiary ledger). Make backup copies that are retained in a different secured location.

•Require passwords (kept secret) to gain entry into data files maintained on the hard disk.

•In situations where a local area network (LAN) links the personal computers into one system, permit only certain computers and persons in the network to have access to some data files (the accounting records, for example).

Computerized accounting systems do not lessen the need for internal control. In fact, access to a computer by an unauthorized person could result in significant theft in less time than with a manual system.

# ACCOUNTING IN THE HEADLINES

## What internal control weakness at Netflix allowed its former VP of IT operations to allegedly receive kickbacks from technology firms?

In November 24, 2014, Netflix filed a lawsuit against its former vice president of IT operations, Mike Kail, alleging fraud, breach of fiduciary duties, and other charges.  Here is an excerpt from the lawsuit filing in  Superior Court of the State of California, Santa Clara County:.

"…During his tenure at Netflix, including as Netflix's Vice President of Information Technology Operations, Kail was a trusted senior-level Netflix employee.  Kail's job responsibilities at Netflix included negotiating and executing contracts on behalf of Netflix to acquire IT-related products and services…approving invoices for payments that third parties would request related to IT products and services purchased by Netflix….after Kail approved such invoices, Netflix would pay the third parties for these approved invoices. Kail was a trusted, senior-level Netflix employee, with authority to enter into appropriate contracts and approve appropriate invoices." *(See entire legal document at http://www.scribd.com/doc/248259590/Netflix-v-Kail.)*

Netflix is suing Mr. Kail for fraud, breach of fiduciary duties, and other actions.  Mr. Kail was in charge of entering into and authorizing contracts for Netflix's tech vendors, which included two companies, Vistara IT and Netenrich (both founded/owned by Mr. Raju Chekuri.)  At the same time, Mr. Kail had his own company on the side called Unix Mercenary, which he did not disclose to Netflix.

Mr. Kail's company Unix Mercenary received 12 – 15% commissions on all contract invoices paid by Netflix to Vistara IT and Netenrich.  Part of the evidence that Netflix outlines in its lawsuit are emails between Mr. Kail and employees of Netenrich which refer to "referral fees" from Netenrich to Unix.  Here is an excerpt from an email from Netenrich to Kail (from the above-mentioned lawsuit filing):

*…"[We] discussed getting you paid and I just need to ensure the payments from Netflix are in Netenrich's bank account…I suggest we employ the following process to ensure you receive your referral fees on a timely basis…"*

Over a three year period, Netflix paid approximately $3.7 million to Vistara IT and Netenrich, which would translate into commission payments of between $440,000 – $550,000 to Unix Mercenary.  The lawsuit only mentions specific payments of $76,000 to Unix Mercenary.

Incidentally, Mike Kail left Netflix in August 2014 to become Yahoo's Chief Information Officer (CIO).

Questions

1. What internal control principle(s) does it appear was (were) violated at Netflix?
2. How might Netflix have designed its internal processes differently to avoid the situation that arose with Mr. Kail?

3. Should Mr. Kail be held totally liable for this situation? Does Netflix have any degree of responsibility in this situation?



# EXERCISES: UNIT 8

Questions

> Why use special journals?

>What are the advantages to using subsidiary ledgers?

> What are the disadvantages to using subsidiary ledgers?

> Does the term "accounting system" always mean a computerized system?  Why or why not?

Exercises

Exercise 1:  Match the special journal with its definition:

| Journals | Definition |
|---|---|
| a. Cash Receipts Journal | _____ 1. Purchases on account |
| b. Cash Disbursement Journal | _____ 2. Sales on account |
| c. Sales Journal | _____ 3. Cash paid by the company. |
| d. Purchases Journal | _____ 4. Cash Received by the company. |
| e. General Journal | _____ 5. Adusting, closing and returns. |

Exercise 2:  Enter P for Purchases journal, S for Sales journal, CR for Cash Receipts journal, CD for Cash Disbursements, and G for General journal to identify which special journal these transactions would appear:

| | |
|---|---|
| a. Purchased supplies for cash | __________ |
| b. Customer paid on account | __________ |
| c. Borrowed cash from the bank. | __________ |
| d. Purchased inventory on account. | __________ |
| e. Sold merchandise for cash. | __________ |
| f. Returned inventory purchased. | __________ |
| g. Paid utility bill. | __________ |

| | |
|---|---|
| h. Sold merchandise on credit. | __________ |
| i. Customer returned merchandise. | __________ |
| j. Paid vendor for purchase. | __________ |

**Exercise 3:** The following transactions appeared for Some Company, Inc. Identify which special journal each transaction should be recorded (use S for Sales journal, P for Purchases journal, CR for Cash Receipts journal, CD for Cash Disbursements, and G for General journal).

| |
|---|
| Jan 1 Some Company issued $50,000 in stock to investors. |
| Jan 5 Purchase a equipment by paying $15,000 cash. |
| Jan 8 Purchased $2,000 in inventory from Bottle Inc. terms 1/10, N30 |
| Jan 10 Sold $2,000 of inventory to ABC Company for $4,000 terms 2/10,N30. |
| Jan 15 Made a partial payment to Bottle Inc. for $1,500. |
| Jan 16 Purchased $1,000 of inventory for cash. |
| Jan 20 Sold $1,000 of inventory to JKL Company for $2,000 terms 2/10, N30. |
| Jan 20 Received full payment for Jan 10 sale to ABC less the discount. |
| Jan 21 JKL Company returned $200 of merchandise for a credit of $400. |
| Jan 25 Purchased $500 of supplies on credit. |

**Exercise 4:** Using the transactions from Exercise 3, complete the following:

1. Create an accounts receivable ledger account and customer ledger for ABC Company and JKL Company.
2. Post the appropriate entries to the accounts receivable control ledger (use the individual transactions) and the customer ledgers.
3. Prepare a Schedule of Accounts Receivable to prove the balance in accounts receivable.

**Exercise 5:** Using the transactions from Exercise 3, complete the following:

1. Create an accounts payable ledger account and vendor ledger for Bottle Inc..
2. Post the appropriate entries to the accounts payable control ledger (use the individual transactions) and the vendor ledger.
3. Prepare a Schedule of Accounts Payable to prove the balance in accounts payable.

# UNIT 9: CASH

## INTERNAL CONTROL STRUCTURE

### Internal control

An effective internal control structure includes a company's plan of organization and all the procedures and actions it takes to:

- Protect its assets against theft and waste.
- Ensure compliance with company policies and federal law.
- Evaluate the performance of all personnel to promote efficient operations.
- Ensure accurate and reliable operating data and accounting reports.

As you study the basic procedures and actions of an effective internal control structure, remember that even small companies can benefit from using some internal control measures. Preventing theft and waste is only a part of internal control.

In general terms, the purpose of internal control is to ensure the efficient operations of a business, thus enabling the business to effectively reach its goals.

Watch this video online: https://youtu.be/8jy2DwQegRY

Companies protect their assets by (1) segregating employee duties, (2) assigning specific duties to each employee, (3) rotating employee job assignments, and (4) using mechanical devices.

Segregation of employee duties Segregation of duties requires that someone other than the employee responsible for safeguarding an asset must maintain the accounting records for that asset. Also, employees share responsibility for related transactions so that one employee's work serves as a check on the work of other employees.

When a company segregates the duties of employees, it minimizes the probability of an employee being able to steal assets and cover up the theft. For example, an employee could not steal cash from a company and have the theft go undetected unless someone changes the cash records to cover the shortage. To change the records, the employee stealing the cash must also maintain the cash records or be in collusion with the employee who maintains the cash records.

Assignment of specific duties to each employee When the responsibility for a particular work function is assigned to one employee, that employee is accountable for specific tasks. Should a problem occur, the company can quickly identify the responsible employee.

When a company gives each employee specific duties, it can trace lost documents or determine how a particular transaction was recorded. Also, the employee responsible for a given task can provide information about that task. Being responsible for specific duties gives people a sense of pride and importance that usually makes them want to perform to the best of their ability.

Rotation of employee job assignments Some companies rotate job assignments to discourage employees from engaging in long-term schemes to steal from them. Employees realize that if they steal from the company, the next employees assigned to their positions may discover the theft.

Frequently, companies have the policy that all employees must take an annual vacation. This policy also discourages theft because many dishonest schemes collapse when the employee does not attend to the scheme on a daily basis.

**Use of mechanical devices** Companies use several mechanical devices to help protect their assets. Check protectors (machines that perforate the check amount into the check), cash registers, and time clocks make it difficult for employees to alter certain company documents and records.

**Record Keeping**. Companies should maintain complete and accurate accounting records. One or more business documents support most accounting transactions. These source documents are an integral part of the internal control structure. For optimal control, source documents should be serially numbered.

The best method to ensure such accounting records is to hire and train competent and honest individuals. Periodically, supervisors evaluate an employee's performance to make sure the employee is following company policies. Inaccurate or inadequate accounting records serve as an invitation to theft by dishonest employees because theft can be concealed more easily.

**Employees**. Internal control policies are effective only when employees follow them. To ensure that they carry out its internal control policies, a company must hire competent and trustworthy employees. Thus, the execution of effective internal control begins with the time and effort a company expends in hiring employees. Once the company hires the employees, it must train those employees and clearly communicate to them company policies, such as obtaining proper authorization before making a cash disbursement. Frequently, written job descriptions establish the responsibilities and duties of employees. The initial training of employees should include a clear explanation of their duties and how to perform them.

Companies should carry adequate casualty insurance on assets. This insurance reimburses the company for loss of a nonmonetary asset such as specialized equipment. Companies should also have **fidelity bonds** on employees handling cash and other negotiable instruments. These bonds ensure that a company is reimbursed for losses due to theft of cash and other monetary assets. With both casualty insurance on assets and fidelity bonds on employees, a company can recover at least a portion of any loss that occurs

**Legal requirements.** In publicly held corporations, the company's internal control structure must satisfy the requirements of federal law. In December 1977, Congress enacted the Foreign Corrupt Practices Act (FCPA). This law requires a publicly held corporation to devise and maintain an effective internal control structure and to keep accurate accounting records. This law came about partly because company accounting records covered up bribes and kickbacks made to foreign governments or government officials. The FCPA made this specific type of bribery illegal. The Sarbanes-Oxley Act came about in 2002 after scandals involving Enron, World Com and a CPA firm Arthur Anderson. This video was from a few years ago, but will give you a fun summary of Sarbanes-Oxley and the Enron scandal.

Watch this video online: https://youtu.be/n2ylBKOURtw

According to the Committee of Sponsoring Organizations of the Treadway Commission, there are five components of an internal control structure. When these components are linked to the organization's operations, they can quickly respond to shifting conditions. The components are:

1. **Control environment.** The control environment is the basis for all other elements of the internal control structure. The control environment includes many factors such as ethical values, management's philosophy, the integrity of the employees of the corporation, and the guidance provided by management or the board of directors.
2. **Risk assessment.** After the entity sets objectives, the risks (such as theft and waste of assets) from external and internal sources must be assessed. Examining the risks associated with each objective allows management to develop the means to control these risks.
3. **Control activities.** To address the risks associated with each objective, management establishes control activities. These activities include procedures that employees must follow. Examples include procedures to protect the assets through segregation of employee duties and the other means we discussed earlier.
4. **Information and communication.** Information relevant to decision making must be collected and reported in a timely manner. The events that yield these data may come from internal or external sources. Communication throughout the entity is important to achieve management's goals. Employees must understand what is expected of them and how their responsibilities relate to the work of others. Communication with external parties such as suppliers and shareholders is also important.

5. **Monitoring**. After the internal control structure is in place, the firm should monitor its effectiveness so that it can make changes before serious problems arise. In testing components of the internal control structure, companies base their thoroughness on the risk assigned to those components.

To evaluate how well employees are doing their jobs, many companies use an internal auditing staff. **Internal auditing** consists of investigating and evaluating employees' compliance with the company's policies and procedures. Companies employ **internal auditors** to perform these audits. Trained in company policies and internal auditing duties, internal auditors periodically test the effectiveness of controls and procedures throughout the company.

Internal auditors encourage operating efficiency throughout the company and are alert for breakdowns in the company's internal control structure. In addition, internal auditors make recommendations for the improvement of the company's internal control structure. All companies and nonprofit organizations can benefit from internal auditing. However, internal auditing is especially necessary in large organizations because the owners (stockholders) cannot be involved personally with all aspects of the business.

Internal control is the general responsibility of all members in an organization.  Unfortunately, even though a company implements all of these features in its internal control structure, theft may still occur. If employees are dishonest, they can usually figure out a way to steal from a company, thus circumventing even the most effective internal control structure. It is important to remember the cost of an internal control should not outweigh the benefit to the company.



# CASH AND INTERNAL CONTROL

Since cash is the most liquid of all assets, a business cannot survive and prosper if it does not have adequate control over its cash.  Cash is the asset that has the greatest chance of "going missing" and this is why we must ensure that we have strong internal controls build around the cash process.  Since many business transactions involve cash, it is a vital factor in the operation of a business. Of all the company's assets, cash is the most easily mishandled either through theft or carelessness. To control and manage its cash, a company should:

- Account for all cash transactions accurately so that correct information is available regarding cash flows and balances.
- Make certain that enough cash is available to pay bills as they come due.
- Avoid holding too much idle cash because excess cash could be invested to generate income, such as interest.
- Prevent loss of cash due to theft or fraud.

The need to control cash is clearly evident and has many aspects. Without the proper timing of cash flows and the protection of idle cash, a business cannot survive.

Companies protect their assets by (1) segregating employee duties, (2) assigning specific duties to each employee, (3) rotating employee job assignments, and (4) using mechanical devices. This video highlights the problems and controls needed when dealing with cash:

Watch this video online: https://youtu.be/jjykI2-FXko

When a merchandising company sells its merchandise inventory, it may receive cash immediately or several days or weeks later. A clerk receives the cash immediately over the counter, records it, and places it in a cash register.

The presence of the customer as the sale is rung up usually ensures that the cashier enters the correct amount of the sale in the cash register. At the end of each day, stores reconcile the cash in each cash register with the cash register tape or computer printout for that register.

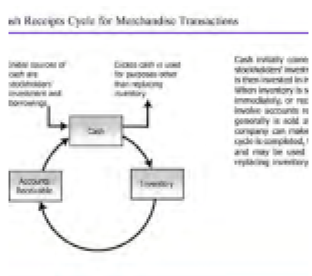
*Did you know?* The cheapest and easiest internal control test is by involving the public. If a company requires all transactions be entered in the cash register, the company can do a “promotion” that will verify employees are following this. The promotions would be like “If you receipt has a red star on the back, get a free cookie” or “If you do not get a receipt, receive a free drink”. Sound familiar? The public is now looking for a receipt for each transaction and will ask if they don’t receive it. The benefit of finding theft will outweigh the cost of giving away a little free food.

Payments received later are almost always in the form of checks. Stores prepare a record of the checks received as soon as they are received. Some merchandising companies have customers send the payments directly to the bank instead of the company itself. Although businesses vary their specific procedures for controlling cash receipts, they usually observe the following principles:

- Prepare a record of all cash receipts as soon as cash is received. Most thefts of cash occur before a record is made of the receipt. Once a record is made, it is easier to trace a theft.
- Deposit all cash receipts intact as soon as feasible, preferably on the day they are received or on the next business day. Undeposited cash is more susceptible to misappropriation.
- Arrange duties so that the employee who handles cash receipts does not record the receipts in the accounting records. This control feature follows the general principle of segregation of duties given earlier in the chapter, as does the next principle.
- Arrange duties so that the employee who receives the cash does not disburse the cash. This control measure is possible in all but the smallest companies.

Companies also need controls over cash disbursements. Since a company spends most of its cash by check, many of the internal controls for cash disbursements deal with checks and authorizations for cash payments. The basic principle of segregation of duties also applies in controlling cash disbursements. Following are some basic control procedures for cash disbursements:

- Make all disbursements by check or from petty cash. Obtain proper approval for all disbursements and create a permanent record of each disbursement. Many retail stores make refunds for returned merchandise from the cash register. When this practice is followed, clerks should have refund tickets approved by a supervisor before refunding cash.
- Require all checks to be serially numbered and limit access to checks to employees authorized to write checks.
- Require two signatures on each check over a material amount so that one person cannot withdraw funds from the bank account.
- Arrange duties so that the employee who authorizes payment of a bill does not sign checks. Otherwise, the checks could be written to friends in payment of fictitious invoices.
- •equire approved documents to support all checks issued.

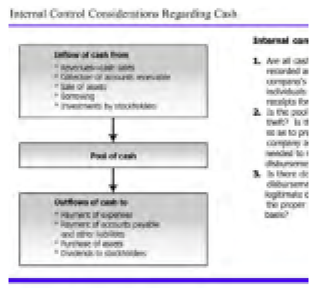


*Click Image to Enlarge*

- Instruct the employee authorizing cash disbursements to make certain that payment is for a legitimate purpose is made out for the exact amount and to the proper party.
- Stamp the supporting documents paid when liabilities are paid and indicate the date and number of the check issued. These procedures lessen the chance of paying the same debt more than once.
- Arrange duties so that those employees who sign checks neither have access to canceled checks nor prepare the bank reconciliation. This policy makes it more difficult for an employee to conceal a theft.

- Have an employee who has no other cash duties prepare the bank reconciliation each month, so that errors and shortages can be discovered quickly.
- Void all checks incorrectly prepared. Mark these checks void and retain them to prevent unauthorized use.

In the next section, we discuss the bank checking account. If you have a personal checking account, some of this information will be familiar to you.




*Click Image to Enlarge*



# PREPARING A BANK RECONCILIATION

In accounting, **cash** includes coins; currency; undeposited negotiable instruments such as checks, bank drafts, and money orders; amounts in checking and savings accounts; and demand certificates of deposit. A **certificate of deposit (CD)** is an interest-bearing deposit that can be withdrawn from a bank at will (demand CD) or at a fixed maturity date (time CD). Only demand CDs that may be withdrawn at any time without prior notice or penalty are included in cash. Cash does not include postage stamps, IOUs, time CDs, or notes receivable.

Most companies use checking accounts to handle their cash transactions. The company deposits its cash receipts in a bank checking account and writes checks to pay its bills. Keep in mind, a bank account is an asset to the company BUT to the bank your account is a liability because the bank owes the money in your bank account to you.  For this reason, in your bank account, deposits are credits (remember, liabilities increase with a credit) and checks and other reductions are debits (liabilities decrease with a debit).

The bank sends the company a statement each month. The company checks this statement against its records to determine if it must make any corrections or adjustments in either the company's balance or the bank's balance. A bank reconciliation is a schedule the company (depositor) prepares to reconcile, or explain, the difference between the cash balance on the bank statement and the cash balance on the company's books. The company prepares a bank reconciliation to determine its actual cash balance and prepare any entries to correct the cash balance in the ledger.

## Bank Statement

A bank statement is a record of your bank account transactions, typically for one month, prepared by the bank.  A bank statement looks like this:

| | | | |
|---|---|---|---|
| First Bank | | | |
| Virginia Beach, VA | | | |
| Customer: My Company | | | |
| 1111 College Way | | *Statement Date September 30* | |
| Virginia Beach, VA | | | |
| | | | |
| September 1 Beginning Balance | | $16,850 | |
| + Deposits and other Credits | | $22,367 | |
| – Checks and other Debits | | ($11,822) | |
| September 30 ENDING BALANCE | | $27,395 | |
| | | | |
| Deposits and Other Credits | | | |
| 1-Sep | $1,500 | 25-Sep | $10,000 |
| 15-Sep | $2,514 | 29-Sep | $4,500 |
| 16-Sep | $350 | Interest | $3 |
| 20-Sep | $500 | CM | $3,000 |
| | | Total Deposits | $22,367 |
| Checks and Other Debits | | | |
| 2001 | 9/1 | $750 | |
| 2002 | 9/5 | $980 | |
| 2003 | 9/5 | $275 | |
| 2005 | 9/10 | $5,843 | |
| 2006 | 9/15 | $333 | |
| 2007 | 9/21 | $480 | |
| 2010 | 9/28 | $2,571 | |
| 2011 | 9/28 | $235 | |
| SC | 9/30 | $5 | |
| NSF | 9/18 | $350 | |
| | | Total Checks | $11,822 |

| ***Notes:*** | | | | | |
|---|---|---|---|---|---|
| CM is for collection of a note. Note was for $3500 but bank charged a $500 collection fee. | | | | | |
| SC is for bank service charges. | | | | | |
| NSF is for customer payment that could not be funded due to Non Sufficient Funds. | | | | | |

This bank statement is an example of the transactions that occurred during the month. In the Deposit and credits section, you see the deposits made into the account and a CM which is a collection of a note (see note at bottom of statement) and interest the bank has paid to your account. In the Checks and debits section, you see the individual checks that have been processed by the bank and you also see SC for a bank service charge on your account as well as a NSF (stands for Non Sufficient Funds) and means we made a deposit from a customer but the customer did not have enough money to pay the check (bounced check).

## Company's Records

The company's records (or books) refers to the general ledger posting and can be in the form of cash disbursement journal, cash receipt journal, cash general ledger postings or lists of cash transactions. An example of a cash listing is:

| ***My Company's Records*** | | | | |
|---|---|---|---|---|
| Sept 1 Cash Balance | | | | $16,850 |
| Deposits: | | | | |
| 1-Sep | $1,500 | | | |
| 14-Sep | $2,514 | | | |
| 15-Sep | $350 | | | |
| 20-Sep | $500 | | | |
| 24-Sep | $10,000 | | | |
| 28-Sep | $4,500 | | | |
| 30-Sep | $6,700 | | | |
| | Total Deposits | | | $26,064 |
| Checks: | | | | |
| 2001 | 1-Sep | $750 | Payroll | |
| 2002 | 5-Sep | $980 | Rent | |
| 2003 | 5-Sep | $275 | Supplies | |
| 2004 | 8-Sep | $1,000 | Inventory | |
| 2005 | 10-Sep | $5,483 | Equipment | |

| | | | | |
|---|---|---|---|---|
| 2006 | 15-Sep | $333 | Supplies | |
| 2007 | 20-Sep | $480 | Inventory | |
| 2008 | 20-Sep | $650 | Payroll | |
| 2009 | 22-Sep | $200 | Postage | |
| 2010 | 28-Sep | $2,571 | Sales Commissions | |
| 2011 | 28-Sep | $235 | Utilities | |
| 2012 | 30-Sep | $5,500 | Equipment | |
| | Total Checks | | | ($18,457) |
| Sept 30 Cash Balance | | | | $24,457 |

The bank balance on September 30 is $27,395 but according to our records, the ending cash balance is $24,457. We need to do a bank reconciliation to find out why there is a difference.

## Bank Reconciliation

A bank reconciliation compares the bank statement and our company's records and reconciles or balances to two account balances. How does it do this? There are several items of information we can get by comparing the bank statement to our records — any thing that doesn't match or doesn't exist on both places is called a reconciling item. A reconciling item will be added or subtracted to the bank or book side of the reconciliation. The following table will give you some examples of how these reconciling items apply in a bank reconciliation:

| Bank Reconciliation | | |
|---|---|---|
| Ending Cash Balance per Bank | | Ending Cash Balance per Books |
| Add: Deposits in Transit | | Add: Note Collections |
| | | Add: Interest |
| Subtract: Outstanding Checks | | Subtract: Customer NSF |
| | | Subtract: Bank Service Fees |
| Add/Subtract Bank errors | | Add/Subtract Book errors |
| = Adjusted Bank Balance | | = Adjusted Book Balance |

**Deposits.** Compare the deposits listed on the bank statement with the deposits on the company's books. To make this comparison, place check marks in the bank statement and in the company's books by the deposits that agree. Then determine the deposits in transit. A **deposit in transit** is typically a day's cash receipts recorded in the depositor's books in one period but recorded as a deposit by the bank in the succeeding period. The most common deposit in transit is the cash receipts deposited on the last business day of the month. Normally, deposits in transit occur only near the end of the period covered by the bank statement. For example, a deposit made in a bank's night depository on May 31 would be recorded by the company on May 31 and by the bank on June 1. Thus, the deposit does not appear on a bank statement for the month ended May 31. Also check the deposits in transit listed in last month's bank reconciliation against the bank statement. Immediately investigate any deposit made during the month but missing from the bank statement (unless it involves a deposit made at the end of the period).

**Paid checks.** If canceled checks (a company's checks processed and paid by the bank) are returned with the bank statement, compare them to the statement to be sure both amounts agree. Then, sort the checks in numerical order. Next, determine which checks are outstanding. **Outstanding checks** are those issued by a depositor but not paid by the bank on which they are drawn. The party receiving the check may not have deposited it immediately. Once deposited, checks may take several days to clear the banking system. Determine the outstanding checks by comparing the check numbers that have cleared the bank with the check numbers issued by the company. Use check marks in the company's record of checks issued to identify those checks returned by the bank. Checks issued that have not yet been returned by the bank are the outstanding checks. If the bank does not return checks but only lists the cleared checks on the bank statement, determine the outstanding checks by comparing this list with the company's record of checks issued. Sometimes checks written long ago are still outstanding. Checks outstanding as of the beginning of the month appear on the prior month's bank reconciliation. Most of these have cleared during the current month; list those that have not cleared as still outstanding on the current month's reconciliation.

**Bank debit and credit memos.** Verify all debit and credit memos on the bank statement. Debit memos reflect deductions for such items as service charges, NSF checks, safe-deposit box rent, and notes paid by the bank for the depositor. Credit memos reflect additions for such items as notes collected for the depositor by the bank and wire transfers of funds from another bank in which the company sends funds to the home office bank. Check the bank debit and credit memos with the depositor's books to see if they have already been recorded. Make journal entries for any items not already recorded in the company's books.

**Bank Errors.** Sometimes banks make errors by depositing or taking money out of your account in error. You will need to contact the bank to correct these errors but will not record any entries in your records because the bank error is unrelated to your records.

**Book Errors.** List any Book errors. A common error by depositors is recording a check in the accounting records at an amount that differs from the actual amount. For example, a $47 check may be recorded as $74. Although the check clears the bank at the amount written on the check ($47), the depositor frequently does not catch the error until reviewing the bank statement or canceled checks.

Deposits in transit, outstanding checks, and bank service charges usually account for the difference between the company's Cash account balance and the bank balance.

Watch the following video example and then we will continue by looking at bank statement and records of MY COMPANY (click My Company) for a printable copy.

Watch this video online: https://youtu.be/9LfnlMz2Aic

After comparing the bank statement and records of My Company, you should have identified the following reconciling items:

1. Deposit in transit dated 9/30 for $6,700.
2. Outstanding checks #2004, 2008, 2009, 2012.
3. Interest paid by the bank $3.
4. Note collected by bank $3500 less $500 fee
5. Bank service charge $5
6. Customer NSF $350
7. Error in Check #2005 correctly processed by bank as $5,843 but recorded in our records as $5,483. This is a difference of $360 (5,843 – 5,483) and since we did not take enough cash we need to reduce cash by $360.

Using the chart provided above and the reconciling items, the bank reconciliation would appear as follows:

| My Company |
| --- |
| Bank Reconciliation |

| September 30 | | | | | | |
|---|---|---|---|---|---|---|
| Ending Bank Balance | | $27,395 | | Ending Book Balance | | $24,457 |
| Add: 9/30 Deposit | | 6,700 | | Add: Interest | 3 | |
| | | | | Note Collected | 3,000 | 3,003 |
| Subtract: | | | | | | |
| O/S Ck #2004 | 1,000 | | | Subtract: | | |
| # 2008 | 650 | | | Bank Fee | 5 | |
| # 2009 | 200 | | | Customer NSF | 350 | |
| # 2012 | 5,500 | | | CK 2005 Error | 360 | |
| | | – 7,350 | | | | – 715 |
| **Adjusted Bank Balance** | | **$26,745** | | **Adjusted Book Balance** | | **$26,745** |

When the bank and book are in agreement, you are almost finished. On the bank side of the reconciliation, you do not need to do anything else except contact the bank if you notice any bank errors. On the book side, you will need to do journal entries for each of the reconciling items.

## Adjusting Entries for Book side Reconciling Items

The good news is every entry will contain CASH. If we added to the book side in the bank reconciliation, we will DEBIT cash. If we subtracted to the book side in the bank reconciliation, we will CREDIT cash. The journal entries for the books side of My Company are:

| | Debit | Credit |
|---|---|---|
| (1) Cash | 3 | |
| Interest Revenue | | 3 |
| *To record interest received from bank.* | | |
| (2) Cash | 3,000 | |
| Collection Fee | 500 | |
| Notes Receivable | | 3,500 |
| *To record collection of note and fee by bank.* | | |
| (3) Bank Service Fees | 5 | |
| Cash | | 5 |
| *To record bank fees charged by bank.* | | |
| (4) Accounts Receivable | 350 | |

| | | |
|---|---|---|
| Cash | | 350 |
| *To record Customer NSF from the bank.* | | |
| (5) Equipment | 360 | |
| Cash | | 360 |
| *To correct recording error on check #2005.* | | |

These entries are posted to the general ledger accounts. The cash general ledger account would be:

| Account: Cash | Debit | Credit | Balance |
|---|---|---|---|
| Beginning Balance | | | 16,850 |
| Deposits | 26,064 | | 42,914 |
| Checks | | 18,457 | 24,457 |
| (1) Interest earned | 3 | | 24,460 |
| (2) Note collected | 3,000 | | 27,460 |
| (3) Bank Service Fee | | 5 | 27,455 |
| (4) Customer NSF | | 350 | 27,105 |
| (5) Error Correction | | 360 | 26,745 |

The ending cash balance on the general ledger is reconciled to the adjusted bank statement balance.

When a company maintains more than one checking account, it must reconcile each account separately with the balance on the bank statement for that account. The depositor should also check carefully to see that the bank did not combine the transactions of the two accounts.

Within the internal control structure, segregation of duties is an important way to prevent fraud. One place to segregate duties is between the cash disbursement cycle and bank reconciliations. To prevent collusion among employees, the person who reconciles the bank account should not be involved in the cash disbursement cycle. Also, the bank should mail the statement directly to the person who reconciles the bank account each month. Sending the statement directly limits the number of employees who would have an opportunity to tamper with the statement.

For a different perspective and chance to practice simple bank reconciliations, click Banking Practice.

# PETTY CASH

## Petty cash funds

At times, every business finds it convenient to have small amounts of cash available for immediate payment of items such as delivery charges, postage stamps, taxi fares, supper money for employees working overtime, and other small items. To permit these cash disbursements and still maintain adequate control over cash, companies frequently establish a **petty cash fund** of a round figure such as $100 or $500. The petty cash account is a current asset and will have a normal debit balance (debit to increase and credit to decrease). Here is a video of the petty cash process and then we will review the steps in detail.

Watch this video online: https://youtu.be/nRy2TGmTicc

Usually one individual, called the petty cash custodian or cashier, is responsible for the control of the petty cash fund and documenting the disbursements made from the fund. By assigning the responsibility for the fund to one individual, the company has internal control over the cash in the fund.

A business establishes a petty cash fund by writing a check for, say, $100. It is payable to the petty cash custodian. The petty cash fund should be large enough to make disbursements for a reasonable period, such as a month. The following entry records this transaction as follows:

| | Debit | Credit |
|---|---|---|
| Petty Cash | 100 | |
| Cash | | 100 |
| *To establish a petty cash fund.* | | |

After the check is cashed, the petty cash custodian normally places the money in a small box that can be locked. The fund is now ready to be disbursed as needed. *We will not use the petty cash in a journal entry again unless we are changing this original amount.*

One of the conveniences of the petty cash fund is that payments from the fund *require no journal entries at the time of payment.* Thus, using a petty cash fund avoids the need for making many entries for small amounts. Only when the fund is reimbursed, or when the end of the accounting period arrives, does the firm make an entry in the journal.

When disbursing cash from the fund, the petty cash custodian prepares a **petty cash voucher,** which should be signed by the person receiving the funds. A petty cash voucher is a document or form that shows the amount of and reason for a petty cash disbursement.

| PETTY CASH VOUCHERS | | NO. 359 |
|---|---|---|
| To Local Cartage, Inc. | | Date June 29 |
| | | |
| EXPLANATION | ACCT NO. | AMOUNT |
| Freight on parts sold | 12000 | $ 22.75 |
| | | |
| | | |

| | |
|---|---|
| APPROVED BY A.E.C. | RECEIVED BY Ken Black |

The custodian should prepare a voucher for each disbursement and staple any source documents (invoices, receipts, etc.) for expenditures to the petty cash voucher. At all times, the employee responsible for petty cash is accountable for having cash and petty cash vouchers equal to the total amount of the fund.

## Replenishing Petty Cash

Companies replenish the petty cash fund at the end of the accounting period, or sooner if it becomes low. The reason for replenishing the fund at the end of the accounting period is that **no record of the fund expenditures is in the accounts until the check is written and a journal entry is made.** (Sometimes we refer to this fund as an imprest fund since it is replenished when it becomes low.). To determine which accounts to debit, an employee summarizes the petty cash vouchers according to the reasons for expenditure. *The journal entry to record replenishing the fund would debit the various accounts indicated by the summary and credit Cash.*

For example, assume the $100 petty cash fund currently has a money balance of $7.40. A summary of the vouchers shows payments of $22.75 for shipping to customers, $50.80 for stamps, and $19.05 for an advance to an employee; these payments total $92.60. After the vouchers have been examined and approved, a check is created for $92.60 which restores the cash in the fund to its $100 balance. **Petty cash is not used in the replenishment journal entry.** The journal entry to record replenishment is:

| | Debit | Credit |
|---|---|---|
| Delivery Expense | 22.75 | |
| Postage Expense | 50.80 | |
| Employee Advances | 19.05 | |
| Cash | | 92.60 |
| *To replenish a petty cash fund.* | | |

Note that the entry to record replenishing the fund does not credit the Petty Cash account. We make entries to the Petty Cash account only when the fund is established or when the amount of the fund is changed or when the fund is closed and we want to add back cash in exchange for the petty cash vouchers. In this case, the cash needed to get back to $100 ($100 fund – $7.40 petty cash on hand) of $92.60 equals the total of the petty cash vouchers. But, that is not always the case.

Sometimes, the petty cash custodian makes errors in making change from the fund or doesn't receive correct amounts back from users. These errors cause the cash in the fund to be more or less than the amount of the fund less the total vouchers. When the fund is replenished, **the credit to Cash is for the difference between the established amount and the actual cash in the fund.** We would debit all vouchered items. Any discrepancy should be debited or credited to an account called Cash Over and Short. The Cash Over and Short account can be either an expense (short) or a revenue (over), depending on whether it has a debit or credit balance.

To illustrate, assume in the preceding example that the balance in the fund was only $6.10 instead of $7.40. Restoring the fund to $100 requires a check for $93.90 ($100 fund amount – petty cash remaining $6.10). Since the petty cash vouchers total only $92.60, the amounts do not agree and the fund is short $ 1.30 ($93.90 needed – $92.60 in vouchers). The entry for replenishment is:

| | Debit | Credit |
|---|---|---|
| Delivery Expense | 22.75 | |

| | | |
|---|---|---|
| Postage Expense | 50.80 | |
| Receivable from Employees | 19.05 | |
| Cash Short and Over | 1.30 | |
| Cash | | 93.90 |
| *To replenish a petty cash fund.* | | |

The Cash Over and Short account will be used to balance the entry when the cash needed to get back to the petty cash account does not match the total of petty cash vouchers. Remember, for all journal entries, total debits must equal total credits.

## Changing the Petty Cash Amount

If the petty cash custodian finds that the petty cash fund is larger than needed, the excess petty cash should be deposited in the company's checking account. The required entry to record a decrease in the fund debits Cash and credits Petty Cash for the amount returned and deposited. To illustrate, the entry to decrease the petty cash fund by $50 would be:

| | Debit | Credit |
|---|---|---|
| Cash | 50 | |
| Petty Cash | | 50 |
| *To decrease the size of the petty cash fund by $50.* | | |

On the other hand, a petty cash fund may be too small, requiring replenishment every few days. The entry to record an increase in the fund debits Petty Cash and credits Cash for the amount of the increase. The entry to increase the petty cash fund by $400 would be:

| | Debit | Credit |
|---|---|---|
| Petty Cash | 400 | |
| Cash | | 400 |
| *To increase the size of the petty cash fund by $400.* | | |

A company may feel it is time to close the petty cash fund. To illustrate, we will close the $100 original petty cash fund by returning the cash to the checking account with a debit to cash and a credit to petty cash.

| | Debit | Credit |
|---|---|---|
| Cash | 100 | |
| Petty Cash | | 100 |
| *To close the $100 petty cash fund.* | | |

# ACCOUNTING IN THE HEADLINES

## What internal control principles were violated at a Texas school district that allowed its superintendent to embezzle more than $750,000?


Beaumont Independent School District (BISD) is a public school district in Beaumont, Texas. It has three high schools, six middle schools, and 16 elementary schools, serving approximately 21,000 students.

In February 2015, Patricia Lambert, former BISD Assistant Superintendent, was indicted for theft connected with her position in the school district. Lambert allegedly defrauded the school district for more than $750,000.

The story of Lambert at BISD begins in 2002, when Lambert was hired by the district as a teacher and then was promoted two months later to assistant principal of a middle school in the district. Two years later, Lambert was promoted to principal and transferred to another middle school in the district. In 2006, she was assigned to Central Medical Magnet High School (CMMHS) as principal. As principal, she was responsible, among other things, for managing personnel and financial oversight for certain aspects of CMMHS. In 2014, Lambert was promoted to assistant superintendent, a position in which she remained until her retirement in 2014.

During the course of her employment, she is charged with embezzling more than $750,000 from BISD. Here are descriptions of the schemes in which she participated/orchestrated:

- CMMHS Booster Club funds: Lambert took control of the CMMHS Booster Club from the parents who had been running it. She gained full access to the booster club's funds, which were not subject to BISD oversight or audits. She began taking money from the booster club; she wrote checks for more than $24,381 payable to her children or herself from the booster club funds. Lambert also purchased clothing, clothing accessories, and electronics for her own personal use from the booster club funds.
- CMMHS activity fees: During Lambert's tenure at CMMHS, she also directed that certain fees be directed to the booster club where she had control of the funds. For students to obtain copies of their official transcripts, they had to pay a small fee, usually less than $5. Those transcript fees were directed to the booster club account by Lambert where she had access, without audit or supervision, to the funds.
- CMMHS Medical Magnet tuition funds: She also directed money from the Medical Magnet program to the booster club account. Students in the Medical Magnet program could earn college credit while in high school; these students were required to pay tuition and fees. Lambert required that all tuition and fees be paid in cash or via money order; all funds were deposited into the booster club account. BISD paid

the college and CMMHS was supposed to reimburse BISD for the tuition but it did not. In addition, Lambert charged students $1,000 per semester for the college credit program. However, the colleges only charged the school $275 per year.

- CMMHS scholarship donations: Some scholarships from private donors were deposited to the booster club account, rather than used for the donor's intent.
- Booster club reimbursement for travel: Lambert also wrote checks out of the booster club account to reimburse herself for school district travel, even though she had already been reimbursed by BISD for the travel.
- CMMHS cash fund: Students at CMMHS would have to pay a $10 fine when found with a cell phone in class or when they lost their student ID. These fines went into a cash fund. In addition, there was a snack area set up near the cafeteria where students could purchase candy and chips. The inventory of candy and chips was paid for by the booster club. A portion of all of these cash fees and sales were deposited into Lambert's personal bank account.
- Printing services purchased through Lambert's son: From 2007 – 2013, Lambert directed that all printing and graphic work for CMMHS be done through her son's companies. These items included pamphlets, flyers, banners, football programs, and instructional materials. In addition, he filled orders for both BISD and CMMHS booster club for CMMHS logo clothing and keepsake items. During the time that Lambert's son did the work for CMMHS and BISD, he had no employees other than himself, nor did he have any other work. He had no equipment to print or produce any of the items ordered. He would take the orders to other printing businesses to fill the orders and then he would add a markup of up to 300% for his services. The dollar value of the printing and graphics work billed by Lambert's son to BISD and CMMHS was approximately $480,000 over the six year period.

Lambert has been indicted by a grand jury on federal charges for theft in the Eastern District Court of Texas on February 4, 2015. The actual court filing can be found here.

*As a side note, before she joined BISD in 2002 as a teacher, Lambert was convicted of extortion in Louisiana after running a kickback scheme with teachers for whom she secured pay raises and job promotions.*

Questions

1. For each of the seven schemes allegedly run by Lambert, comment on what internal control principles would likely have been violated.
2. For each of the seven schemes listed, describe controls that could have been put into place to prevent the type of fraud that Lambert is charged with committing.



# EXERCISES: UNIT 9

## SHORT-ANSWER QUESTIONS, EXERCISES, AND PROBLEMS

Questions

➢ Why should a company establish an internal control structure?

➢ Why are mechanical devices used in an internal control structure?

➢ Identify some features that could strengthen an internal control structure.

➢ Name several control documents used in merchandise transactions.

- ➢ What are the four objectives sought in effective cash management?
- ➢ List four essential features of internal control over cash receipts.
- ➢ The bookkeeper of a given company was stealing cash received from customers in payment of their accounts. To conceal the theft, the bookkeeper made out false credit memos indicating returns and allowances made by or granted to customers. What feature of internal control would have prevented the thefts?
- ➢ List six essential features of internal control over cash disbursements.
- ➢ What types of items cause the balance per ledger and the balance per bank statement to disagree?
- ➢ "The difference between a company's Cash account balance and the balance on its bank statement is usually a matter of timing." Do you agree or disagree? Why?
- ➢ Explain how transfer bank accounts can help bring about effective cash management.
- ➢ Describe the operation of a petty cash fund and its advantages. Indicate how control is maintained over petty cash transactions.
- ➢ When are entries made to the Petty Cash account?

## Exercises

Exercise A State whether each of the following statements about internal control is true or false:

1. Those employees responsible for safeguarding an asset should maintain the accounting records for that asset.
2. Complete, accurate, and up-to-date accounting records should be maintained.
3. Whenever possible, responsibilities should be assigned and duties subdivided in such a way that only one employee is responsible for a given function.
4. Employees should be assigned to one job and should remain in that job so that skill levels will be as high as possible.
5. The use of check protectors, cash registers, and time clocks is recommended.
6. An internal auditing function should not be implemented because it leads the employees to believe that management does not trust them.
7. One of the best protections against theft is to hire honest, competent employees.
8. A foolproof internal control structure can be devised if management puts forth the effort.

Exercise B Concerning internal control, which one of the following statements is correct? Explain.

1. Broadly speaking, an internal control structure is only necessary in large organizations.
2. The purposes of internal control are to check the accuracy of accounting data, safeguard assets against theft, promote efficiency of operations, and ensure that management's policies are being followed.
3. Once an internal control structure has been established, it should be effective as long as the formal organization remains unchanged.
4. An example of internal control is having one employee count the day's cash receipts and compare the total with the total of the cash register tapes.

Exercise C The bank statement for Yarley Company at the end of August showed a balance of $ 12,862. Checks outstanding totaled $ 3,937, and deposits in transit were $ 5,990. If these amounts are the only pertinent data available to you, what was the adjusted balance of cash at the end of August?

Exercise D From the following data, prepare a bank reconciliation and determine the correct available cash balance for Reed Company as of 2010 October 31.

| | |
|---|---|
| Balance per bank statement, 2010 October 31 | $13,974 |
| Ledger account balance. 2010 October 31 | 8,088 |
| Proceeds of a note collected by bank not yet entered in | |
| ledger (includes $500 of interest) | 6,000 |
| Bank service charges not yet entered by Reed Company | 18 |
| Deposit in transit | 1,680 |
| Outstanding checks: | |
| No. 327 | 654 |
| No. 328 | 288 |
| No. 329 | 390 |
| No. 331 | 252 |

**Exercise E** The following is a bank reconciliation for Brian company as of August 31.

| | | |
|---|---|---|
| Balance per bank statement, August 31 | | $ 7,470 |
| Add: Deposit in transit | | 5,676 |
| | | $13,146 |
| Less: Outstanding checks | | 6,024 |
| Adjusted balance, August 31 | | $ 7,122 |
| Balance per ledger, August 31 | | $ 7,248 |
| Add: Error correction* | | 54 |
| | | $ 7,302 |
| Less: NSF check | $150 | |
| Service and collection charges | 30 | 180 |
| Adjusted balance, August 31 | | $ 7,122 |

Prepare the journal entry or entries needed to adjust or correct the Cash account.

**Exercise F** On March 1 of the current year, Shelbey Company had outstanding checks of $ 15,000. During March, the company issued an additional $ 57,000 of checks. As of March 31, the bank statement showed $ 48,000 of checks had cleared the bank during the month. What is the amount of outstanding checks on March 31?

**Exercise G** Matson Company's bank statement as of August 31, shows total deposits into the company's account of $ 15,000 and a total of 14 separate deposits. On July 31, deposits of $ 410 and $ 330 were in transit. The total cash receipts for August were $ 19,000, and the company's records show 13 deposits made in August. What is the amount of deposits in transit at August 31?

**Exercise H** Holder Company deposits all cash receipts intact each day and makes all payments by check. On October 31, after all posting was completed, its Cash account had a debit balance of $ 4,325. The bank statement for the month ended on October 31 showed a balance of $ 3,988. Other data are:

Outstanding checks total $ 425.

October 31 cash receipts of $ 838 were placed in the bank's night depository and do not appear on the bank statement.

Bank service charges for October are $ 14.

Check No. 772 for store supplies on hand was entered at $ 405, but paid by the bank at its actual amount of $ 315.

Prepare a bank reconciliation for Holder Company as of October 31. Also prepare any necessary journal entry or entries.

**Exercise I** On August 31, Brighton Company's petty cash fund contained coins and currency of $ 260, an IOU from an employee of $ 30, and vouchers showing expenditures of $ 120 for postage, $ 52 for taxi fare, and $ 138 to entertain a customer. The Petty Cash account shows a balance of $ 600. The fund is replenished on August 31 because financial statements are to be prepared. What journal entry is required on August 31?

**Exercise J** Use the data in the previous exercise. What entry would have been required if the amount of coin and currency had been $ 247.20? Which of the accounts debited would not appear in the income statement?

**Exercise K** Rock Company has a $ 450 petty cash fund. The following transactions occurred in December:

Dec. 2 The petty cash fund was increased to $ 1,350.

8 Petty Cash Voucher No. 318 for $ 14.20 delivery expense was prepared and paid. The fund was not replenished at this time.

20 The company decided that the fund was too large and reduced it to $ 1,120.

Prepare any necessary journal entries for these transactions.

**Problems**

The following 2010 June 30, bank reconciliation pertains to Tiffany Company:

| | | | |
|---|---|---|---|
| | | Cash | Bank |
| | | Amount | Statement |
| Balance , June 30 | | $29,143.36 | $28,644.31 |
| Add: Deposit not credited by bank | | | 942.60 |
| Total | | | $29,586.91 |
| Less: Outstanding checks: | | | |
| No. 724 | $18.45 | | |

| | | | |
|---|---|---|---|
| No. 886 | 15.00 | | |
| No. 896 | 143.55 | | |
| No. 897 | 187.65 | | |
| No. 898 | 78.90 | | 443.55 |
| Adjusted cash balance, June 30 | | $29,143.36 | $29,143.36 |

Tiffany's July bank statement follows:

| | | | |
|---|---|---|---|
| Balance, July 1 | | $28,644.31 | |
| Deposits during July | | 5,441.94 | $34,086.25 |
| Canceled checks returned: | | | |
| No. 724 | $ 18.45 | | |
| No. 896 | 143.55 | | |
| No. 897 | 187.65 | | |
| No. 898 | 78.90 | | |
| No. 899 | 18.86 | | |
| No. 900 | 1,349.55 | | |
| No. 902 | 946.92 | | |
| No. 904 | 44.01 | $2,787.89 | |
| NSF Check of Starr Company | | 139.98 | 2,927.87 |
| Bank statement balance, July 31 | | | $31,158.38 |

The cash receipts deposited in July, including receipts of July 31, amounted to $ 5,178.30. Tiffany wrote these checks in July:

| | |
|---|---|
| No. 899 | $ 18.86 |
| No. 900 | 1,349.55 |
| No. 901 | 27.75 |
| No. 902 | 946.92 |
| No. 903 | 59.70 |
| No. 904 | 44.01 |

| | |
|---|---|
| No. 905 | 1,093.50 |
| No. 906 | 15.00 |

The cash balance per the ledger on 2010 July 31, was $ 30,766.37.

Prepare a bank reconciliation as of 2010 July 31, and any necessary journal entry or entries to correct the accounts.

**Problem B** The following information pertains to Hughes Company as of 2010 May 31:

- Balance per bank statement as of 2010 May 31, was $ 59,410.
- Balance per Hughes Company's Cash account at 2010 May 31, was $ 60,904.
- A late deposit on May 31 did not appear on the bank statement, $ 4,275.
- Outstanding checks as of May 31 totaled $ 7,614.
- During May, the bank credited Hughes Company with the proceeds, $ 6,795, of a note which it had collected for the company. Interest revenue was $ 45 of the total.
- Bank service and collection charges for May amounted to $ 18.
- Comparison of the canceled checks with the check register revealed that one check in the amount as $ 1,458 had been recorded in the books as $ 1,539. The check had been issued in payment of an account payable.
- A review of the deposit slips with the bank statement showed that a deposit for $ 2,250 of a company with a similar account number had been credited to the Hughes Company account in error.
- A $ 270 check received from a customer, R. Petty, was returned with the bank statement marked NSF.
- During May, the bank paid a $ 13,500 note of Hughes Company plus interest of $ 135 and charged it to the company's account per instructions received. Hughes Company had not recorded the payment of this note.
- An examination of the cash receipts and the deposit tickets revealed that the bookkeeper erroneously recorded a check from a customer, C. Parker, of $ 1,458 as $ 1,944.
- The bank statement showed a credit to the company's account for interest earned on the account balance in May of $ 450.

1. Prepare a bank reconciliation as of 2010 May 31.
2. Prepare the journal entry or entries necessary to adjust the accounts as of 2010 May 31.

**Problem C** The following transactions pertain to the petty cash fund of Carrington Company:

Nov. 2 A $ 450 check is drawn, cashed, and the cash placed in the care of the assistant office manager to be used as a petty cash fund.

Dec. 17 The fund is replenished. An analysis of the fund shows:

| | |
|---|---|
| Coins and currency | $147.40 |
| Petty cash vouchers for: | |
| Delivery expenses | 173.48 |
| Transportation-In | 111.12 |
| Postage stamps purchased | 15.00 |

31 The end of the accounting period falls on this date. The fund was not replenished. The fund's contents on this date consist of:

| | |
|---|---|
| Coins and currency | $ 352.05 |
| Petty cash vouchers for: | |
| Delivery expenses | 31.65 |
| Postage stamps purchased | 36.30 |
| Employee's IOU | 30.00 |

Present journal entries to record these transactions. Use the Cash Short and Over account for any shortage or overage in the fund.

**Problem D** The following transactions relate to the petty cash fund of Jarvis Wrecking Company

Apr. 1 The petty cash fund is set up with a $ 350 cash balance.

19 Because the money in the fund is down to $ 70.20, the fund is replenished.

| | |
|---|---|
| Petty cash vouchers as follows: | |
| Flowers for hospitalized employee (miscellaneous expense) | $84.38 |
| Postage stampls | 135.00 |
| Office supplies | 46.71 |

30 The cash in the fund is $ 193.07. The fund is replenished to include petty cash payments in this period's financial statements. The petty cash vouchers are for the following:

| | |
|---|---|
| Transportation-in | $64.12 |
| Office supplies | 92.81 |

May 1 The petty cash fund balance is increased to $ 400.

Prepare the journal entries to record these transactions.

**Alternate problems**

**Alternate problem A** The following data pertains to England Company:

Balance per the bank statement dated 2010 June 30, is $ 30,000.

Balance of the Cash in Bank account on the company books as of 2010 June 30, is $ 8,795.

Outstanding checks as of 2010 June 30, total $ 14,300.

Bank deposit of June 30 for $ 2,735 was not included in the deposits per the bank statement.

The bank had collected proceeds of a note, $ 22,612 (of which $ 112 was interest), that it credited to the England Company account. The bank charged the company a collection fee of $ 15 on the note.

The bank erroneously charged the England Company account for a $ 10,500 debit memo of another company that has a similar name.

Bank service charges for June, exclusive of the collection fee, amounted to $ 95.

Among the canceled checks was one for $ 700 given in payment of an account. The bookkeeper had recorded the check at $ 920 in the company records.

A check of Crosby, a customer, for $ 2,447, deposited on June 20, was returned by the bank marked NSF. No entry has been made to reflect the returned check on the company records.

A check for $ 1,435 of Malcolm, a customer, which had been deposited in the bank, was erroneously recorded by the bookkeeper as $ 1,570. The check had been received as a payment on the customer's account receivable.

Prepare a bank reconciliation as of 2010 June 30, and any necessary journal entry or entries to correct the accounts.

**Alternate problem B** The bank statement of Irish Company's checking account with the 2nd National Bank shows:

| | | |
|---|---|---|
| Balance, 2010 June 30 | | $166,118 |
| Deposits | | 245,700 |
| | | 411,818 |
| Less: Checks deducted | $243,001 | |
| Service charges | 67 | 243,068 |
| Balance, 2010 July 31 | | $168,750 |

The following additional data are available:

Balance per ledger account as of July 31 was $ 128,209.

A credit memo included with the bank statement indicated the collection of a note by the bank for Irish Company. Proceeds were $ 13,500, of which $ 375 was interest.

An NSF check in the amount of $ 6,210 was returned by the bank and included in the total of checks deducted on the bank statement.

Deposits in transit as of July 31 totaled $ 33,750.

Checks outstanding as of July 31 were $ 55,350.

The bank added the $ 29,025 deposit of another company to Irish's account in error.

The bank deducted one of Irish's checks as $ 20,250 instead of the correct amount of $ 2,025.

Deposit of July 21 was recorded by the company as $ 4,299.75 and by the bank at the actual amount of $ 4,542.75. The receipts for the day were from collections on account.

The deposits amount shown on the bank statement includes $ 675 of interest earned by Irish on its checking account with the bank.

1. Prepare a bank reconciliation as of 2010 July 31, for Irish Company.
2. Prepare any journal entry or entries needed at 2010 July 31.

**Alternate problem C** Transactions involving the petty cash fund of Sonar Company are as follows:

Mar. 1 Established a petty cash fund of $ 750, which will be under the control of the assistant office manager.

31 Fund was replenished on this date. Prior to replenishment, the fund consisted of the following:

| | |
|---|---|
| Coins and currency | $ 491.50 |
| Petty cash voucher indicating disbursements for: | |
| Postage stamps | $82.00 |
| Suppliers money for office employees working overtime | 36.00 |
| Office supplies | 32.70 |
| Window washing service | 60.00 |
| Flowers for wedding employee | 15.00 |
| Flower for hospitalized employee | 15.00 |
| Employee's IOU | 15.00 |

Present journal entries for these transactions. Use the Cash Short and Over account for any shortage or overage in the fund.

**Alternate problem D** Sun Company has decided to use a petty cash fund. Transactions involving this fund follow:

June 4 Set up a petty cash fund of $ 225.

22 When the fund had a cash amount of $ 31.35, the custodian of the fund was reimbursed for expenditures made, including:

| | |
|---|---|
| Transportation-in | $ 82.50 |
| Postage | 27.00 |
| Office supplies | 81.75 |

30 The fund was reimbursed to include petty cash items in the financial statement prepared for the fiscal year ending on this date. The fund had the following cash and vouchers before reimbursement:

| | |
|---|---|
| Coins and currency | $174.00 |
| Petty cash vouchers for: | |
| Employee's IOU | 15.00 |
| Postage | 27.00 |
| Office supplies | 11.10 |

July 1 The petty cash fund balance is increased to $ 300.

Prepare journal entries for all of these transactions.

Beyond the numbers—Critical thinking

Business decision case A During a national emergency, a managerial accountant was called back to active duty with the US Army. An acquaintance of the accountant forged papers and assumed the identity of the accountant. He obtained a position in a small company as the only accountant. Eventually he took over from the manager the functions of approving bills for payment, preparing and signing checks, and almost all other financial duties. On one weekend, he traveled to some neighboring cities and mailed invoices made out to the company for which he worked. On Monday morning, he returned to work and began receiving, approving, and paying the invoices he had prepared. The following weekend he returned to the neighboring cities and cashed and deposited the checks in bank accounts under his own name. After continuing this practice for several months, he withdrew all of the funds and never was heard from again.

Prepare a written list of the steps you would have taken to prevent this theft. Remember that this small company had limited financial resources.

Business decision case B John Billings was set up in business by his father, who purchased the business of an elderly acquaintance wishing to retire. One of the few changes in personnel made by Billings was to install a college classmate as the office manager-bookkeeper-cashier-sales manager. During the course of the year, Billings borrowed money from the bank with his father as cosigner. Although his business seemed profitable, there was a shortage of cash. The company's investments in inventories and receivables grew substantially. Finally, after a year had elapsed, Billings's father employed you, a certified public accountant, to audit the records of his business. You reported that the office manager-bookkeeper-cashier-sales manager had been misappropriating funds and had been using a variety of schemes to cover his actions. More specifically, he had:

- Pocketed cash receipts from sales and understated the cash register readings at the end of the day or altered the copies of the sales tickets retained.
- Stolen checks mailed to the company in payment of accounts receivable, credited the proper accounts, and then debited fictitious receivables to keep the records in balance.
- Issued checks to fictitious suppliers and deposited them in accounts bearing these names with himself as signer of checks drawn on these accounts; the books were kept in balance by debiting the Purchases account.
- Stolen petty cash funds by drawing false vouchers purporting to cover a variety of expenses incurred.
- Prepared false sales returns vouchers indicating the return of cash sales to cover further thefts of cash receipts.

For each item in the preceding list, describe in writing at least one feature of good internal control that would have prevented the losses due to dishonesty.

Business decision case C The outstanding checks of Brothers Company at 2010 November 30, were:

| | |
|---|---|
| No. 229 | $ 1,000 |
| No. 263 | $ 1,089 |
| No. 3678 | $ 679 |
| No. 3679 | $809 |
| No. 3680 | $ 1,400 |

During December, Brothers issued checks numbered 3681-3720; and all of these checks cleared the bank except 3719 and 3720 for $ 963 and $ 726, respectively. Checks 3678, 3679, and 3680 also cleared the bank.

The bank statement on December 31 showed a balance of $ 23,944. Service charges amounted to $ 20, and two checks were returned by the bank, one marked NSF in the amount of $ 114 and the other marked "No account" in the amount of $ 2,000.

Brian Askew recently retired as the office manager-cashier-bookkeeper for Brothers Company and was replaced by Fred Hannah. Hannah noted the absence of an internal control structure but was momentarily deterred from embezzling for lack of a scheme of concealment. Finally, he hit upon several schemes. The $ 2,000 check marked "No account" by the bank is the product of one scheme. Hannah took cash receipts and replaced them with a check drawn on a nonexistent account to make it appear that a customer had given the company a worthless check.

The other scheme was more subtle. Hannah pocketed cash receipts in an amount equal to two unlisted outstanding checks and prepared the following bank reconciliation:

| | | |
|---|---|---|
| Balance per bank statement, 2010 December 31 | | $23,944.00 |
| Add: Deposit in transit | | 2,837.80 |
| | | $26,781.80 |
| Less: Outstanding checks | | |
| No. 3719 | $ 963.00 | |
| No. 3720 | 726.00 | 1,689.00 |
| Adjusted balance, December 2010 | | $25,092.80 |
| Balance per ledger, 2010 December 31 | | $27,226.80 |
| Add: Worthless check | $2,000.00 | |
| NSF check | 114.00 | |
| Service charges | 20.00 | 2,134.00 |
| Adjusted balance, 2010 December 31 | | $25,092.80 |

1. State the nature of the second scheme hit on by Hannah. How much in total does it appear he has stolen by use of the two schemes together?
2. Prepare a correct bank reconciliation as of 2010 December 31.
3. After your analysis in (a) and (b), describe several procedures that would have defeated Fred Hannah's attempts to misappropriate funds and conceal these actions.

*Note: This challenging problem was not specifically illustrated in the chapter, but it can be worked by applying the principles discussed in the chapter.

Annual report analysis D In Reader's Digest's Annual Report, under Report of Management, the chairman and chief executive officer and the executive vice president and chief financial officer stated:

The company maintains a system of internal accounting controls designed to provide reasonable assurance, at reasonable cost, that transactions and events are recorded properly and that assets are safeguarded. The internal control system is supported by written policies and procedures and by the careful selection, training, and supervision of qualified personnel, and is monitored by an internal audit function.

What is the purpose of this statement? To which basic elements of the internal control structure does the statement refer?

**Annual report analysis E** Obtain an annual report for a company (your library may have some annual reports). Determine the quick ratios for the two most recent years for the company. Comment on the results.

**Ethics case – Writing experience F** After reading the ethics case, discuss the ethical situation at the City Club Restaurant. Describe the steps the owners could take to end John Blue's wage supplement scheme.

**Group project G** With a small group of students, visit a large local company to inquire about its internal control structure. Specifically, discover how it protects its assets against theft and waste, ensures compliance with company policies and federal laws, evaluates performance of its personnel, and ensures accurate and reliable operating data and accounting reports. If an internal audit staff exists, inquire about some of its activities. Write a report to your instructor summarizing your findings and be prepared to make a short presentation to the class.

**Group project H** With one or two other students, locate and visit two companies that maintain petty cash funds. Interview the custodians of those funds to identify the controls that are used to manage those funds. Write a report to your instructor comparing the controls used, pointing out any differences between the control systems and any deficiencies in the systems. Be prepared to make a short presentation to the class.

**Group project I** "Kiting" of bank accounts has been used to conceal shortages in bank accounts. With one or two other students, research this topic in the library. Write a paper to your instructor describing how this technique works and the steps that can be taken to detect it once it occurs and to prevent it in the future.

**Using the Internet—A view of the real world**

Visit the following site:

http://www.vfauditmall.com/

This is the internet site for the Vanity Fair Audit Mall. Click on the visitors center, CCA Studio, Tool Box, Job Shop, Tek Shak, Risk Depot, Contact Plaza, and Arcade. After browsing the site write a one page memo as to what you learned about internal audit.

Visit the Securities and Exchange website and find the EDGAR database at:

http://www.sec.gov/edgar.shtml

EDGAR stands for the Electronic Data Gathering, Analysis, and Retrieval system. What is its purpose? What kinds of information can be found at this site? Select a company of your choice and search the EDGAR database for information on that company. Write a report to your instructor summarizing your findings.

# UNIT 10: RECEIVABLES

## RECEIVABLES

### LEARNING OBJECTIVES

In this lesson you will be able to account for receivables and short term investments and you will be able to:

- Distinguish between trade and non-trade receivables.
- Distinguish between the direct write off and allowance methods.
- Prepare entries for uncollectible accounts using the direct write off and allowance methods.
- Differentiate between the income statement and balance sheet approaches to estimating bad debts.
- Prepare entries used by a retailer to account for credit card sales.
- Accounts for notes receivable with interest and non-interest bearing notes.

The following video gives a definition and examples of receivables.

Watch this video online: https://youtu.be/QxC1ve1YWJs

In previous units, you learned that most companies use the accrual basis of accounting since it better reflects the actual results of the operations of a business. Under the accrual basis, a merchandising company that extends credit records revenue when it makes a sale because at this time it has earned and realized the revenue. The company has earned the revenue because it has completed the seller's part of the sales contract by delivering the goods. The company has realized the revenue because it has received the customer's promise to pay in exchange for the goods. This promise to pay by the customer is an account receivable to the seller. Accounts receivable are amounts that customers owe a company for goods sold and services rendered on account.

The term trade receivables refers to any receivable generated by selling a product or providing a service to a customer. Trade receivables can be accounts or notes receivable.

A non-trade receivable would be when someone owes the company money not related to providing a service or selling a product. For example, the company loans an employee money for a travel advance or a company borrows money from another company.

When a company sells goods on account, customers do not sign formal, written promises to pay, but they agree to abide by the company's customary credit terms. However, customers may sign a sales invoice to acknowledge purchase of goods. Payment terms for sales on account typically run from 30 to 60 days. Companies usually do not charge interest on amounts owed, except on some past-due amounts.

Companies will establish a subsidiary (think of as secondary or detail) ledger for accounts receivable to keep up with what is owed by each customer. The total amount owed according to the subsidiary ledger should always match the balance in the accounts receivable account.

### Notes receivable

A note (also called a **promissory note)** is an unconditional written promise by a borrower to pay a definite sum of money to the lender **(payee)** on demand or on a specific date and usually include a required interest amount. A customer may give a note to a business for an amount due on an account receivable or for the sale of a large item such as a refrigerator. Companies also have non-trade note receivables if they loan money to non-customers.

Companies usually do not establish a subsidiary ledger for notes. Instead, they maintain a file of the actual notes receivable and copies of notes payable.



# SUBSIDIARY LEDGERS AND CONTROL ACCOUNTS

A subsidiary ledger is a detailed list to support a control account. A control account appears on the balance sheet in summary or total, and are accounts like accounts receivable, accounts payable, and inventory. This video explains the theory (the video refers to a Debitor account which is Accounts Receivable and and a Creditor account which is Accounts Payable. A Debtor is a customer and a Creditor is a vendor)

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This section will look at the transactions for Fooz Ball Town and how to post to subsidiary ledgers for accounts receivable and accounts payable.

## Accounts Receivable Subsidiary Ledger

The accounts receivable subsidiary ledger will contain an account for each individual customer. The sales, payments, and returns and allowances are recorded into the individual customer accounts as well as the bigger picture (control account) accounts receivable account. For Fooz Ball Town, the sales entries were:

- July 5 Sold $5,000 of merchandise inventory, terms 1/15, n 30, FOB Destination with a cost of goods sold of $3,000 to Robby Red.
- July 10 Sold $1,500 of merchandise inventory for cash, FOB Shipping Point, with a cost of goods sold of $1,000.
- July 15 Received payment from Robby Red from July 5 sale less the discount.
- July 30 Sold $7,000 of merchandise inventory, terms 1/15, n 30, FOB Shipping point with cost of goods sold $5,000 to Bobby Blue.

These entries were recorded in the sales journal and cash receipts journal as follows:

| Sales Journal | | | |
|---|---|---|---|
| Date | Customer | DR Accounts Receivable | DR Cost of goods sold |

| | | CR Sales | CR Inventory |
|---|---|---|---|
| July 5 | Robby Red | $5,000 | $3,000 |
| July 30 | Bobby Blue | 7,000 | 5,000 |
| TOTALS | | $12,000 | $8,000 |

| Cash Receipts Journal | | | | | | |
|---|---|---|---|---|---|---|
| Date | Customer | DR Cash | DR Sales Discounts | CR Accounts Receivable | CR Sales | DR Cost of goods Sold CR Inventory |
| July 10 | Cash Sale | 1,500 | | | 1,500 | 1,000 |
| July 15 | Robby Red | 4,950 | 50 | 5,000 | | |
| TOTALS | | 6,450 | 50 | 5,000 | 1,500 | 1,000 |

These journals would be posted to the Accounts Receivable control account like this:

| Account: Accounts Receivable | | | | |
|---|---|---|---|---|
| Date | Description | Debit | Credit | Balance |
| July 31 | from Sales Journal | 12,000 | | 12,000 |
| July 31 | from Cash Receipts Journal | | 5,000 | 7,000 |

The customer (subsidiary) ledger would be updated for Robby Red and Bobby Blue as:

| Customer Account: Robby Red | | | | |
|---|---|---|---|---|
| Date | Description | Debit | Credit | Balance |
| July 5 | Sale | 5,000 | | 5,000 |
| July 15 | Payment | | 5,000 | -0- |
| | | | | |
| Customer Account: Bobby Blue | | | | |
| Date | Description | Debit | Credit | Balance |
| July 15 | Sale | 7,000 | | 7,000 |

At the end of the period, a schedule is prepared to verify (or prove) the Accounts Receivable (control account) balance reported on the balance sheet. This schedule is a listing of all customers with the ending amounts owed and should always match the ending balance in Accounts Receivable. The schedule of accounts receivable for Fooz Ball Town would be:

| Fooz Ball Town | |
|---|---|
| Schedule of Accounts Receivable | |
| July 31 | |
| | |
| Robby Red | $0 |
| Bobby Blue | 7,000 |
| **Total Accounts Receivable** | **$ 7,000** |

*Note: It would not be necessary to include customers with zero balances but it is included here just so you can see how the subsidiary ledger works.* Notice how the schedule of accounts receivable balance equals the ending accounts receivable balance (control account).

## Accounts Payable Subsidiary Ledger

The accounts payable subsidiary ledgers works the same way as accounts receivable with the control account of accounts payable and the subsidiary ledger a vendor ledger to provide a listing of everyone we owe. The purchases, payments, returns and allowances are recorded in the individual vendor accounts as well as in the accounts payable account. The purchase transactions for Fooz Ball Town are:

- July 12 Purchased $10,000 of merchandise inventory, terms 2/15, n 45, FOB Destination from Gus Grass.
- July 16 Returned $2,500 of merchandise damaged in shipment from July 12 purchase.
- July 25 Paid for the July 15 purchase from Gus Grass less the return and discount.

These transactions were recorded, under the perpetual inventory method, in the following journals:

| Purchases Journal | | |
|---|---|---|
| Date | Vendor | DR Merchandise Inventory<br>CR Accounts Payable |
| July 12 | Gus Grass | 10,000 |
| TOTALS | | 10,000 |

| Cash Disbursement Journal | | | | |
|---|---|---|---|---|
| Date | Account | DR Accts Payable | CR Mdse Inventory | CR Cash |
| July 25 | Gus Grass | 7,500 | 150 | 7,350 |

| General Journal | | | |
|---|---|---|---|
| Date | Account | Debit | Credit |

| | | | |
|---|---|---|---|
| July 16 | Accounts Payable | 2,500 | |
| | Merchandise Inventory | | 2,500 |

These journals would be posted to the Accounts Payable control account like this:

| Account: Accounts Payable | | | | |
|---|---|---|---|---|
| Date | Description | Debit | Credit | Balance |
| July 16 | Gus Grass Return | 2,500 | | -2,500 |
| July 31 | from Purchases Journal | | 10,000 | 7,500 |
| July 31 | from Cash Disbursements Journal | | 7,500 | -0- |

The vendor (subsidiary) ledger would be updated for Gus Grass:

| Vendor Account: Gus Grass | | | | |
|---|---|---|---|---|
| Date | Description | Debit | Credit | Balance |
| July 12 | Purchase | | 10,000 | 10,000 |
| July 16 | Return | 2,500 | | 7,500 |
| July 25 | Payment | | 7,500 | -0- |

The vendor balance for Gus Grass is $0 and the accounts payable balance is $0. Since both are zero and match, it would not be necessary to prepare a schedule of accounts payable. If there is a balance, a schedule of accounts payable would be prepared in the same manner as accounts receivable.



# DIRECT WRITE-OFF AND ALLOWANCE METHODS

Because customers do not always keep their promises to pay, companies must provide for these uncollectible accounts in their records. Companies use two methods for handling uncollectible accounts. The direct write-off method recognizes bad accounts as an expense at the point when judged to be uncollectible and is the required method for federal income tax purposes. The allowance method provides in advance for uncollectible accounts think of as setting aside money in a reserve account. The allowance method represents the accrual basis of accounting and is the accepted method to record uncollectible accounts for financial accounting purposes.

Watch this video online: https://youtu.be/BltYFDV18Wc

### Direct Write-off

The direct write-off method is used only when we decide a customer will not pay. We do not record any estimates or use the Allowance for Doubtful Accounts under the direct write-off method. We record Bad Debt Expense for the amount we determine will not be paid. This method violates the GAAP matching principle of revenues and expenses recorded in the same period.

When we write-off an account under this method, the entry would be:

| | Debit | Credit |
|---|---|---|
| Bad Debt Expense | X | |
| Accounts Receivable | | X |

The amount used will be the amount the customer owes that we will not be able to collect.

Allowance Method

The allowance method follows GAAP matching principle since we estimate uncollectible accounts at the end of the year. We use this estimate to record Bad Debt Expense and to setup a reserve account called Allowance for Doubtful Accounts (also called Allowance for Uncollectible Accounts) based on previous experience with past due accounts. We can calculate this estimates based on Sales (income statement approach) for the year or based on Accounts Receivable balance at the time of the estimate (balance sheet approach).

As a contra asset account to the Accounts Receivable account, the **Allowance for Doubtful Accounts** (also called Allowance for uncollectible accounts or Allowance for bad debts) reduces accounts receivable to their net realizable value. **Net realizable value** is the amount the company expects to collect from accounts receivable. When the firm makes the bad debts adjusting entry, it does not know which specific accounts will become uncollectible. Thus, the company cannot enter credits in either the Accounts Receivable control account or the customers' accounts receivable subsidiary ledger accounts. If only one or the other were credited, the Accounts Receivable control account balance would not agree with the total of the balances in the accounts receivable subsidiary ledger. Without crediting the Accounts Receivable control account, the allowance account lets the company show that some of its accounts receivable are probably uncollectible.

When we decide a customer will not pay the amount owed, we use the Allowance for Doubtful accounts to offset this loss instead of Bad Debt Expense.

At the end of each year, we ESTIMATE bad debts expense and make the following entry:

| | Debit | Credit |
|---|---|---|
| Bad Debt Expense | X | |
| Allowance for Doubtful Accounts | | X |

*The amount used will be the ESTIMATED amount calculated using sales or accounts receivable.*

When we write-off a customer account under the allowance method, the entry would be:

| | Debit | Credit |
|---|---|---|
| Allowance for Doubtful Accounts | X | |
| Accounts Receivable | | X |

*Notice how we do not use bad debts expense in a write-off under the allowance method.*

# Accounting in the Headlines

Let's try and make accounts receivable more relevant or understandable using an actual company.

## What does Coca-Cola's Form 10-k communicate about its accounts receivable?


The Coca-Cola Company (KO), like other U.S. publicly-held companies, files its financial statements in an annual filing called a Form 10-K with the Securities & Exchange Commission (SEC).

Coca-Cola has several assets that are listed on its balance sheet. Let's look at what is reported on Coca-Cola's Form 10-K regarding its accounts receivable. A 10-K is another name for a company's annual report. Additionally, a 10-Q is a company's quarterly report.

See the following excerpts from Coca-Cola's 2013 Form 10-K:

1. Partial Consolidated Balance Sheets containing current assets (page 76);
2. Trade Accounts Receivable note (page 89); and
3. Partial Statements of Income (page 74).

### Questions

1. What is the total (gross) value of Coca-Cola's accounts receivable (before deduction for its allowance for doubtful accounts) as of December 31, 2013? As of December 31, 2012?
2. What is "net realizable value"?
3. What factors does Coca-Cola use to determine the amount of its allowance for doubtful accounts?
4. In what line item on the income statement would bad debt expense be included?



# ESTIMATING BAD DEBTS

**Estimating uncollectible accounts** Accountants use two basic methods to estimate uncollectible accounts for a period. The first method—percentage-of-sales method—focuses on the income statement and the relationship of uncollectible accounts to sales. The second method—percentage-of-receivables method—focuses on the balance sheet and the relationship of the allowance for uncollectible accounts to accounts receivable.

Watch this video online: https://youtu.be/uE-umnuyRzQ

**Percentage-of-sales method** The percentage-of-sales method estimates uncollectible accounts from the credit sales of a given period. In theory, the method is based on a percentage of prior years' actual uncollectible accounts to prior years' credit sales. When cash sales are small or make up a fairly constant percentage of total sales, firms base the calculation on total net sales. Since at least one of these conditions is usually met, companies commonly use total net sales rather than credit sales. The formula to determine the amount of the ending estimated bad debts entry is:

*Bad Debt Expense = Net sales (total or credit) x Percentage estimated as uncollectible*

To illustrate, assume that Rankin Company's estimates uncollectible accounts at 1% of total net sales. Total net sales for the year were $500,000; receivables at year-end were $100,000; and the Allowance for Doubtful Accounts had a zero balance. Rankin would make the following adjusting entry at year end:

| | | | Debit | Credit |
|---|---|---|---|---|
| Dec. | 31 | Bad Debt Expense | 5,000 | |
| | | Allowance for Doubtful Accounts | | 5,000 |
| | | To record estimated uncollectible accounts | | |
| | | ($500,000 X 1%). | | |

Rankin reports Bad Debt Expense on the income statement. It reports the accounts receivable less the allowance among current assets in the balance sheet as follows:

| | |
|---|---|
| Accounts receivable | $100,000 |
| Less: Allowance for doubtful accounts | (5,000) |
| Accounts receivable, Net | $95,000 |
| | |
| Or the balance sheet could show: | |
| Accounts receivable (less estimated | |
| uncollectible accounts, $5,000) | $95,000 |

On the income statement, Rankin would match the bad debt expense against sales revenues in the period. We would classify this expense as a selling expense since it is a normal consequence of selling on credit.

The Allowance for Doubtful Accounts account can have either a debit or credit balance before the year-end adjustment. Under the percentage-of-sales method, the company ignores any existing balance in the allowance when calculating the amount of the year-end adjustment (except that the allowance account must have a credit balance after adjustment).

For example, assume Rankin's allowance account had a $300 credit balance before adjustment. The adjusting entry would still be for $5,000. However, the balance sheet would show $100,000 accounts receivable less a $5,300 allowance for doubtful accounts, resulting in net receivables of $ 94,700. On the income statement, Bad Debt Expense would still be 1%of total net sales, or $5,000.

In applying the percentage-of-sales method, companies annually review the percentage of uncollectible accounts that resulted from the previous year's sales. If the percentage rate is still valid, the company makes no change. However, if the situation has changed significantly, the company increases or decreases the percentage rate to reflect the changed condition. For example, in periods of recession and high unemployment, a firm may increase the percentage rate to reflect the customers' decreased ability to pay. However, if the company adopts a more stringent credit policy, it may have to decrease the percentage rate because the company would expect fewer uncollectible accounts.

Watch this video online: https://youtu.be/mBuprTmisPw

**Percentage-of-receivables method** The **percentage-of-receivables method** estimates uncollectible accounts by determining the desired size of the Allowance for Uncollectible Accounts. Rankin would multiply the ending balance in Accounts Receivable by a rate (or rates) based on its uncollectible accounts experience. In the percentage-of-receivables method, the company may use either an overall rate or a different rate for each age category of receivables.

To calculate the adjusting entry amount of the entry for bad debt expense under the percentage-of-receivables method using an overall rate, Rankin would use:

*Bad Debt Expense = (Accounts receivable ending balance x percentage estimated as uncollectible) – Existing credit balance in allowance for doubtful accounts or + existing debit balance in allowance for doubtful accounts*

Using the same information as before, Rankin makes an estimate of uncollectible accounts at the end of the year. The balance of accounts receivable is $100,000, and the **allowance account has no balance.** If Rankin estimates that 6% of the receivables will be uncollectible, the adjusting entry would be:

| | | | Debit | Credit |
|---|---|---|---|---|
| Dec. | 31 | Bad Debt Expense | 6,000 | |
| | | Allowance for Doubtful Accounts | | 6,000 |
| | | ($ 100,000 x 6%) – 0 | | |

Accounts Receivable would be reported on the balance sheet as (notice how the allowance for doubtful accounts equals 6% of accounts receivable):

| | |
|---|---|
| Accounts receivable | $100,000 |
| Less: Allowance for doubtful accounts | (6,000) |
| Accounts receivable, Net | $94,000 |
| | |
| Or the balance sheet could show: | |
| Accounts receivable (less estimated | |
| uncollectible accounts, $6,000) | $94,000 |

If Rankin had a **$300 credit balance in the allowance account before adjustment**, the entry would be the same, except that the amount of the entry would be $ 5,700. The difference in amounts arises because management wants the allowance account to contain a credit balance equal to 6% of the outstanding receivables when presenting the two accounts on the balance sheet. The calculation of the necessary adjustment is [($100,000 x 6%)- $300] = $ 5,700. Thus, under the percentage-of-receivables method, firms consider any existing balance in the allowance account when adjusting for uncollectible accounts and must remove any previous amounts in the allowance for doubtful accounts. The year end adjusting entry would be:

| | | | | |
|---|---|---|---|---|
| Dec. | 31 | Bad Debt Expense | Debit<br>5,700 | Credit |
| | | Allowance for Doubtful Accounts | | 5,700 |
| | | ($ 100,000 x 6%) – $300 | | |

Accounts Receivable would be reported on the balance sheet as (notice how the allowance for doubtful accounts still equals 6% of accounts receivable):

| | |
|---|---|
| Accounts receivable | $100,000 |
| Less: Allowance for doubtful accounts | (6,000) |
| Accounts receivable, Net | $94,000 |
| | |
| Or the balance sheet could show: | |
| Accounts receivable (less estimated | |
| uncollectible accounts, $6,000) | $94,000 |

As another example, suppose that Rankin had **a $300 debit balance in the allowance account before adjustment**. Then, a credit of $6,300 would be necessary to bad debt expense to get the balance to the required $6,000 credit balance. The calculation of the necessary adjustment is [($ 100,000 x 6%) + $300] = $6,300. The year end adjusting entry would be:

| | | | | |
|---|---|---|---|---|
| Dec. | 31 | Bad Debt Expense | Debit<br>6,300 | Credit |
| | | Allowance for Doubtful Accounts | | 6,300 |
| | | ($ 100,000 x 6%) + $300 | | |

No matter what the pre-adjustment allowance account balance is, when using the percentage-of-receivables method, Rankin adjusts the Allowance for Doubtful Accounts so that it has an ending credit balance of $ 6,000—equal to 6% of its $100,000 in Accounts Receivable. The desired $6,000 ending credit balance in the Allowance for Doubtful Accounts serves as a “target” in making the adjustment.

Watch this video online: https://youtu.be/AVseHnm4Ndk

So far, we have used one uncollectibility rate for all accounts receivable, regardless of their age. However, some companies use a different percentage for each age category of accounts receivable. When accountants decide to use a different rate for each age category of receivables, they prepare an aging schedule. An aging schedule classifies accounts receivable according to how long they have been outstanding and uses a different uncollectibility percentage rate for each age category. Companies base these percentages on experience. In Exhibit 1, the aging schedule shows that the older the receivable, the less likely the company is to collect it.

| ALLEN COMPANY | | | | | | |
|---|---|---|---|---|---|---|
| Accounts Receivable Aging Schedule | | | | | | |
| Customer | Total | Not Yet Due | Days Past Due | | | |
| | | | 0 – 30 | 31 – 60 | 61 – 90 | Over 90 |
| X | $ 5,000 | | | | | 5,000 |
| Y | 14,000 | | 12,000 | 2,000 | | |
| Z | 400 | | | | 200 | 200 |
| all others | 808,600 | 560,000 | 240,000 | 2,000 | 600 | 6,000 |
| Total Accounts Receivable | $ 828,000 | $ 560,000 | $ 252,000 | $ 4,000 | $ 800 | $ 11,200 |
| x Percent estimated as uncollectible | | x 1% | x 5% | x 10% | x 25% | x 50% |
| Estimated amount uncollectible | $ 24,400 | 5,600 | 12,600 | 400 | 200 | 5,600 |

***Exhibit 1: Accounts receivable aging schedule***

Classifying accounts receivable according to age often gives the company a better basis for estimating the total amount of uncollectible accounts. For example, based on experience, a company can expect only 1% of the accounts not yet due (sales made less than 30 days before the end of the accounting period) to be uncollectible. At the other extreme, a company can expect 50% of all accounts over 90 days past due to be uncollectible. For each age category, the firm multiplies the accounts receivable by the percentage estimated as uncollectible to find the estimated amount uncollectible.

The sum of the estimated amounts for all categories yields the total estimated amount uncollectible and is the desired credit balance (the target) in the Allowance for Uncollectible Accounts.

Since the aging schedule approach is an alternative under the percentage-of-receivables method, the balance in the allowance account before adjustment affects the year-end adjusting entry amount recorded for uncollectible accounts. For example, the schedule in Exhibit 1 shows that $24,400 is needed as the ending credit balance in the allowance account. If the **allowance account has a $5,000 credit balance before adjustment**, the adjustment would be for $19,400 calculated as $24,400 estimated amount uncollectible from Exhibit 1 – 5,000 existing credit balance in the allowance account. The entry would be:

| | | | Debit | Credit |
|---|---|---|---|---|
| Dec. | 31 | Bad Debt Expense | 19,400 | |
| | | Allowance for Doubtful Accounts | | 19,400 |
| | | ($ 24,400 – 5,000) | | |

Accounts Receivable would be reported on the balance sheet as (notice how the allowance for doubtful accounts equals the estimated amount uncollectible from Exhibit 1):

| | |
|---|---|
| Accounts receivable | $828,000 |
| Less: Allowance for doubtful accounts | (24,400) |
| Accounts receivable, Net | $803,600 |
| | |
| Or the balance sheet could show: | |
| Accounts receivable (less estimated | |
| uncollectible accounts, $24,400) | $803,600 |

The information in an aging schedule also is useful to management for other purposes. Analysis of collection patterns of accounts receivable may suggest the need for changes in credit policies or for added financing. For example, if the age of many customer balances has increased to 61-90 days past due, collection efforts may have to be strengthened. Or, the company may have to find other sources of cash to pay its debts within the discount period. Preparation of an aging schedule may also help identify certain accounts that should be written off as uncollectible.



# ACCOUNTING FOR CREDIT CARD SALES

Wouldn't it be nice if we could allow customers to pay on credit and not have to worry if they pay us or not?  Good news!  We can allow customers to pay using debit or credit cards.

**Credit cards** are either nonbank (e.g. American Express) or bank (e.g. VISA and MasterCard) charge cards that customers use to purchase goods and services. For some businesses, uncollectible account losses and other costs of extending credit are a burden. Business can pass these costs (and risks) on to banks and agencies issuing national debit or credit cards. The banks and credit card agencies then absorb the uncollectible accounts and costs of extending credit and maintaining records.  Yeah!  This takes the responsibility off your business but do the bank and credit card agencies take the cost and risk for free?  Of course not — usually, banks and agencies issue credit cards to approved credit applicants for an annual fee.  Our business also agrees to pay the percentage fee (typically between 2 and 6% of sales) charged by the bank or credit agency.  These costs can get expensive and some companies decide it costs too much to honor specific credit cards (ever wonder why some business will not accept American Express or Discover? or have a minimum transaction amount requirement to use credit or debit cards?)

The seller's accounting procedures for credit card sales differ depending on whether the business accepts a nonbank or a bank credit card. To illustrate the entries for the use of nonbank credit cards (such as American Express), assume that a restaurant American Express invoices amounting to $ 1,400 at the end of a day.

American Express charges the restaurant a 5% service charge on the total American express sales . The restaurant uses the **Credit Card Expense account** to record the credit card agency's service charge and makes the following entry:

| | Debit | Credit |
|---|---|---|
| Accounts Receivable—American Express (1,400 – 70) | 1,330 | |
| Credit Card Expense (1,400 x 5%) | 70 | |
| Sales | | 1,400 |
| To record credit card sales. | | |

The restaurant mails the invoices to American Express. Sometime later, the restaurant receives payment from American Express and makes the following entry:

| | Debit | Credit |
|---|---|---|
| Cash | 1,330 | |
| Accounts Receivable – American Express | | 1,330 |
| To record payment received from American Express. | | |

To illustrate the accounting entries for the use of bank credit cards (such as VISA or MasterCard), assume that a retailer has made sales of $ 1,000 for which VISA cards were accepted and the service charge is 3% of sales. VISA sales are treated as cash sales because the cash will be deposited the next day. The retailer deposits the credit card sales invoices in its VISA checking account at a bank just as it deposits checks in its regular checking account. The entry to record this deposit is:

| | Debit | Credit |
|---|---|---|
| Cash (1,000 sales – 30 fee) | 970 | |
| Credit Card Expense (1,000 x 3%) | 30 | |
| Sales | | 1,000 |
| To record credit Visa card sales. | | |

# ACCOUNTING FOR NOTES RECEIVABLE

Notes receivable

Watch this video online: https://youtu.be/DDWmiuUKUFc

Remember from earlier in the chapter, a note (also called a promissory note) is an unconditional written promise by a borrower to pay a definite sum of money to the lender (payee) on demand or on a specific date. On the balance sheet of the lender (payee), a note is a receivable. A customer may give a note to a business for an amount due on an account receivable or for the sale of a large item such as a refrigerator. Also, a business may give a note to a supplier in exchange for merchandise to sell or to a bank or an individual for a loan. Thus, a company may have notes receivable or notes payable arising from transactions with customers, suppliers, banks, or individuals.

Most promissory notes have an explicit interest charge. Interest is the fee charged for use of money over a period. To the maker of the note, or borrower, interest is an expense; to the payee of the note, or lender, interest is a revenue. A borrower incurs interest expense; a lender earns interest revenue. For convenience, bankers sometimes calculate interest on a 360-day year; we calculate it on that basis in this text. (Some companies use a 365-day year.)

The basic formula for computing interest is:

Principal x Interest Rate x Frequency of a year

Principal is the face value of the note. The interest rate is the annual stated interest rate on the note. Frequency of a year is the amount of time for the note and can be either days or months. We need the frequency of a year because the interest rate is an annual rate and we may not want interest for an entire year but just for the time period of the note.

To show how to calculate interest, assume a company borrowed $20,000 from a bank. The note has a principal (face value) of $20,000, an annual interest rate of 10%, and a life of 90 days. The interest calculation is:

$20,000 principal x 10% interest rate x (90 days / 360 days) = $500

*Note that in this calculation we expressed the time period as a fraction of a 360-day year because the interest rate is an annual rate and the note life was days. If the note life was months, we would divide by 12 months for a year.*

The maturity date is the date on which a note becomes due and must be paid. Sometimes notes require monthly installments (or payments) but usually all of the principal and interest must be paid at the same time. The wording in the note expresses the maturity date and determines when the note is to be paid. A note falling due on a Sunday or a holiday is due on the next business day. Examples of the maturity date wording are:

- On demand. "On demand, I promise to pay…" When the maturity date is on demand, it is at the option of the holder and cannot be computed. The holder is the payee, or another person who legally acquired the note from the payee.
- On a stated date. "On July 18, 2015, I promise to pay…" When the maturity date is designated, computing the maturity date is not necessary.
- At the end of a stated period.

(a*)"One year after date, I promise to pay…"* When the maturity is expressed in years, the note matures on the same day of the same month as the date of the note in the year of maturity.

(b*)"Four months after date, I promise to pay…"* When the maturity is expressed in months, the note matures on the same date in the month of maturity. For example, one month from July 18 is August 18, and two months from

July 18 is September 18. If a note is issued on the last day of a month and the month of maturity has fewer days than the month of issuance, the note matures on the last day of the month of maturity. A one-month note dated January 31, matures on February 28.

(c) "*Ninety days after date, I promise to pay…*" When the maturity is expressed in days, the exact number of days must be counted. The first day (date of origin) is omitted, and the last day (maturity date) is included in the count. For example, a 90-day note dated October 19 matures on January 17 of the next year, as shown here:

| | | |
|---|---|---|
| Life of note (days) | | 90 days |
| Days remaining in October not counting date of origin of note: | | |
| Days to count in October (31 – 19) | 12 | |
| Total days in November | 30 | |
| Total Days in December | 31 | 73 |
| Maturity date in January<br>(90 total days – 73 days from Oct to Dec) | | 17 days |

Sometimes a company receives a note when it sells high-priced merchandise; more often, a note results from the conversion of an overdue account receivable. When a customer does not pay an account receivable that is due, the company may insist that the customer gives a note in place of the account receivable. This action allows the customer more time to pay the balance due, and the company earns interest on the balance until paid. Also, the company may be able to sell the note to a bank or other financial institution.

To illustrate the conversion of an account receivable to a note, assume that Price Company had purchased $18,000 of merchandise on August 1 from Cooper Company on account. The normal credit period has elapsed, and Price cannot pay the invoice. Cooper agrees to accept Price's $18,000, 15%, 90-day note dated September 1 to settle Price's open account. Assuming Price paid the note at maturity and both Cooper and Price have a December 31 year-end, the entries on the books of Cooper are:

| | | | Debit | Credit |
|---|---|---|---|---|
| Aug | 1 | Accounts Receivable—Price Company | 18,000 | |
| | | Sales | | 18,000 |
| | | To record sale of merchandise on account. | | |
| Sept. | 1 | Notes Receivable | 18,000 | |
| | | Accounts Receivable | | 18,000 |
| | | To record exchange of a note from Price Company for open account. | | |
| Nov. | 30 | Cash | 18,675 | |
| | | Notes Receivable | | 18,000 |
| | | Interest Revenue [18,000 x 15% x (90/360)] | | 675 |
| | | To record receipt of Price Company note principal and interest. | | |

*Note: Maturity date calculated as November 30 since it was a 90 day note – 29 days left in September (30 days in Sept – note day Sept 1) – 31 days in October leaves 30 days remaining in November.*

The $18,675 paid by Price to Cooper is called the **maturity value** of the note. Maturity value is the amount that the company (maker) must pay on a note on its maturity date; typically, it includes principal and accrued interest, if any.

Sometimes the maker of a note does not pay the note when it becomes due. The next section describes how to record a note not paid at maturity.

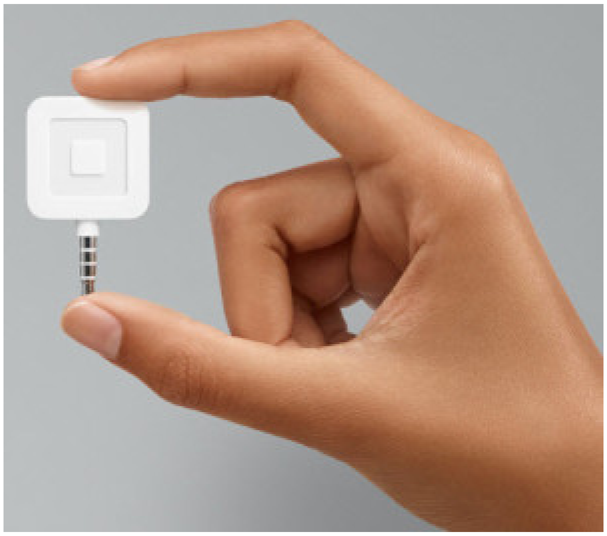
A **dishonored note** is a note that the maker failed to pay at maturity. Since the note has matured, the holder or payee removes the note from Notes Receivable and records the amount due in Accounts Receivable.

At the maturity date of a note, the maker is responsible for the principal plus interest. The payee should record the interest earned and remove the note from its Notes Receivable account. Thus, the payee of the note should debit Accounts Receivable for the maturity value of the note and credit Notes Receivable for the note's face value and Interest Revenue for the interest.

| | | | | |
|---|---|---|---|---|
| | | | Debit | Credit |
| Nov. | 30 | Accounts Receivable—Price Company | 18,675 | |
| | | Notes Receivable | | 18,000 |
| | | Interest Revenue | | 675 |
| | | To record dishonor of Price Company note. | | |

# Accounting in the Headlines

## How does Square account for the amounts it loans to small businesses?



Square, the mobile payments company, allows small businesses to take credit cards by swiping customer credit cards using a small square device attached to the audio jack found on mobile devices. Since its founding in 2009 and the launch of its first app in 2010, Square has found its way into many small businesses – and large businesses. Starbucks uses Square to process transactions with credit or debit card customers. In November 2014, Square announced that it would be accepting Apple Pay. Whole Foods uses Square in select locations.

Square has recently gotten into lending money to its customers through its Square Capital program. According to Business Insider (April 15, 2015 article), Square has paid out over $100 million in small business financing over the past year.

See Jack Dorsey, co-founder of Square, explain the small business loan concept in this CNN Money video (2:26 minutes) at http://money.cnn.com/video/technology/2014/05/28/t-square-capital-dorsey.cnnmoney/ Essentially, the business owner clicks on a link in the Square Capital app to let Square know that the business would like to borrow a certain amount of money. Square Capital calls this step "requesting capital." The next morning, the funds are deposited in the checking account of that business. The business pays Square back the funds by having a certain percentage of each day's receipts deducted for the payback.

For example, if a business wants to borrow $7,000, Square might charge a total of $7,910 for the loan. Upon approval, the $7,000 is deposited into the business's checking account the next day and then Square charges 9% of the business's credit card sales each day until the $7,910 is fully paid. Square says that the advantage of this percentage-of-sales method is that the business does not have to make large payments when business is slow. The percentage that Square charges stays constant until the loan is paid off fully.

Square determines the amount to be charged for the loan and the percentage to be charged each day using data analytics. Each Square account has potentially different terms based on its history and trends.

Questions

1. Square Capital states that the first step for business owners is to "request capital." Are the business owners actually requesting capital?
2. In the example given in the blog post, the business borrows $7,000 and pays back $7,910 by paying 9% of its credit card receipts each day until paid in full. Is the 9% the interest rate charged? Why or why not?
3. Is the amount of cash deposited by Square Capital in its customers' (the small businesses requesting funds) checking accounts classified as ACCOUNTS RECEIVABLE or NOTES RECEIVABLE by Square Capital? Explain.

4. What is the difference between the amount of funds deposited in the customers' accounts and the total amount paid back by customers classified as by Square Capital?
5. What do you think of this practice by Square Capital?



# EXERCISES: UNIT 10

## SHORT-ANSWER QUESTIONS, EXERCISES, AND PROBLEMS

Questions

➢ In view of the difficulty in estimating future events, would you recommend that accountants wait until collections are made from customers before recording sales revenue? Should they wait until known accounts prove to be uncollectible before charging an expense account?

➢ The credit manager of a company has established a policy of seeking to completely eliminate all losses from uncollectible accounts. Is this policy a desirable objective for a company? Explain.

➢ What are the two major purposes of establishing an allowance for uncollectible accounts?

➢ In view of the fact that it is impossible to estimate the exact amount of uncollectible accounts receivable for any one year in advance, what exactly does the Allowance for Uncollectible Accounts account contain after a number of years?

➢ What must be considered before adjusting the allowance for uncollectible accounts under the percentage-of-receivables method?

➢ How might information in an aging schedule prove useful to management for purposes other than estimating the size of the required allowance for uncollectible accounts?

➢ For a company using the allowance method of accounting for uncollectible accounts, which of the following directly affects its reported net income: (1) the establishment of the allowance, (2) the writing off of a specific account, or (3) the recovery of an account previously written off as uncollectible?

➢ Why might a retailer agree to sell by credit card when such a substantial discount is taken by the credit card agency in paying the retailer?

➢ Define liabilities, current liabilities, and long-term liabilities.

➢ What is an operating cycle? Which type of company is likely to have the shortest operating cycle, and which is likely to have the longest operating cycle? Why?

➢ Describe the differences between clearly determinable, estimated, and contingent liabilities. Give one or more examples of each type.

➢ In what instances might a company acquire notes receivable?

➢ How is the maturity value of a note calculated?

➢ What is a dishonored note receivable and how is it reported in the balance sheet?

➢ Under what circumstances does the account Discount on Notes Payable arise? How is it reported in the financial statements? Explain why.

➢ **Real world question** Refer to “A Broader Perspective: GECS allowance for losses on financing receivables”. What factors are taken into account by the General Electric Company in determining the adjusting entry to establish the desired balance in the Allowance for Losses?

➢ **Real world question** Refer to “A Broader Perspective: GECS allowance for losses on financing receivables”. Explain how the General Electric Company writes off uncollectibles.

Exercises

**Exercise A** The accounts of Stackhouse Company as of 2010 December 31, show Accounts Receivable, $ 190,000; Allowance for Uncollectible Accounts, $ 950 (credit balance); Sales, $ 920,000; and Sales Returns and Allowances, $ 12,000. Prepare journal entries to adjust for possible uncollectible accounts under each of the following assumptions:

1. Uncollectible accounts are estimated at 1 per cent of net sales.
2. The allowance is to be increased to 3 per cent of accounts receivable.

**Exercise B** Compute the required balance of the Allowance for Uncollectible Accounts for the following receivables:

| Accounts | Age | Probability |
|---|---|---|
| Receivable | (months) | of Collection |
| $180,000 | Less than 1 | 95% |
| 90,000 | 1-3 | 85 |
| 39,000 | 3-6 | 75 |
| 12,000 | 6-9 | 35 |
| 2,250 | 9-12 | 10 |

**Exercise C** On 2009 April 1, Kelley Company, which uses the allowance method of accounting for uncollectible accounts, wrote off Bob Dyer’s $ 400 account. On 2009 December 14, the company received a check in that amount from Dyer marked “in full payment of account”. Prepare the necessary entries.

**Exercise D** Jamestown Furniture Mart, Inc., sold $ 80,000 of furniture in May to customers who used their American Express credit cards. Such sales are subject to a 3 per cent discount by American Express (a nonbank credit card),

1. Prepare journal entries to record the sales and the subsequent receipt of cash from the credit card company.
2. Do the same as requirement (a), but assume the credit cards used were VISA cards (a bank credit card).

**Exercise E** Dunwoody Discount Toys, Inc., sells merchandise in a state that has a 5 per cent sales tax. Rather than record sales taxes collected in a separate account, the company records both the sales revenue and the sales taxes in the Sales account. At the end of the first quarter of operations, when it is time to remit the sales taxes to the state taxing agency, the company has $ 420,000 in the Sales account. Determine the correct amount of sales revenue and the amount of sales tax payable.

**Exercise F** Assume the following note appeared in the annual report of a company:

*In 2009, two small retail customers filed separate suits against the company alleging misrepresentation, breach of contract, conspiracy to violate federal laws, and state antitrust violations arising out of their purchase of retail grocery stores through the company from a third party. Damages sought range up to $ 10 million in each suit for actual and treble damages and punitive damages of $ 2 million in one suit and $ 10 million in the other. The company is vigorously defending the actions and management believes there will be no adverse financial effect.*

What kind of liability is being reported? Why is it classified this way? Do you think it is possible to calculate a dollar amount for this obligation? How much would the company have to pay if it lost the suit and had to pay the full amount?

**Exercise G** Determine the maturity date for each of the following notes:

| Issue Date | Life | |
|---|---|---|
| 2010 January 13 | 30 | days |
| 2010 January 31 | 90 | days |
| 2010 June 4 | 1 | year |
| 2010 December 2 | 1 | month |

**Exercise H** Crawford, Inc., gave a $ 20,000, 120-day, 12 per cent note to Dunston, Inc., in exchange for merchandise. Crawford uses periodic inventory procedure. Prepare journal entries to record the issuance of the note and the entries needed at maturity for both parties, assuming payment is made.

**Exercise I** Based on the facts in the previous exercise, prepare the entries that Crawford, Inc., and Dunston, Inc., would make at the maturity date, assuming Crawford defaults.

**Exercise J** John Wood is negotiating a bank loan for his company, Wood, Inc., of $ 16,000 for 90 days. The bank's current interest rate is 10 per cent. Prepare Wood's entries to record the loan under each of the following assumptions:

1. Wood signs a note for $ 16,000. Interest is deducted in calculating the proceeds turned over to him.
2. Wood signs a note for $ 16,000 and receives that amount. Interest is to be paid at maturity.

**Exercise K** Based on the previous exercise, prepare the entry or entries that would be made at the maturity date for each alternative, assuming the loan is paid before the end of the accounting period.

**Exercise L** Pistol Pete provides communication services and products, as well as network equipment and computer systems, to businesses, consumers, communications services providers, and government agencies. The following amounts were included in its 2010 annual report:

| | (Millions) |
|---|---|
| Net sales | $ 79,609 |
| Receivables, net, 2009 December 31 | 29,275 |
| Receivables, net, 2008 December 31 | 28,623 |

Calculate the accounts receivable turnover and the number of days' sales in accounts receivable. Use net sales instead of net credit sales in the calculation. Comment on the results.

## Problems

**Problem A** As of 2009 December 31, Fargo Company's accounts prior to adjustment show:

Allowance for uncollectible accounts (credit balance)

| | |
|---|---|
| Accounts receivable | $ 40,000 |
| Allowance for uncollectible accounts (credit balance) | 750 |
| Sales | 250,000 |

Fargo Company estimates uncollectible accounts at 1 per cent of sales.

On 2010 February 23, the account of Dan Hall in the amount of $ 300 was considered uncollectible and written off. On 2010 August 12, Hall remitted $ 200 and indicated that he intends to pay the balance due as soon as possible. By 2010 December 31, no further remittance had been received from Hall and no further remittance was expected.

1. Prepare journal entries to record all of these transactions and adjusting entries.
2. Give the entry necessary as of 2009 December 31, if Fargo Company estimated its uncollectible accounts at 8 per cent of outstanding receivables rather than at 1 per cent of sales.

**Problem B** At the close of business, Jim's Restaurant had credit card sales of $ 12,000. Of this amount, $ 4,000 were VISA (bank credit card) sales invoices, which can be deposited in a bank for immediate credit, less a discount of 3 per cent. The balance of $ 8,000 consisted of American Express (nonbank credit card) charges, subject to a 5 per cent service charge. These invoices were mailed to American Express. Shortly thereafter, a check was received.

Prepare journal entries for all these transactions.

**Problem C** Ruiz Company sells merchandise in a state that has a 5 per cent sales tax. On 2010 January 2, Ruiz sold goods with a sales price of $ 80,000 on credit. Sales taxes collected are recorded in a separate account. Assume that sales for the entire month were $ 900,000. On 2010 January 31, the company remitted the sales taxes collected to the state taxing agency.

1. Prepare the general journal entries to record the January 2 sales revenue. Also prepare the entry to show the remittance of the taxes on January 31.
2. Now assume that the merchandise sold on January 2 also is subject to federal excise taxes of 12 per cent. The federal excise taxes collected are remitted to the proper agency on January 31. Show the entries on January 2 and January 31.

**Problem D** Honest Tim's Auto Company sells used cars and warrants all parts for one year. The average price per car is $ 10,000, and the company sold 900 in 2009. The company expects 30 per cent of the cars to develop defective parts within one year of sale. The estimated average cost of warranty repairs per defective car is $ 600. By the end of the year, 80 cars sold that year had been returned and repaired under warranty. On 2010 January 4, a customer returned a car purchased in 2009 for repairs under warranty. The repairs were made on January 8. The cost of the repairs included parts, $ 400, and labor, $ 210.

1. Calculate the amount of the estimated product warranty payable.
2. Prepare the entry to record the estimated product warranty payable on 2009 December 31.
3. Prepare the entry to record the repairs made on 2010 January 8.

**Problem E** Celoron Power Boat Company is in the power boat manufacturing business. As of 2010 September 1, the balance in its Notes Receivable account is $ 256,000. The balance in Dishonored Notes Receivable is $ 60,660 (includes the interest of $ 600 and the protest fee of $ 60). A schedule of the notes (including the dishonored note) is as follows:

| Face | | Date | | Interest |
|---|---|---|---|---|
| Amount | Maker | of Note | Life | Rate |
| $ 100,000 | 1. Glass Co. | 2009/6/01 | 120 days | 12% |
| 72,000 | 1. Lamp Co. | 2009/6/15 | 90 | 8 |
| 84,000 | 1. Wall Co. | 2009/7/01 | 90 | 10 |
| 60,000 | 1. Case Co. | 2009/7/01 | 60 | 6 |
| $316,000 | | | | |

Following are Celoron Power Boat Company's transactions for September:

Sept. 10 Received $ 36,660 from N. Case Company as full settlement of the amount due from it. The company does not charge losses on notes to the Allowance for Uncollectible Accounts account.

? The A. Lamp Company note was collected when due.

? The C. Glass Company note was not paid at maturity.

? C. Wall Company paid its note at maturity.

30 Received a new 60-day, 12 per cent note from C. Glass Company for the total balance due on the dishonored note. The note was dated as of the maturity date of the dishonored note. Celoron Power Boat Company accepted the note in good faith.

Prepare dated journal entries for these transactions.

**Problem F** Premium Office Equipment, Inc., discounted its own $ 30,000, non interest-bearing, 180-day note on 2009 November 16, at Niagara County Bank at a discount rate of 12 per cent.

Prepare dated journal entries for:

6. The original discounting on November 16.
7. The adjustment required at the end of the company's calendar-year accounting period.
8. Payment at maturity.

**Alternate problems**

**Alternate problem A** The following selected accounts are for Keystone, Inc., a name brand shoe wholesale store, as of 2009 December 31. Prior to closing the accounts and making allowance for uncollectible accounts entries, the $ 5,000 account of Morgan Company is to be written off (this was a credit sale of 2009 February 12).

| | |
|---|---|
| Accounts receivable | $ 360,000 |
| Allowance for uncollectible accounts (credit) | 6,000 |

| | |
|---|---|
| Sales | 1,680,000 |
| Sales returns and allowances | 30,000 |

1. Prepare journal entries to record all of these transactions and the uncollectible accounts expense for the period. Assume the estimated expense is 2 per cent of net sales.
2. Give the entry to record the estimated expense for the period if the allowance account is to be adjusted to 5 per cent of outstanding receivables instead of as in (a).

**Alternate problem B** The cash register at Frank's Restaurant at the close of business showed cash sales of $ 7,500 and credit card sales of $ 10,000 ($ 6,000 VISA and $ 4,000 American Express). The VISA (bank credit card) invoices were discounted 5 per cent when they were deposited. The American Express (nonbank credit card) charges were mailed to the company and were subject to a 5 per cent service charge. A few days later, Frank received a check for the net amount of the American Express credit card charges.

Prepare journal entries for all of these transactions.

**Alternate problem C** Beacham Hardware, Inc., sells merchandise in a state that has a 6 per cent sales tax. On 2010 July 1, it sold goods with a sales price of $ 20,000 on credit. Sales taxes collected are recorded in a separate account. Assume that sales for the entire month were $ 400,000. On 2010 July 31, the company remitted the sales taxes collected to the state taxing agency.

1. Prepare the general journal entries to record the July 1 sales revenue and sales tax payable. Also prepare the entry to show the remittance of the taxes on July 31.
2. Now assume that the merchandise sold also is subject to federal excise taxes of 10 per cent in addition to the 6 per cent sales tax. The company remitted the federal excise taxes collected to the proper agency on July 31. Show the entries on July 1 and July 31.

**Alternate problem D** Quick Wheels, Inc., sells racing bicycles and warrants all parts for one year. The average price per bicycle is $ 560, and the company sold 4,000 in 2009. The company expects 20 per cent of the bicycles to develop defective parts within one year of sale. The estimated average cost of warranty repairs per defective bicycle is $ 40. By the end of the year, 500 bicycles sold that year had been returned and repaired under warranty. On 2010 January 2, a customer returned a bicycle purchased in 2009 for repairs under warranty. The repairs were made on January 3. The cost of the repairs included parts, $ 25, and labor, $ 15.

1. Calculate the amount of the estimated product warranty payable.
2. Prepare the entry to record the estimated product warranty payable on 2009 December 31.
3. Prepare the entry to record the repairs made on 2010 January 3.

**Alternate problem E** Vance Commercial Properties, Inc., has an accounting period of one year, ending on July 31. On 2009 July 1, the balances of certain ledger accounts are Notes Receivable, $ 654,000; and Notes Payable, $ 900,000. A schedule of the notes receivable is as follows:

| Face | | Date | | Interest |
|---|---|---|---|---|
| Amount | Maker | of Note | Life | Rate |
| $ 270,000 | Parker Co. | 2009/5/15 | 60 days | 12% |
| 120,000 | Dot Co. | 2009/5/31 | 60 | 12 |
| 264,000 | Fixx Co. | 2009/6/15 | 30 | 10 |
| $654,000 | | | | |

The note payable is a 60-day bank loan dated 2009 May 20. Notes Payable—Discount was debited for the discount of $ 6,000. Following are the company's transactions during July:

July 1 Vance Commercial Properties, Inc., discounted its own $ 90,000, 60-day, non interest-bearing note at Key Bank. The discount rate is 10 per cent, and the note was dated today.

3 Received a 20-day, 12 per cent note, dated today, from Sox Company in settlement of an account receivable of $ 36,000.

6 Purchased merchandise from Link Company, $ 288,000, and issued a 60-day, 12 per cent note, dated today, for the purchase.

8 Sold merchandise to Fan Company, $ 360,000. A 30-day, 12 per cent note, dated today, is received to cover the sale.

14 Received payment on the Parker Company note dated 2009 June 15.

15 Fixx Company sent a $ 120,000, 30-day, 12 per cent note, dated today, and a check to cover the part of the old note not covered by the new note, plus all interest expense incurred on the prior note.

19 The note payable dated 2009 May 20, was paid in full.

23 Sox Company dishonored its note of July 3 and sent a check for the interest on the dishonored note and a new 30-day, 12 per cent note dated 2009 July 23.

30 The Dot Company note dated 2009 May 31, was paid with interest in full.

Prepare dated journal entries for these transactions and necessary July 31 adjusting entries.

**Alternate problem F** On 2010 November 1, Grand Strand Property Management, Inc., discounted its own $ 50,000, 180-day, non interest-bearing note at its bank at 18 per cent. The note was paid on its maturity date. The company uses a calendar-year accounting period.

Prepare dated journal entries to record (a) the discounting of the note, (b) the year-end adjustment, and (c) the payment of the note.

**Beyond the numbers—Critical thinking**

**Business decision case A** Sally Stillwagon owns a hardware store; she sells items for cash and on account. During 2009, which seemed to be a typical year, some of her company's operating data and other data were as follows:

| | |
|---|---|
| Sales: | |
| For cash | $1,200,000 |
| On credit | 2,200,000 |
| Cost of obtaining credit reports on customers | 3,600 |
| Cost incurred in paying a part-time bookkeeper to keep the accounts receivable subsidiary ledger up to date | 12,000 |
| Cost associated with preparing and mailing invoices to customers and other collection activities | 18,000 |
| Uncollectible accounts expense | 45,000 |

| | |
|---|---|
| Average outstanding accounts receivable balance (on which Stillwagon estimates she could have earned 10 per cent if it had been invested in other assets) | 180,000 |

A national credit card agency has tried to convince Stillwagon that instead of carrying her own accounts receivable, she should accept only the agency's credit card for sales on credit. The agency would pay her two days after she submits sales charges, deducting 6 per cent from the amount and paying her 94 per cent.

1. Using the data given, prepare an analysis showing whether or not Stillwagon would benefit from switching to the credit card method of selling on credit.
2. What other factors should she take into consideration?

Business decision case B Jim Perry operates a large fruit and vegetable stand on the outskirts of a city. In a typical year he sells $ 600,000 of goods to regular customers. His sales are 40 per cent for cash and 60 per cent on credit. He carries all of the credit himself. Only after a customer has a $ 300 unpaid balance on which no payments have been made for two months does he refuse that customer credit for future purchases. His income before taxes is approximately $ 95,000. The total of uncollectible accounts for a given year is $ 48,000.

You are one of Perry's regular customers. He knows that you are taking a college course in accounting and has asked you to tell him your opinion of several alternatives recommended to him to reduce or eliminate the $ 48,000 per year uncollectible accounts expense. The alternatives are as follows:

- Do not sell on credit.
- Sell on credit by national credit card only.
- Allow customers to charge only until their account balances reach $ 50.
- Allow a bill collector to go after uncollectible accounts and keep half of the amount collected.

Write a report for Perry about the advisability of following any of these alternatives.

Annual report analysis C Visit the Internet site:

http://www.cocacola.com

Locate the most recent annual reports of The Coca-Cola Company. Calculate accounts receivable turnover and the number of days' sales in accounts receivable and prepare a written comment on the results.

Group project D In groups of two or three students, write a two-page, double-spaced paper on one of the following topics:

Which is better—the percentage-of-sales method or the percentage-of-receivables method?

Why not eliminate bad debts by selling only for cash?

Why allow customers to use credit cards when credit card expense is so high?

Should banks be required to use 365 days instead of 360 days in interest calculations?

Present your analysis in a convincing manner, without spelling or grammatical errors. Include a cover page with the title and authors' names.

Group project E "Lapping" of accounts receivable has been used to conceal the fact that payments received on accounts receivable have been "borrowed" and used by an employee for personal use. With one or two other students, research this topic in the library. Write a paper to your instructor describing how this technique works and the steps that can be taken to detect it once it occurs and to prevent it in the future.

Group project F In a group of two or three students, visit a fairly large company in your community to investigate the effectiveness of its management of accounts receivable. Inquire about its credit and sales discount policies, collection policies, and how it establishes the amount for the adjusting entry for uncollectible accounts at year-end. Also ask about how it decides to write off accounts as uncollectible. Calculate its accounts receivable turnover and average collection period for each of the last two years. In view of its credit policies, does its collection period seem reasonable?

Using the Internet—A view of the real world

Visit one of the following Internet sites:

http://www.federatedinvestors.com

http://www.dreyfus.com

http://www.invesco.com

Follow some of the other options available at the site. Write a report to your instructor on your experience, describing some of the things you learned at this site. You may want to pretend that you invested in one or more of these funds for the duration of the quarter or semester and see how your investment would have fared during that period. Many investors with a limited amount to invest can have a diversified portfolio by investing in mutual funds. Thus, they spread their risk by investing in a mutual fund that, in turn, invests in many different companies.

Visit Procter & Gamble's site at:

http://www.pg.com

Procter & Gamble markets more than 250 brands to nearly five billion consumers in over 140 countries. Click on any items that deal with financial news, annual report summary, stock quote, and anything else that looks interesting. Write a memo to your instructor summarizing your findings. Include in your memo some of the financial highlights contained in the annual report summary.

1. [1]FASB, *Statement of Financial Accounting Standards No. 5,* "Accounting for Contingencies" (Stamford, Conn., 1975). Copyright © by Financial Accounting Standards Board, High Ridge Park, Stamford, Connecticut 06905, USA.
2. [2]AICPA, *Accounting Trends & Technique*s (New York, 2000), p. 100.

# UNIT 11: PLANT ASSETS AND INTANGIBLE ASSETS

## LONG TERM ASSETS

On a classified balance sheet, the asset section contained long term assets including things:

1. Plant assets (also called property, plant and equipment or fixed assets)
2. Long term investments
3. Intangible assets

Plant assets are long-lived assets because they are expected to last for more than one year. Long-lived assets consist of tangible assets and intangible assets. Tangible assets have physical characteristics that we can see and touch; they include plant assets such as buildings and furniture, and natural resources such as gas and oil. Intangible assets have no physical characteristics that we can see and touch but represent exclusive privileges and rights to their owners.

In this section, we will look at the accounting treatment for plant assets, natural resources and intangible assets. Investments will be covered in other chapters.

### Plant assets

To be classified as a plant asset, an asset must: (1) be tangible, that is, capable of being seen and touched; (2) have a useful service life of more than one year; and (3) be used in business operations rather than held for resale. Common plant assets are buildings, machines, tools, and office equipment. On the balance sheet, these assets appear under the heading “Property, plant, and equipment”.

#### Natural resources

Resources supplied by nature, such as ore deposits, mineral deposits, oil reserves, gas deposits, and timber stands, are natural resources or wasting assets. Natural resources represent inventories of raw materials that can be consumed (exhausted) through extraction or removal from their natural setting (e.g. removing oil from the ground).

#### Intangible assets

Although they have no physical characteristics, intangible assets have value because of the advantages or exclusive privileges and rights they provide to a business. Intangible assets generally arise from two sources: (1) exclusive privileges granted by governmental authority or by legal contract, such as patents, copyrights, franchises, trademarks and trade names, and leases; and (2) superior entrepreneurial capacity or management know-how and customer loyalty, which is called goodwill.

All intangible assets are nonphysical, but not all nonphysical assets are intangibles. For example, accounts receivable and prepaid expenses are nonphysical, yet classified as current assets rather than intangible assets. Intangible assets are generally both nonphysical and noncurrent; they appear in a separate long-term section of the balance sheet entitled “Intangible assets”.

Examples of intangible assets include:

- Research and development (R&D)
- Amortization
- A patent
- A copyright
- A franchise
- A trademark
- A lease
- A leasehold improvement
- Goodwill

# ENTRIES FOR CASH AND LUMP-SUM PURCHASES OF PROPERTY, PLANT AND EQUIPMENT

Property, plant, and equipment (fixed assets or operating assets) compose more than one-half of total assets in many corporations. These resources are necessary for the companies to operate and ultimately make a profit. It is the efficient use of these resources that in many cases determines the amount of profit corporations will earn.

On a classified balance sheet, the asset section contains: (1) current assets; (2) property, plant, and equipment; and (3) other categories such as intangible assets and long-term investments. Previous chapters discussed current assets.  Property, plant, and equipment are often called **plant and equipment** or simply plant assets. Plant assets are long-lived assets because they are expected to last for more than one year. Long-lived assets consist of tangible assets and intangible assets. **Tangible assets** have physical characteristics that we can see and touch; they include plant assets such as buildings and furniture, and natural resources such as gas and oil. **Intangible assets** have no physical characteristics that we can see and touch but represent exclusive privileges and rights to their owners.

## Nature of plant assets

To be classified as a plant asset, an asset must: (1) be tangible, that is, capable of being seen and touched; (2) have a useful service life of more than one year; and (3) be used in business operations rather than held for resale. Common plant assets are buildings, machines, tools, and office equipment. On the balance sheet, these assets appear under the heading "Property, plant, and equipment".

**Initial recording of plant assets**

When a company acquires a plant asset, accountants record the asset at the cost of acquisition (historical cost). When a plant asset is purchased for cash, its acquisition cost is simply the agreed on cash price.  This cost is objective, verifiable, and the best measure of an asset's fair market value at the time of purchase. **Fair market value** is the price received for an item sold in the normal course of business (not at a forced liquidation sale). Even if the market value of the asset changes over time, accountants continue to report the acquisition cost in the asset account in subsequent periods.

The **acquisition cost** of a plant asset is the amount of cost incurred to acquire and place the asset in operating condition at its proper location. Cost includes all normal, reasonable, and necessary expenditures to obtain the asset and get it ready for use. Acquisition cost also includes the repair and reconditioning costs for used or damaged assets as longs as the item was not damaged after purchase. Unnecessary costs (such as traffic tickets or fines or repairs that occurred after purchase) that must be paid as a result of hauling machinery to a new plant are not part of the acquisition cost of the asset.

**Recording Land**

The cost of land includes its purchase price and other many other costs including:

- real estate commissions,
- title search and title transfer fees,
- title insurance premiums,
- existing mortgage note or unpaid taxes (back taxes) assumed by the purchaser,
- costs of surveying, clearing, and grading;
- and local assessments for sidewalks, streets, sewers, and water mains.
- Sometimes land purchased as a building site contains an unusable building that must be removed.

The accountant debits the entire costs to Land, including the cost of removing the building less any cash received from the sale of salvaged items while the land is being readied for use. **Land is considered to have an unlimited life and is therefore not depreciable**. However, land improvements, including driveways, temporary landscaping, parking lots, fences, lighting systems, and sprinkler systems, are attachments to the land. They have limited lives and therefore are depreciable. Owners record depreciable land improvements in a separate account called Land Improvements. They record the cost of permanent landscaping, including leveling and grading, in the Land account.

To illustrate, assume that Spivey Company purchased an old farm on the outskirts of San Diego as a factory site. The company paid $225,000 for the property. In addition, the company agreed to pay unpaid property taxes from previous periods (called back taxes) of $12,000. Attorneys' fees and other legal costs relating to the purchase of the farm totaled $1,800. Spivey demolished (razed) the farm buildings at a cost of $18,000. The company salvaged some of the structural pieces of the building and sold them for $3,000. Because the firm was constructing a new building at the site, the city assessed Spivey Company $9,000 for water mains, sewers, and street paving. Spivey computed the cost of the land as follows:

| | |
|---|---|
| Cost of factory site | $225,000 |
| Back taxes | 12,000 |
| Attorneys' fees and other legal costs | 1,800 |
| Demolition | 18,000 |
| Sale of salvaged parts | -3,000 |
| City assessment | 9,000 |
| **Total Land Cost** | **$262,800** |

The journal entry to record the purchase of this land for cash would be:

| | Debit | Credit |
|---|---|---|
| Land | 262,800 | |
| Cash | | 262,800 |
| To record purchase of land with cash. | | |

**Recording Building**

When a business buys a building, its cost includes:

- the purchase price,
- repair and remodeling costs,
- unpaid taxes assumed by the purchaser,

- legal costs,
- and real estate commissions paid.

Determining the cost of constructing a new building is often more difficult. Usually this cost includes architect's fees; building permits; payments to contractors; and the cost of digging the foundation. Also included are labor and materials to build the building; salaries of officers supervising the construction; and insurance, taxes, and interest during the construction period. Any miscellaneous amounts earned from the building during construction reduce the cost of the building. For example, an owner who could rent out a small completed portion during construction of the remainder of the building, would credit the rental proceeds to the Buildings account rather than to a revenue account.

### Recording Equipment or Machinery

Often companies purchase machinery or other equipment such as delivery or office equipment. Its cost includes:

- the seller's net invoice price (whether the discount is taken or not),
- transportation charges incurred,
- insurance in transit,
- cost of installation,
- costs of accessories,
- and testing costs.
- Also included are other costs needed to put the machine or equipment in operating condition in its intended location.

The cost of machinery does not include removing and disposing of a replaced, old machine that has been used in operations. Such costs are part of the gain or loss on disposal of the old machine.

To illustrate, assume that Clark Company purchased new equipment to replace equipment that it has used for five years. The company paid a net purchase price of $150,000, brokerage fees of $5,000, legal fees of $2,000, and freight and insurance in transit of $3,000. In addition, the company paid $1,500 to remove old equipment and $2,000 to install new equipment. Clark would compute the cost of new equipment as follows:

| | |
|---|---|
| Net purchase price | $150,000 |
| Brokerage fees | 5,000 |
| Legal fees | 2,000 |
| Freight and insurance in transit | 3,000 |
| Installation costs | 2,000 |
| **Total Equipment cost** | **$162,000** |

The journal entry to record the purchase of the equipment paying $50,000 cash and by signing a note for the balance would be:

| | Debit | Credit |
|---|---|---|
| Equipment | 162,000 | |
| Cash | | 50,000 |
| Note Payable (162,000 – 50,000) | | 162,000 |
| To record purchase of equipment by paying cash and signing note. | | |

### Lump Sum Purchases

Sometimes a company buys land and other assets for a lump sum. When land and buildings purchased together are to be used, the firm divides the total cost and establishes separate ledger accounts for land and for buildings. This division of cost establishes the proper balances in the appropriate accounts. This is especially important later because the depreciation recorded on the buildings affects reported income, while no depreciation is taken on the land.

Let's look at an example:  Assume a company purchases land, machinery and a building for $4,000,000 cash. The land has a market value of $1,350,000, machinery of $675,000 and the building for $2,475,000 for a total value of $4,500,000.  We cannot report the assets at market value since the market value is less than we paid for the assets.  We will do a 2-step process to get the cost of each asset.

1. Calculate each asset's percent of market value  (Asset market value / total market value of all assets)

| Asset | Appraisal (or | Market) Value | % of MV |
|---|---|---|---|
| Land | 1,350,000 | /4,500,000 = | 30% |
| Machinery | 675,000 | /4,500,000 = | 15% |
| Building | 2,475,000 | /4,500,000 = | 55% |
| Total | 4,500,000 | | |

2. Calculate the cost of each asset (total price paid for all assets x % of market value)

| Asset | % of MV | Purchase Price | Asset Cost |
|---|---|---|---|
| Land | 30% | 4,000,000 | $ 1,200,000 |
| Machinery | 15% | 4,000,000 | $ 600,000 |
| Building | 55% | 4,000,000 | $ 2,200,000 |
| Total | | | $ 4,000,000 |

The journal entry to record this purchase for cash would be:

| Account | Debit | Credit |
|---|---|---|
| Land | $ 1,200,000 | |
| Machinery | 600,000 | |
| Building | 2,200,000 | |
| Cash | | $ 4,000,000 |

# METHODS FOR COMPUTING DEPRECIATION

What is depreciation, amortization and depletion?  Watch this video for an overview of these terms each of which will be examined further.

Watch this video online: https://youtu.be/hmMUjBkF7uY

## Depreciation of plant assets

Companies record depreciation on all plant assets except land. Since the amount of depreciation may be relatively large, depreciation expense is often a significant factor in determining net income. For this reason, most financial statement users are interested in the amount of, and the methods used to compute, a company's depreciation expense.

**Depreciation** is the amount of plant asset cost allocated to each accounting period benefiting from the plant asset's use. Depreciation is a process of allocation, not valuation. Eventually, all assets except land wear out or become so inadequate or outmoded that they are sold or discarded; therefore, firms must record depreciation on every plant asset except land. They record depreciation even when the market value of a plant asset temporarily rises above its original cost because eventually the asset is no longer useful to its current owner.  The entry to record depreciation is:

| | | |
|---|---|---|
| Depreciation Expense | Debit | |
| Accumulated Depreciation | | Credit |

To compute the amount of depreciation expense, accountants consider four major factors:

1. Cost of the asset.

2. Estimated salvage value of the asset. **Salvage value** (or scrap value) is the amount of money the company expects to recover, less disposal costs, on the date a plant asset is scrapped, sold, or traded in.

3. Estimated useful life of the asset. **Useful life** refers to the time the company owning the asset intends to use it; useful life is not necessarily the same as either economic life or physical life. The economic life of a car may be 7 years and its physical life may be 10 years, but if a company has a policy of trading cars every 3 years, the useful life for depreciation purposes is 3 years. Various firms express useful life in years, months, working hours, or units of production. Obsolescence also affects useful life. For example, a machine capable of producing units for 20 years, may be expected to be obsolete in 6 years. Thus, its estimated useful life is 6 years—not 20. Another example, on TV you may have seen a demolition crew setting off explosives in a huge building (e.g. The Dunes Hotel and Casino in Las Vegas, Nevada, USA) and wondering why the owners decided to destroy what looked like a perfectly good building. The building was destroyed because it had reached the end of its economic life. The land on which the building stood could be put to better use, possibly by constructing a new building.

4. Depreciation method used in depreciating the asset. We describe the three common depreciation methods next.

**Straight-line method** Straight-line depreciation has been the most widely used depreciation method in the United States for many years because, as you saw in Chapter 3, it is easily applied. To apply the straight-line method, a firm charges an equal amount of plant asset cost to each accounting period. The formula for calculating depreciation under the straight-line method is:

Depreciation Expense =   ( Cost – Salvage ) / Useful Life

Let's watch an example:

Watch this video online: https://youtu.be/RHo_3kWaIJo

Using the straight-line method for assets is appropriate where (1) time rather than obsolescence is the major factor limiting the asset's life and (2) the asset produces relatively constant amounts of periodic services. Assets that possess these features include items such as pipelines, fencing, and storage tanks.

**Units-of-production (output) method** The **units-of-production** depreciation method assigns an equal amount of depreciation to each unit of product manufactured or service rendered by an asset. Since this method of depreciation is based on physical output, firms apply it in situations where usage rather than obsolescence leads to the demise of the asset. Under this method, you would compute the depreciation charge per unit of output. Then, multiply this figure by the number of units of goods or services produced during the accounting period to find the period's depreciation expense.

The units of production method requires a 2-step process:

- Step 1: Calculate Depreciation per Unit:

Depreciation per unit = ( Cost – Salvage) / expected # units over lifetime

- Step 2: Calculate Depreciation Expense:

Depreciation Expense = Number of units produced this period x Depreciation per unit.

For our video example:

Watch this video online: https://youtu.be/udNuu_7zje0

**Double-declining-balance method** To apply the **double-declining-balance (DDB)** method of computing periodic depreciation charges you begin by calculating the straight-line depreciation rate. To do this, divide 100 per cent by the number of years of useful life of the asset. Then, multiply this rate by 2. Next, apply the resulting double-declining rate to the declining book value of the asset. Ignore salvage value in making the calculations. At the point where book value is equal to the salvage value, no more depreciation is taken.

The double declining balance method requires a 3-step process:

- Step 1: Calculate the Straight line (S/L) rate

S/L rate = 1 / useful life in years

- Step 2: Calculate the double declining (DD) rate

DD rate = 2 x S/L rate calculated in Step 1

- Step 3: Calculate Depreciation Expense

Depreciation Expense = Beginning Book Value x DD rate

*Remember, book value is calculated as Asset Cost – Accumulated Depreciation.*

Let's look at a video example:

Watch this video online: https://youtu.be/ziayge17w6g

So far we have assumed that the assets were put into service at the beginning of an accounting period and ignored the fact that often assets are put into service during an accounting period. When assets are acquired during an accounting period, the first recording of depreciation is for a partial year. Normally, firms calculate the depreciation for the partial year to the nearest full month the asset was in service. For example, they treat an asset purchased on or before the 15th day of the month as if it were purchased on the 1st day of the month. And they treat an asset purchased after the 15th of the month as if it were acquired on the 1st day of the following month.

# COMPUTING BOOK VALUE

Book value of an asset (or net book value) is calculated by taking the original cost of the asset – accumulated depreciation on the asset.

To make this more real, let's look at an actual company:

## What does Walt Disney's Form 10-K communicate about its PP&E?

In February 2015, The Walt Disney Company (DIS) unveiled its new interactive queue for one of its oldest attractions at its Magic Kingdom Park (Walt Disney World) in Orlando, Peter Pan's Flight (see video here.) As guests wait in line, they enter into the Darling's foyer. From the foyer, guests head into the children's nursery. Tinker Bell is seemingly in the room and guests can interact with Tinker Bell and other items in the room. There is a shadow interaction feature created by Disney developers ("Imagineering employees") that allows guests to "play" with shadows.

Walt Disney invests a lot of money into its parks, including upgrades as described above. Under SEC Filings, find the 2014 10K report and see two excerpts from Walt Disney's 2014 Form 10-K: a partial balance sheet (page 66) and a section from the notes to financial statements (page 77).

### Questions

1. What types of plant assets does Walt Disney have?
2. What depreciation method does Walt Disney use?
3. What is the net book value of all of Walt Disney's PP&E?
4. Give an example of each type of PP&E listed in the Notes excerpt.
5. The category of "Furniture, fixtures, and equipment" has a range of estimated life in years from 3 – 25 years. Give an example of a specific asset that might be in this category. What might be its estimated life and why?

# ASSET DISPOSAL

## Disposal of plant assets

All plant assets except land eventually wear out or become inadequate or obsolete and must be sold, retired, or traded for new assets. When disposing of a plant asset, a company must remove both the asset's cost and accumulated depreciation from the accounts. Overall, then, all plant asset disposals have the following steps in common:

•Bring the asset's depreciation up to date.

•Record the disposal by:

•Writing off the asset's cost.

•Writing off the accumulated depreciation.

•Recording any consideration (usually cash) received or paid or to be received or paid.

•Recording the gain or loss, if any.

As you study this section, remember these common procedures accountants use to record the disposal of plant assets. In the paragraphs that follow, we discuss accounting for the (1) sale of plant assets, (2) retirement of plant assets without sale (write it off) , and (3) trading plant assets.  Watch this video to demonstrate the first 2:

### Sale of plant assets

Companies frequently dispose of plant assets by selling them. By comparing an asset's book value (cost less accumulated depreciation) with its selling price (or net amount realized if there are selling expenses), the company may show either a gain or loss. If the sales price is greater than the asset's book value, the company shows a gain. If the sales price is less than the asset's book value, the company shows a loss. Of course, when the sales price equals the asset's book value, no gain or loss occurs.

Watch this video online: https://youtu.be/s45Fz0JCydM

To illustrate accounting for the sale of a plant asset, assume that a company sells equipment costing  $45,000 with accumulated depreciation of $ 14,000 for $28,000 cash.  The company would realizes a loss of $ 3,000 ($45,000 cost – $14,000 accumulated depreciation is $31,000 book value— $28,000 sales price). The journal entry to record the sale is:

| | Debit | Credit |
|---|---|---|
| Cash | 28,000 | |
| Accumulated Depreciation—Equipment | 14,000 | |
| Loss from Disposal of Plant Asset | 3,000 | |
| Equipment | | 45,000 |
| To record the sale of equipment at a price less than | | |
| book value. | | |

**Accounting for depreciation to date of disposal** When selling or otherwise disposing of a plant asset, a firm must record the depreciation up to the date of sale or disposal. For example, if it sold an asset on April 1 and last recorded depreciation on December 31, the company should record depreciation for three months (January 1-April 1). When depreciation is not recorded for the three months, operating expenses for that period are understated, and the gain on the sale of the asset is understated or the loss overstated.

To illustrate, assume that on 2016 August 1, Ray Company sold a machine for $1,500. When purchased on 2008 January 2, the machine cost $12,000; Ray was depreciating it at the straight-line rate of 10% per year. As of 2015 December 31, after closing entries were made, the machine's accumulated depreciation account had a balance of $ 9,600. Before determining a gain or loss and before making an entry to record the sale, the firm must make the following entry to record depreciation for the seven months ended 2016 July 31:

| | | | Debit | Credit |
|---|---|---|---|---|
| July | 31 | Depreciation Expense—Machinery | 700 | |
| | | Accumulated Depreciation—Machinery | | 700 |
| | | To record depreciation for seven months | | |
| | | [$12,000 X 0.10 X (7/12)] | | |

When retiring a plant asset from service, a company removes the asset's cost and accumulated depreciation from its plant asset accounts. For example, Hayes Company would make the following journal entry when it retired a fully depreciated machine that cost $15,000 and had no salvage value:

| | Debit | Credit |
|---|---|---|
| Accumulated Depreciation—Machinery | 15,000 | |
| Machinery | | 15,000 |
| To record the retirement of a fully depreciated machine. | | |

Occasionally, a company continues to use a plant asset after it has been fully depreciated. In such a case, the firm should not remove the asset's cost and accumulated depreciation from the accounts until the asset is sold, traded, or retired from service. Of course, the company cannot record more depreciation on a fully depreciated asset because total depreciation expense taken on an asset may not exceed its cost.

Sometimes a business retires or discards a plant asset before fully depreciating it. When selling the asset as scrap (even if not immediately), the firm removes its cost and accumulated depreciation from the asset and accumulated depreciation accounts. In addition, the accountant records its estimated salvage value in a Salvaged Materials account and recognizes a gain or loss on disposal. To illustrate, assume that a firm retires a machine with a $10,000 original cost and $7,500 of accumulated depreciation. If the machine's estimated salvage value is $500, the following entry is required:

| | Debit | Credit |
|---|---|---|
| Salvaged materials | 500 | |
| Accumulated Depreciation—Machinery | 7,500 | |
| Loss from Disposal of Plant Assets | 2,000 | |

| | | |
|---|---|---|
| Machinery | | 10,000 |
| To record the retirement of machinery, which will be | | |
| sold for scrap at a later time. | | |

Sometimes accidents, fires, floods, and storms wreck or destroy plant assets, causing companies to incur losses. For example, assume that fire completely destroyed an uninsured building costing $40,000 with up-to-date accumulated depreciation of $12,000. The journal entry is:

| | Debit | Credit |
|---|---|---|
| Loss from Fire | 28,000 | |
| Accumulated Depreciation—Buildings | 12,000 | |
| Buildings | | 40,000 |
| To record fire loss. | | |

If the building was insured, the company would debit only the amount of the fire loss exceeding the amount to be recovered from the insurance company to the Fire Loss account. To illustrate, assume the company partially insured the building and received $22,000 from the insurance company. The journal entry is:

| | Debit | Credit |
|---|---|---|
| Cash | 22,000 | |
| Loss from Fire | 6,000 | |
| Accumulated Depreciation—Buildings | 12,000 | |
| Buildings | | 40,000 |
| To record fire loss and amount recoverable from | | |
| insurance company. | | |

# JOURNALIZE ENTRIES FOR TRADE-IN OF SIMILAR ASSETS

Exchanges of nonmonetary assets Until late 2004, the rules according to *APB Opinion No. 29* for recording exchanges of nonmonetary assets depended on whether they were exchanges of dissimilar assets such as a truck for a machine or were similar assets such as a truck for a truck[1]. If the exchange classified as an exchange of dissimilar assets, the acquired asset would be recorded at its fair value and any gain or loss would be recognized. In late 2004, the FASB issued a new standard, *Statement of Financial Accounting Standards No. 153*, “Exchanges of Nonoperating Assets: an amendment of APB Opinion No. 29”[2]. This new standard was issued to bring about greater agreement between US Generally Accepted Accounting Principles and International Financial Reporting Standards and is effective for exchanges occurring during fiscal periods beginning after 2005 June 15.

This change allows the financial statements of US companies to be more comparable to the financial statements of companies utilizing International Financial Reporting Standards.

The new FASB standard no longer distinguishes between dissimilar and similar asset exchanges. Instead it differentiates between exchanges that have commercial substance and those that do not have commercial substance. An exchange has commercial substance if, as a result of the exchange, future cash flows are expected to change significantly. For instance, if a company exchanges a building for land (a dissimilar exchange), the timing and the future cash flows are likely to be different than if the exchange had not occurred. Most exchanges qualify as having commercial substance. However, if the exchange is not expected to create a significant change in future cash flows, the exchange does not result in commercial substance. For example, if a company exchanges one truck for another truck (a similar exchange) that will perform the same function as the old truck and for the same time period so that the future cash flows are not significantly different, then the exchange does not result in commercial substance. However, if the future cash flows are likely to be significantly different, then the exchange of similar assets has commercial substance.

Watch this video to explain the concepts:

Watch this video online: https://youtu.be/F3ErIYYZHdM

# Natural resources

Resources supplied by nature, such as ore deposits, mineral deposits, oil reserves, gas deposits, and timber stands, are **natural resources** or **wasting assets.** Natural resources represent inventories of raw materials that can be consumed (exhausted) through extraction or removal from their natural setting (e.g. removing oil from the ground).

When property is purchased, a journal entry assigns the purchase price to the two assets purchased—the natural resource and the land. If we purchased an ore mine for $650,000 cash and we determined the land value was $50,000 and the Ore Deposit value was $600,000, the entry would be:

| | | |
|---|---|---|
| Land | 50,000 | |
| Ore Deposits | 600,000 | |
| Cash | | 650,000 |
| To record purchase of land and mine. | | |

After the purchase, we incurred $300,000 in additional costs to explore and develop the site. This entry would be recorded into the natural resources account, Ore Deposits.

| | | |
|---|---|---|
| Ore Deposits | 300,000 | |
| Cash | | 300,000 |
| To record costs of exploration and development. | | |

On the balance sheet, we classify natural resources as a separate group among noncurrent assets under headings such as “Timber stands” and “Oil reserves”. Typically, we record natural resources at their cost of acquisition plus exploration and development costs; on the balance sheet, we report them at total cost less accumulated depletion. (Accumulated depletion is similar to the accumulated depreciation used for plant assets.) When analyzing the financial condition of companies owning natural resources, exercise caution because the historical costs reported for the natural resources may be only a small fraction of their current value.

**Depletion** is the exhaustion that results from the physical removal of a part of a natural resource. In each accounting period, the depletion recognized is an estimate of the cost of the natural resource that was removed from its natural setting during the period. To record depletion, debit a Depletion account and credit an Accumulated Depletion account, which is a contra account to the natural resource asset account.

By crediting the Accumulated Depletion account instead of the asset account, we continue to report the original cost of the entire natural resource on the financial statements. Thus, statement users can see the percentage of the resource that has been removed. To determine the total cost of the resource available, we combine this depletion cost with other extraction, mining, or removal costs. We can assign this total cost to either the cost of natural resources sold or the inventory of the natural resource still on hand. Thus, we could expense all, some, or none of the depletion and removal costs recognized in an accounting period, depending on the portion sold. If all of the resource is sold, we expense all of the depletion and removal costs. The cost of any portion not yet sold is part of the cost of inventory.

This video will demonstrate the topic:

Watch this video online: https://youtu.be/AJBt1fAL2yU



# JOURNALIZING ADJUSTING ENTRIES FOR DEPLETION

Plant assets and natural resources are tangible assets used by a company to produce revenues.  On the income statement, depreciation expense is recorded for plant assets and depletion expense is recorded for natural resources.  On the balance sheet, accumulated depreciation appears with the related plant asset account and accumulated depletion appears with the related natural resource account.

Remember, the adjusting entry for depreciation, regardless of the method used to calculate depreciation was:

| | | |
|---|---|---|
| Depreciation Expense | Debit | |
| Accumulated Depreciation | | Credit |

For natural resources we will use Depletion Expense and Accumulated Depletion and the units of production method for calculating depletion.  The journal entry to record depletion would be similar to depreciation:

| | | |
|---|---|---|
| Depletion Expense | Debit | |
| Accumulated Depletion | | Credit |

The previous video gave us a demonstration of the accounting process for depletion but we will review it here.

Computing periodic depletion cost To compute depletion charges, companies usually use the units-of-production method. They divide total cost by the estimated number of units—tons, barrels, or board feet—that can be economically extracted from the property. This calculation provides a per-unit depletion cost. For example, assume that in 2015 a company paid  $ 650,000 for a tract of land containing ore deposits. The company spent $ 100,000 in exploration costs. The results indicated that approximately 900,000 tons of ore can be removed economically from the land, after which the land will be worth $50,000. The company incurred costs of $200,000 to develop the site, including the cost of running power lines and building roads. Total cost subject to depletion is the net cost assignable to the natural resource plus the exploration and development costs. When the property is purchased, a journal entry assigns the purchase price to the two assets purchased—the natural resource and the land. The entry would be:

| | Debit | Credit |
|---|---|---|
| Land | 50,000 | |
| Ore Deposits | 600,000 | |
| Cash | | 650,000 |
| To record purchase of land and mine. | | |

After the purchase, an entry debits all costs to develop the site (including exploration) to the natural resource account. The entry would be:

| | Debit | Credit |
|---|---|---|
| Ore Deposits ($100,000 + $200,000) | 300,000 | |
| Cash | | 300,000 |
| To record costs of exploration and development. | | |

Under the units of production method, we use a 2-step process:

1. Calculate depletion cost per unit (Cost – salvage or residual value) / total amount expected to be used over its lifetime
2. Calculate depletion expense (units used this period x depletion per unit)

In some instances, companies buy only the right to extract the natural resource from someone else's land. When the land is not purchased, its residual value is irrelevant and should be ignored. If there is an obligation to restore the land to a usable condition, the firm adds these estimated restoration costs to the costs to develop the site.

In the example where the land was purchased, the total costs of the mineral deposits equal the cost of the site ($ 650,000) minus the residual value of land ($ 50,000) plus costs to develop the site ($ 300,000), or a total of $900,000. The unit (per ton) depletion charge is $ 1 (or $ 900,000 cost /900,000 tons). If 100,000 tons are mined in 2015, this entry records the depletion cost of $100,000 ($1 depletion per unit X 100,000 tons mined) for the period:

| | Debit | Credit |
|---|---|---|
| Depletion Expense | 100,000 | |
| Accumulated Depletion—Ore Deposits | | 100,000 |
| To record depletion for 2015. | | |

# INTANGIBLE ASSETS

## Intangible assets

Watch this video online: https://youtu.be/ey1VAhAX5fg

Although they have no physical characteristics, **intangible assets** have value because of the advantages or exclusive privileges and rights they provide to a business. Intangible assets generally arise from two sources: (1) exclusive privileges granted by governmental authority or by legal contract, such as patents, copyrights, franchises, trademarks and trade names, and leases; and (2) superior entrepreneurial capacity or management know-how and customer loyalty, which is called goodwill.

All intangible assets are nonphysical, but not all nonphysical assets are intangibles. For example, accounts receivable and prepaid expenses are nonphysical, yet classified as current assets rather than intangible assets. Intangible assets are generally both nonphysical and noncurrent; they appear in a separate long-term section of the balance sheet entitled "Intangible assets".

Initially, firms record intangible assets at cost like most other assets. However, computing an intangible asset's acquisition cost differs from computing a plant asset's acquisition cost. Firms may include only outright purchase costs in the acquisition cost of an intangible asset; the acquisition cost does not include cost of internal development or self-creation of the asset. If an intangible asset is internally generated in its entirety, none of its costs are capitalized. Therefore, some companies have extremely valuable assets that may not even be recorded in their asset accounts.

**Amortization** is the systematic write-off of the cost of an intangible asset to expense. A portion of an intangible asset's cost is allocated to each accounting period in the economic (useful) life of the asset. All intangible assets are not subject to amortization. Only recognized intangible assets with finite useful lives are amortized. The **finite useful life** of such an asset is considered to be the length of time it is expected to contribute to the cash flows of the reporting entity. (Pertinent factors that should be considered in estimating useful life include legal, regulatory, or contractual provisions that may limit the useful life). The method of amortization should be based upon the pattern in which the economic benefits are used up or consumed. If no pattern is apparent, the straight-line method of amortization should be used by the reporting entity.

Recognized intangible assets deemed to have indefinite useful lives are not to be amortized. Amortization will however begin when it is determined that the useful life is no longer indefinite. The method of amortization would follow the same rules as intangible assets with finite useful lives.

Straight-line amortization is calculated the same was as straight-line depreciation for plant assets. Generally, we record amortization by debiting Amortization Expense and crediting the intangible asset account. An accumulated amortization account could be used to record amortization. However, the information gained from such accounting would not be significant because normally intangibles do not account for as many total asset dollars as do plant assets.

Watch this video to see a demonstration:

Watch this video online: https://youtu.be/LYEvBU9DrSc

Let's look at another example. A **patent** is a right granted by the federal government. This exclusive right enables the owner to manufacture, sell, lease, or otherwise benefit from an invention for a limited period. The value of a patent lies in its ability to produce revenue. Patents have a legal life of 17 years. Protection for the patent owner begins at the time of patent application and lasts for 17 years from the date the patent is granted.

When purchasing a patent, a company records it in the Patents account at cost. The firm also debits the Patents account for the cost of the first successful defense of the patent in lawsuits (assuming an outside law firm was hired rather than using internal legal staff). Such a lawsuit establishes the validity of the patent and thereby increases its service potential. In addition, the firm debits the cost of any competing patents purchased to ensure the revenue-generating capability of its own patent to the Patents account.

The firm would amortize the cost of a purchased patent over its finite life which reasonably would not exceed its legal life. If a patent cost $40,000 and has a useful life of 10 years, the journal entries to record the patent and periodic amortization are:

| | Debit | Credit |
|---|---|---|
| Patents | 40,000 | |
| Cash | | 40,000 |
| To record purchases of patent. | | |
| Amortization Expense – Patents | 4,000 | |
| Patents | | 4,000 |
| To record annual patent amortization. | | |

For a patent that becomes worthless before it is fully amortized, the company expenses the unamortized balance in the Patents account.

A **copyright** is an exclusive right granted by the federal government giving protection against the illegal reproduction by others of the creator's written works, designs, and literary productions. The finite useful life for a copyright extends to the life of the creator plus 50 years. Most publications have a limited (finite) life; a creator may amortize the cost of the copyright to expense on a straight-line basis or based upon the pattern in which the economic benefits are used up or consumed.

A **franchise** is a contract between two parties granting the franchisee (the purchaser of the franchise) certain rights and privileges ranging from name identification to complete monopoly of service. In many instances, both parties are private businesses. For example, an individual who wishes to open a hamburger restaurant may purchase a McDonald's franchise; the two parties involved are the individual business owner and McDonald's Corporation. This franchise would allow the business owner to use the McDonald's name and golden arch, and would provide the owner with advertising and many other benefits. The legal life of a franchise may be limited by contract.

The parties involved in a franchise arrangement are not always private businesses. A government agency may grant a franchise to a private company. A city may give a franchise to a utility company, giving the utility company the exclusive right to provide service to a particular area.

In addition to providing benefits, a franchise usually places certain restrictions on the franchisee. These restrictions generally are related to rates or prices charged; also they may be in regard to product quality or to the particular supplier from whom supplies and inventory items must be purchased.

If periodic payments to the grantor of the franchise are required, the franchisee debits them to a Franchise Expense account. If a lump-sum payment is made to obtain the franchise, the franchisee records the cost in an asset account entitled Franchise and amortizes it over the finite useful life of the asset. The legal life (if limited by contract) and the economic life of the franchise may limit the finite useful life

A **trademark** is a symbol, design, or logo used in conjunction with a particular product or company. A **trade name** is a brand name under which a product is sold or a company does business. Often trademarks and trade names are extremely valuable to a company, but if they have been internally developed, they have no recorded asset cost. However, when a business purchases such items from an external source, it records them at cost and amortizes them over their finite useful life.

A **lease** is a contract to rent property. The property owner is the grantor of the lease and is the lessor. The person or company obtaining rights to possess and use the property is the lessee. The rights granted under the lease are a **leasehold**. The accounting for a lease depends on whether it is a capital lease or an operating lease. The proper accounting for capital leases for both lessees and lessors has been an extremely difficult problem. We leave further discussion of capital leases for an intermediate accounting text.

In accounting, **goodwill** is an intangible value attached to a company resulting mainly from the company's management skill or know-how and a favorable reputation with customers. A company's value may be greater than the total of the fair market value of its tangible and identifiable intangible assets. This greater value means that the company generates an above-average income on each dollar invested in the business. Thus, proof of a company's goodwill is its ability to generate superior earnings or income.

A goodwill account appears in the accounting records only if goodwill has been purchased. A company cannot purchase goodwill by itself; it must buy an entire business or a part of a business to obtain the accompanying intangible asset, goodwill. Specific reasons for a company's goodwill include a good reputation, customer loyalty, superior product design, unrecorded intangible assets (because they were developed internally), and superior human resources. Since these positive factors are not individually quantifiable, when grouped together they constitute goodwill. The intangible asset goodwill is not amortized. Goodwill is to be tested periodically for impairment. The amount of any goodwill impairment loss is to be recognized in the income statement as a separate line before the subtotal income from continuing operations (or similar caption). The goodwill account would be reduced by the same amount.



## EXERCISES: UNIT 11

# SHORT-ANSWER QUESTIONS, EXERCISES, AND PROBLEMS

Questions

➢ What is the main distinction between inventory and a plant asset?

➢ Which of the following items are properly classifiable as plant assets on the balance sheet?

➢ Advertising that will appear in the future to inform the public about new energy-saving programs at a manufacturing plant.

➢ A truck acquired by a manufacturing company to be used to deliver the company's products to wholesalers.

➢ An automobile acquired by an insurance company to be used by one of its salespersons.

➢ Adding machines acquired by an office supply company to be sold to customers.

➢ The cost of constructing and paving a driveway that has an estimated useful life of 10 years.

➢ In general terms, what does the cost of a plant asset include?

➢ In what way does the purchase of a plant asset resemble the prepayment of an expense?

➢ Brown Company purchased an old farm with a vacant building as a factory site for $ 1,040,000. Brown decided to use the building in its operations. How should Brown allocate the purchase price between the land and the building? How should this purchase be handled if the building is to be torn down?

➢ Describe how a company may determine the cost of a self-constructed asset.

➢ In any exchange of noncash assets, the accountant's task is to find the most appropriate valuation for the asset received. What is the general rule for determining the most appropriate valuation in such a situation?

➢ Why should periodic depreciation be recorded on all plant assets except land?

➢ Define the terms inadequacy and obsolescence as used in accounting for depreciable plant assets.

➢ What four factors must be known to compute depreciation on a plant asset? How objective is the calculation of depreciation?

➢ A friend, Mindy Jacobs, tells you her car depreciated $ 5,000 last year. Explain whether her concept of depreciation is the same as the accountant's concept.

➢ What does the term accelerated depreciation mean? Give an example showing how depreciation is accelerated.

➢ Provide a theoretical reason to support using an accelerated depreciation method.

➢ Nancy Company purchased a machine that originally had an estimated eight years of useful life. At the end of the third year, Nancy determined that the machine would last only three more years. Does this revision affect past depreciation taken?

➢ What does the balance in the accumulated depreciation account represent? Does this balance represent cash that can be used to replace the related plant asset when it is completely depreciated?

➢ What is the justification for reporting plant assets on the balance sheet at undepreciated cost (book value) rather than market value?

➢ Distinguish between capital expenditures and revenue expenditures.

➢ For each of the following, state whether the expenditure made should be charged to an expense, an asset, or an accumulated depreciation account:

➢ Cost of installing air-conditioning equipment in a building that was not air-conditioned.

➢ Painting of an owned factory building every other year.

➢ Cost of replacing the roof on a 10-year-old building that was purchased new and has an estimated total life of 40 years. The expenditure did not extend the life of the asset beyond the original estimate.

➢ Cost of repairing an electric motor. The expenditure extended the estimated useful life beyond the original estimate.

➢ Indicate which type of account (asset, accumulated depreciation, or expense) would be debited for each of the following expenditures:

➢ Painting an office building at a cost of $ 1,000. The building is painted every year.

➢ Adding on a new plant wing at a cost of $ 24,000,000.

➢ Expanding a paved parking lot at a cost of $ 144,000.

➢ Replacing a stairway with an escalator at a cost of $ 20,000.

➢ Replacing the transmission in an automobile at a cost of $ 1,600, thus extending its useful life two years beyond the original estimate.

➢ Replacing a broken fan belt at a cost of $ 600.

➢ How do subsidiary records provide control over a company's plant assets?

➢ What advantages can accrue to a company that maintains plant asset subsidiary records?

➢ Real world question Based on the financial statements and the notes to those statements of The Limited, Inc., contained in the Annual report appendix, what was the 2000 ending net property and equipment balance? Did the company acquire any of these assets in 2000? What depreciation method did the company use?

Exercises

Exercise A Stephon Company paid $ 640,000 cash for a tract of land on which it plans to erect a new warehouse, and paid $ 8,000 in legal fees related to the purchase. Stephon also agreed to assume responsibility for $ 25,600 of unpaid taxes on the property. The company incurred a cost of $ 28,800 to remove an old apartment building from the land. Prepare a schedule showing the cost of the land acquired.

Exercise B Laural Company paid $ 840,000 cash for real property consisting of a tract of land and a building. The company intended to remodel and use the old building. To allocate the cost of the property acquired, Laural had the property appraised. The appraised values were as follows: land, $ 576,000, and office building, $ 384,000. The cost of clearing the land was $ 18,000. The building was remodeled at a cost of $ 76,800. The cost of a new identical office building was estimated to be $ 432,000. Prepare a schedule showing the cost of the assets acquired.

Exercise C Fine Company purchased a heavy machine to be used in its factory for $ 720,000, less a 2 per cent cash discount. The company paid a fine of $ 3,600 because an employee hauled the machine over city streets without securing the required permits. The machine was installed at a cost of $ 21,600, and testing costs of $ 7,200 were incurred to place the machine in operation. Prepare a schedule showing the recorded cost of the machine.

Exercise D A machine is acquired in exchange for 50 shares of Marley Corporation capital stock. The stock recently traded at $ 400 per share. The machine cost $ 30,000 three years ago. At what amount should the machine be recorded?

**Exercise E** Keely Company purchased some office furniture for $ 29,760 cash on 2009 March 1. It also paid $ 480 cash for freight costs incurred. The furniture is being depreciated over four years under the straight-line method, assuming a salvage value of $ 1,440. The company employs a calendar-year accounting period. On 2010 July 1, it spent $ 192 to refinish the furniture. Prepare journal entries for the Keely Company to record all of the data, including the annual depreciation adjustments through 2010.

**Exercise F** On 2009 January 2, a new machine was acquired for $ 900,000. The machine has an estimated salvage value of $ 100,000 and an estimated useful life of 10 years. The machine is expected to produce a total of 500,000 units of product throughout its useful life. Compute depreciation for 2009 and 2010 using each of the following methods:

1. Straight line.
2. Units of production (assume 30,000 and 60,000 units were produced in 2009 and 2010, respectively).
3. Double-declining balance.

**Exercise G** Terrill Company finds its records are incomplete concerning a piece of machinery used in its plant. According to the company records, the machinery has an estimated useful life of 10 years and an estimated salvage value of $ 24,000. It has recorded $ 12,000 in depreciation each year using the straight-line method. If the accumulated depreciation account shows a balance of $ 72,000, what is the original cost of the machinery and how many years remain to be depreciated?

**Exercise H** Katherine Company purchased a machine on 2009 April 1, for $ 72,000. The machine has an estimated useful life of five years with no expected salvage value. The company's accounting year ends on December 31.

Compute the depreciation expense for 2009 and 2010 under the double-declining-balance method.

**Exercise I** Australia Company purchased a machine for $ 3,200 and incurred installation costs of $ 800. The estimated salvage value of the machine is $ 200. The machine has an estimated useful life of four years. Compute the annual depreciation charges for this machine under the double-declining-balance method.

**Exercise J** Regal Company acquired a delivery truck on 2009 January 2, for $ 107,200. The truck had an estimated salvage value of $ 4,800 and an estimated useful life of eight years. At the beginning of 2009, a revised estimate shows that the truck has a remaining useful life of six years. The estimated salvage value changed to $ 1,600.

Compute the depreciation charge for 2009 and the revised depreciation charge for 2009 using the straight-line method.

**Exercise K** Assume that the truck described in the previous exercise was used 40 per cent of the time in 2010 to haul materials used in the construction of a building by Regal Company for its own use. (Remember that 2010 is before the revision was made on estimated life.) During the remaining time, Regal used the truck to deliver merchandise to its customers.

Prepare the journal entry to record straight-line depreciation on the truck for 2010.

**Exercise L** Vineland Company purchased a computer for $ 60,000 and placed it in operation on 2008 January 2. Depreciation was recorded for 2008 and 2009 using the straight-line method, a six-year life, and an expected salvage value of $ 2,400. The introduction of a new model of this computer in 2010 caused the company to revise its estimate of useful life to a total of four years and to reduce the estimated salvage value to zero.

Compute the depreciation expense on the computer for 2010.

**Exercise M** On 2009 January 2, a company purchased and placed in operation a new machine at a total cost of $ 60,000. Depreciation was recorded on the machine for 2009 and 2010 under the straight-line method using an estimated useful life of five years and no expected salvage value. Early in 2011, the machine was overhauled at a cost of $ 20,000. The estimated useful life of the machine was revised upward to a total of seven years.

Compute the depreciation expense on the machine for 2011.

**Exercise N** Lasky Company purchased a machine on 2009 January 3, at a cost of $ 50,000. It debited freight and installation charges of $ 10,000 to Repairs Expense. It recorded straight-line depreciation on the machine in 2009 and 2010 using an estimated life of 10 years and no expected salvage value.

Compute the amount of the error in net income for 2009 and 2010, and state whether net income is understated or overstated.

**Exercise O** Bragg Company owns a plant asset that originally cost $ 240,000 in 2006 The asset has been depreciated for three years assuming an eight-year useful life and no salvage value. During 2009, Bragg incorrectly capitalized $ 120,000 in repairs on the plant asset rather than expensing them. Describe the impact of this error on the asset's cost and Bragg's net income over the next five years.

**Problems**

**Problem A** Bolt Company purchased a machine for use in its operations that had an invoice price of $ 80,000 excluding sales tax. A 4 per cent sales tax was levied on the sale. Terms were net 30. The company estimated the total cost of hauling the machine from the dealer's warehouse to the company's plant at $ 5,600, which did not include a fine of $ 1,600 for failure to secure the necessary permits to use city streets in transporting the machine. In delivering the machine to its plant, a Bolt employee damaged the truck used; repairs cost $ 3,600. The machine was also slightly damaged with repair costs amounting to $ 1,600.

Bolt incurred installation costs of $ 32,000 that included the $ 4,000 cost of shoring up the floor under the machine. Testing costs amounted to $ 2,400. Safety guards were installed on the machine at a cost of $ 640, and the machine was placed in operation.

Prepare a schedule showing the amount at which the machine should be recorded in Bolt's accounts.

**Problem B** Pressler Company planned to erect a new factory building and a new office building in Atlanta, Georgia, USA. A report on a suitable site showed an appraised value of $ 180,000 for land and orchard and $ 120,000 for a building.

After considerable negotiation, the company and the owner reached the following agreement: Pressler Company was to pay $ 216,000 in cash, assume a $ 90,000 mortgage note on the property, assume the interest of $ 1,920 accrued on the mortgage note, and assume unpaid property taxes of $ 13,200. Pressler Company paid $ 18,000 cash for brokerage and legal services in acquiring the property.

Shortly after acquisition of the property, Pressler Company sold the fruit on the trees for $ 2,640, remodeled the building into an office building at a cost of $ 38,400, and removed the trees from the land at a cost of $ 9,000. Construction of the factory building was to begin in a week.

Prepare schedules showing the proper valuation of the assets acquired by Pressler Company.

**Problem C** Timothy Company acquired and placed into use a heavy factory machine on 2009 October 1. The machine had an invoice price of $ 360,000, but the company received a 3 per cent cash discount by paying the bill on the date of acquisition. An employee of Timothy Company hauled the machine down a city street without a permit. As a result, the company had to pay a $ 1,500 fine. Installation and testing costs totaled $ 35,800. The machine is estimated to have a $ 35,000 salvage value and a seven-year useful life. (A fraction should be used for the DDB calculation rather than a percentage.)

1. Prepare the journal entry to record the acquisition of the machine.
2. Prepare the journal entry to record depreciation for 2009 under the double-declining balance method.
3. Assume Timothy Company used the straight-line depreciation method. At the beginning of 2009, it estimated the machine will last another six years. Prepare the journal entry to record depreciation for 2009. The estimated salvage value would not change.

**Problem D** Peach Company has the following entries in its Building account:

| | | |
|---|---|---|
| | Debits | |
| 2009 | | |
| May 5 | Cost of land and building purchased | $200,000 |
| 5 | Broker fees incident to purchase of land and building | 12,000 |
| 2010 | | |
| Jan. 3 | Contract price of new wing added to south end | 84,000 |
| 15 | Cost of new machinery, estimated life 10 years | 160,000 |
| June 10 | Real estate taxes for six months ended 2010/6/30 | 3,600 |
| Aug. 10 | Cost of building parking lot for employees in back of building | 4,960 |
| Sept. 6 | Replacement of windows broken in August | 160 |
| Oct. 10 | Repairs due to regular usage | 2,240 |
| | Credits | |
| 2009 | | |
| May 24 | Transfer to Land account, per allocation of purchase cost | |
| | authorized in minutes of board of directors | 32,000 |
| 2010 | | |
| Jan. 5 | Proceeds from leases of second floor for six months ended | |
| | 2009/12/31 | 8,000 |

Peach acquired the original property on 2009 May 5. Orange immediately engaged a contractor to construct a new wing on the south end of the building. While the new wing was being constructed, the company leased the second floor as temporary warehouse space to Kellett Company. During this period (July 1 to 2009 December 31), the company installed new machinery costing $ 160,000 on the first floor of the building. Regular operations began on 2010 January 2.

1. Compute the correct balance for the Buildings account as of 2010 December 31. The company employs a calendar-year accounting period.
2. Prepare the necessary journal entries to correct the records of Peach Company at 2010 December 31. No depreciation entries are required.

**Problem E** Cardine Company acquired and placed into use equipment on 2009 January 2, at a cash cost of $ 935,000. Transportation charges amounted to $ 7,500, and installation and testing costs totaled $ 55,000.

The equipment was estimated to have a useful life of nine years and a salvage value of $ 37,500 at the end of its life. It was further estimated that the equipment would be used in the production of 1,920,000 units of product during its life. During 2009, 426,000 units of product were produced.

Compute the depreciation to the nearest dollar for the year ended December 31, using:

1. Straight-line method.
2. Units-of-production method.
3. Double-declining-balance method (use a fraction rather than a percentage).

**Problem F** Goodrich Company purchased a machine on 2009 October 1 for $ 100,000. The machine has an estimated salvage value of $ 30,000 and an estimated useful life of eight years.

Compute to the nearest dollar the amount of depreciation Goodrich should record on the machine for the years ending 2009 December 31, and 2010, under each of the following methods:

1. Straight-line.
2. Double-declining-balance.

**Alternate problems**

**Alternate problem A** Brite Company purchased a machine that had an invoice price of $ 400,000 excluding sales tax. Terms were net 30. A 4 per cent sales tax was levied on the sale. The company incurred and paid freight costs of $ 10,000. Special electrical connections were run to the machine at a cost of $ 14,000 and a special reinforced base for the machine was built at a cost of $ 18,000. The machine was dropped and damaged while being mounted on this base. Repairs cost $ 4,000. Raw materials with a cost of $ 1,000 were consumed in testing the machine. Safety guards were installed on the machine at a cost of $ 1,400, and the machine was placed in operation. In addition, $ 500 of costs were incurred in removing an old machine.

Prepare a schedule showing the amount at which the machine should be recorded in Brite Company's account.

**Alternate problem B** Maxwell Company purchased 2 square miles of farmland under the following terms: $ 968,000 cash; and liability assumed on mortgage note of $ 320,000 and interest accrued on mortgage note assumed, $ 12,800. The company paid $ 67,200 of legal and brokerage fees and also paid $ 3,200 for a title search on the property.

The company planned to use the land as a site for a new office building and a new factory. Maxwell paid clearing and leveling costs of $ 28,800. It sold crops on the land for $ 7,360 and sold one of the houses on the property for $ 19,200. The other buildings were torn down at a cost of $ 14,400; sale of salvaged materials yielded cash proceeds of $ 13,600. Approximately 1 per cent of the land acquired was deeded to the county for roads. The cost of excavating a basement for the office building amounted to $ 9,120.

Prepare a schedule showing the amount at which the land should be carried on Maxwell Company's books.

**Alternate problem C** Dawson Towing Company purchased a used panel truck for $ 28,800 cash. The next day the company's name and business were painted on the truck at a total cost of $ 1,488. The truck was then given a minor overhaul at a cost of $ 192, and new "super" tires were mounted on the truck at a cost of $ 1,920, less a trade-in allowance of $ 240 for the old tires. The truck was placed in service on 2009 April 1, at which time it had an estimated useful life of five years and a salvage value of $ 3,360.

1. Prepare a schedule showing the cost to be recorded for the truck.
2. Prepare the journal entry to record depreciation at the end of the calendar-year accounting period, 2009 December 31. Use the double-declining-balance method.
3. Assume that the straight-line depreciation method has been used. At the beginning of 2009 it is estimated the truck will last another four years. The estimated salvage value changed to $ 1,920. Prepare the entry to record depreciation for 2012.

**Alternate problem D** You are the new controller for Jayson Company, which began operations on 2009 October 1, after a start-up period that ran from the middle of 2008. While reviewing the accounts, you find an account entitled "Fixed Assets", which contains the following items:

| | |
|---|---|
| Cash paid to previous owner of land and old buildings | $ 192,000 |

| | |
|---|---|
| Cash given to construction company as partial payment for the new building | 72,000 |
| Legal and title search fees | 2,400 |
| Real estate commission | 14,400 |
| Cost of demolishing old building | 16,800 |
| Cost of leveling and grading | 9,600 |
| Architect's fee (90% of building and 10% improvements) | 6,000 |
| Cost of excavating (digging) basement for new building | 21,600 |
| Cash paid to construction company for new building | 288,000 |
| Repair damage done by vandals | 7,200 |
| Sprinkler system for lawn | 31,200 |
| Lighting system for parking lot | 40,800 |
| Paving of parking lot | 60,000 |
| Net invoice price of machinery | 1,152,000 |
| Freight cost incurred on machinery | 50,400 |
| Installation and testing of machinery | 19,200 |
| Medical bill paid for employee injured in installing machinery | 3,600 |
| Landscaping (permanent) | 38,400 |
| Repair damage to building in installation of machinery | 4,800 |
| Special assessment paid to city for water mains and sewer line | 45,600 |
| Account balance | $2,106,000 |

In addition, you discover that cash receipts of $ 1,200 from selling materials salvaged from the old building were credited to Miscellaneous Revenues in 2009. Digging deeper, you find that the plant manager spent all of his time for the first nine months of 2009 supervising installation of land improvements (10 per cent), building construction (40 per cent), and installation of machinery (50 per cent). The plant manager's nine-month salary of $ 108,000 was debited to Officers' Salaries Expense.

1. List all items on a form containing columns for Land, Land Improvements, Building, and Machinery. Sort the items into the appropriate columns, omitting those items not properly included as an element of asset cost. Show negative amounts in parentheses. Total your columns.
2. Prepare one compound journal entry to reclassify and adjust the accounts and to eliminate the Fixed Assets account. Do not attempt to record depreciation for the partial year.

**Alternate problem E** Land Company acquired and put into use a machine on 2009 January 1, at a cash cost of $ 120,000 and immediately spent $ 5,000 to install it. The machine had an estimated useful life of eight years and an estimated salvage value of $ 15,000 at the end of this time. It was further estimated that the machine would produce 500,000 units of product during its life. In the first year, the machine produced 100,000 units.

Prepare journal entries to record depreciation to the nearest dollar for 2009, using:

1. Straight-line method.
2. Units-of-production method.
3. Double-declining-balance method.

**Alternate problem F** Crawford Company paid $ 60,000 for a machine on 2009 April 1, and placed it in use on that same date. The machine has an estimated life of 10 years and an estimated salvage value of $ 10,000.

Compute the amount of depreciation to the nearest dollar the company should record on this asset for the years ending 2009 December 31, and 2010, under each of the following methods:

1. Straight-line.
2. Double-declining-balance.

Beyond the numbers—Critical thinking

**Business decision case A** You are a new staff auditor assigned to audit Cray Company's Buildings account. You determine that Cray Company made the following entries in its Buildings account in 2009:

| | Debits | |
|---|---|---|
| 2009 | | |
| Jan. 2 | Cost of land and old buildings purchased | $ 720,000 |
| 2 | Legal fees incident to purchase | 9,600 |
| 2 | Fee for title search | 1,200 |
| 12 | Cost of demolishing old buildings on land | 19,200 |
| June 16 | Cost of insurance during construction of new building | 4,800 |
| July 30 | Payment to contractor on completion of new building | 1,080,000 |
| Aug. 5 | Architect's fees for design of new building | 48,000 |
| Sept. 15 | City assessment for sewers and sidewalks (considered permanent) | 16,800 |
| Oct. 6 | Cost of landscaping (considered permanent) | 9,600 |
| Nov. 1 | Cost of driveways and parking lots | 60,000 |
| | Credits | |
| Jan. 15 | Proceeds received upon sale of salvaged materials from old | |
| | buildings | 4,800 |

In addition to the entries in the account, you obtained the following information in your interview with the accountant in charge of the Buildings account:

The company began using the new building on 2009 September 1. The building is estimated to have a 40-year useful life and no salvage value.

The company began using the driveways and parking lots on 2009 November 1. The driveways and parking lots have an estimated 10-year useful life and no salvage value.

The company uses the straight-line depreciation method to depreciate all of its plant assets.

Using all of this information, do the following:

1. Prepare a schedule that shows the separate cost of land, buildings, and land improvements.
2. Compute the amount of depreciation expense for 2009.
3. Complete the journal entries required to correct the accounts at 2009 December 31. Assume that closing entries have not been made.
4. Write a brief statement describing to management why depreciation must be recorded and how recording depreciation affects net income.

Business decision case B On 2010 October 1, Besler Company acquired and placed into use new equipment costing $ 504,000. The equipment has an estimated useful life of five years and an estimated salvage value of $ 24,000. Besler estimates that the equipment will produce 2 million units of product during its life. In the last quarter of 2010, the equipment produced 120,000 units of product. As the company's accountant, management has asked you to do the following:

1. Compute the depreciation for the last quarter of 2010, using each of the following methods:

Straight-line.

Units-of-production.

Double-declining-balance.

1. Prepare a written report describing the conditions in which each of these four methods would be most appropriate.

Business decision case C The notes to the financial statements of Wolverine World Wide, Inc., in "A Broader Perspective", stated that substantially all fixed assets are depreciated using the straight-line method. Explain why the straight-line method of depreciation may be appropriate for this company.

Business decision case D Discuss the meaning of rate of return on operating assets, its elements, and what it means to investors and management.

Calculate the rate of return on operating assets for The Limited in the Annual report appendix for the two most recent years. Assume all assets are operating assets. Comment on the results.

Annual report analysis E The following footnote excerpted from a recent annual report of Kerr-McGee Corporation describes the company's accounting policies for property, plant, and equipment:

*Property, plant, and equipment is depreciated over its estimated life by the unit-of-production or the straight-line-method.*

1. How many different depreciation methods are used by Kerr-McGee Corporation? Does this practice conform with generally accepted accounting principles?
2. Discuss why management might select each of these methods to depreciate plant assets.

Group project F In a group of two or three students, visit a large company in your community and inquire about the subsidiary records it maintains to establish accounting control over its plant assets. Also inquire about physical controls used to protect its equipment that is movable, such as computers, copy machines, and so on. Write a report to your instructor summarizing your findings and be prepared to give a short report to your class.

**Group project G** With a team of two or three students, visit two companies in your community to inquire about why they use certain depreciation methods. Try to locate companies that use several depreciation methods in accounting for various depreciable fixed assets. Interview those who made the decision as to methods to use to find out the reasons for their choices. Write a report to your instructor summarizing your findings.

**Group project H** In a small group of students, visit a large company in your community to determine how it decides to account for expenditures on fixed assets made after the assets have been in use for some time. In other words, how does it decide whether to debit the asset account, the accumulated depreciation account, or an expense account? What role does materiality play in the decision? Evaluate the reasonableness of the decision model used. Write a report to your instructor summarizing your findings and be prepared to make a short presentation to your class.

**Using the Internet—A view of the real world**

Visit the CPA Review site at:

http://www.beckerconviser.com

Investigate this site. Identify the major types of employers. Make note of any interesting information at this site. Write a report to your instructor summarizing your findings. Be prepared to make a short presentation to the class.

Visit the Best Software website at:

http://www.bestsoftware.com

What types of software does the company sell? Why might a company buy a software package from Best Software? Study any other aspect of the information that looks interesting. Write a report to your instructor summarizing your findings.

1. [1]Because depreciation expense is an estimate, calculations may be rounded to the nearest dollar.

# UNIT 12: CURRENT LIABILITIES AND PAYROLL

## ACCOUNTING FOR CURRENT LIABILITIES

### Current liabilities

**Liabilities** result from some past transaction and are obligations to pay cash, provide services, or deliver goods at some future time. This definition includes each of the liabilities discussed in previous chapters and the new liabilities presented in this chapter. The balance sheet divides liabilities into current liabilities and long-term liabilities. **Current liabilities** are obligations that (1) are payable within one year or one operating cycle, whichever is longer, or (2) will be paid out of current assets or create other current liabilities. **Long-term liabilities** are obligations that do not qualify as current liabilities.

In this section, we describe liabilities not previously discussed that are clearly determinable—sales tax payable, federal excise tax payable, and current portions of long-term debt. Warranties, notes payable and payroll liabilities will be examined later. This video is good at reviewing current liabilities we have already discussed plus some new topics:

Watch this video online: https://youtu.be/hjT6hRz96zc

**Sales tax payable** Many states have a state sales tax on items purchased by consumers. The company selling the product is responsible for collecting the sales tax from customers. When the company collects the taxes, the debit is to Cash and the credit is to Sales Tax Payable. Periodically, the company pays the sales taxes collected to the state. At that time, the debit is to Sales Tax Payable and the credit is to Cash.

To illustrate, assume that a company sells merchandise in a state that has a 6% sales tax. If it sells goods with a sales price of $1,000 on credit, the company makes this entry:

| | Debit | Credit |
|---|---|---|
| Accounts Receivable (1,000 + 60) | 1,060 | |
| Sales | | 1,000 |
| Sales Tax Payable (1,000 x 6%) | | 60 |
| To record sales and sales tax payable. | | |

Now assume that sales for the entire period are $100,000 and that $6,000 is in the Sales Tax Payable account when the company remits the funds to the state taxing agency. The following entry shows the payment to the state:

| | Debit | Credit |
|---|---|---|
| Sales Tax Payable | 6,000 | |
| Cash | | 6,000 |
| | | |

**Federal excise tax payable** Consumers pay federal excise tax on some goods, such as alcoholic beverages, tobacco, gasoline, cosmetics, tires, and luxury automobiles. The entries a company makes when selling goods subject to the federal excise tax are similar to those made for sales taxes payable. For example, assume that the Dixon Jewelry Store sells a diamond ring to a young couple for $2,000. The sale is subject to a 6% sales tax and a 10% federal excise tax. The entry to record the sale is:

| | Debit | Credit |
|---|---|---|
| Accounts Receivable (2,000 + 120 + 200) | 2,320 | |
| Sales | | 2,000 |
| Sales Tax Payable (2,000 x 6%) | | 120 |
| Federal Excise Tax Payable (2,00 x 10%) | | 200 |
| To record the sale of a diamond ring. | | |

The company records the remittance of the taxes to the federal taxing agency by debiting Federal Excise Tax Payable and crediting Cash.

**Current portions of long-term debt** Accountants move any portion of long-term debt that becomes due within the next year to the current liability section of the balance sheet. For instance, assume a company signed a series of 10 individual notes payable for $10,000 each; beginning in the 6th year, one comes due each year through the 15th year. Beginning in the 5th year, an accountant would move a $10,000 note from the long-term liability category to the current liability category on the balance sheet. The current portion would then be paid within one year.



# ENTRIES RELATED TO NOTES PAYABLE

Here is a classic video on short term notes payable that will allow us to review some of the concepts we learned when discussing Notes Receivable.

Watch this video online: https://youtu.be/hdyO5Csq1Hs

Remember, with Notes Receivable we learned we need to know 3 things about a note:

1. Principal (the amount of money we borrowed)
2. Interest Rate (typically an annual interest rate)
3. Maturity term (or frequency of the year — how many days or months for the note)

In Notes Receivable, we were the ones providing funds that we would receive at maturity. Now, we are going to borrow money that we must pay back later so we will have Notes Payable. Interest is still calculated as **Principal x Interest x Frequency** of the year (use 360 days as the base if note term is days or 12 months as the base if note term is in months).

**Interest-bearing notes** To receive short-term financing, a company may issue an interest-bearing note to a bank. An interest-bearing note specifies the interest rate charged on the principal borrowed. The company receives from the bank the principal borrowed; when the note matures, the company pays the bank the principal plus the interest.

Accounting for an interest-bearing note is simple. For example, assume the company's accounting year ends on December 31. Needham Company issued a $10,000, 90-day, 9% note on December 1. The following entries would record the loan, the accrual of interest on December 31 and its payment on March 1 of the next year:

| Date | Account | Debit | Credit |
|---|---|---|---|
| Dec 1 | Cash | 10,000 | |
| | Notes Payable | | 10,000 |
| | To record 90-day bank loan. | | |
| Dec 31 | Interest Expense | 75 | |
| | Interest Payable | | 75 |
| | $10,000 x 9% x (30 days in Dec / 360 days in year) | | |
| | To record accrued interest on note at year end | | |
| Mar 1 | Notes Payable (principal amount) | 10,000 | |
| | Interest Payable (from Dec 31 entry) | 75 | |
| | Interest Expense | 150 | |
| | $10,000 x 9% x (60 days remaining in note / 360 days in year) | | |
| | Cash (10,000 + 75 + 150) | | 10,225 |
| | To record principal and interest paid on bank loan. | | |

# ACCOUNTING FOR CONTINGENT LIABILITIES

**Contingent liabilities.** The existence of the liability is uncertain and usually the amount is uncertain because contingent liabilities depend (or are contingent) on some future event occurring or not occurring. Examples include liabilities arising from lawsuits, discounted notes receivable, income tax disputes, penalties that may be assessed because of some past action, and failure of another party to pay a debt that a company has guaranteed. When liabilities are contingent, the company usually is not sure that the liability exists and is uncertain about the amount. *FASB Statement No. 5* defines a contingency as "an existing condition, situation, or set of circumstances involving uncertainty as to possible gain or loss to an enterprise that will ultimately be resolved when one or more future events occur or fail to occur".[1]

According to *FASB Statement No. 5*, if the liability is probable and the amount can be reasonably estimated, companies should record contingent liabilities in the accounts. However, since most contingent liabilities may not occur and the amount often cannot be reasonably estimated, the accountant usually does not record them in the accounts. Instead, firms typically disclose these contingent liabilities in notes to their financial statements.

Watch this video online: https://youtu.be/yn4ZcXnNeXA

Many contingent liabilities arise as the result of lawsuits. In fact, 469 of the 957 companies contacted in the AICPA's annual survey of accounting practices reported contingent liabilities resulting from litigation.[2]

The following two examples from annual reports are typical of the disclosures made in notes to the financial statements. Be aware that just because a suit is brought, the company being sued is not necessarily guilty. One company included the following note in its annual report to describe its contingent liability regarding various lawsuits against the company:

**Contingent liabilities:**

Various lawsuits and claims, including those involving ordinary routine litigation incidental to its business, to which the Company is a party, are pending, or have been asserted, against the Company. In addition, the Company was advised…that the United States Environmental Protection Agency had determined the existence of PCBs in a river and harbor near Sheboygan, Wisconsin,USA, and that the Company, as well as others, allegedly contributed to that contamination. It is not presently possible to determine with certainty what corrective action, if any, will be required, what portion of any costs thereof will be attributable to the Company, or whether all or any portion of such costs will be covered by insurance or will be recoverable from others. Although the outcome of these matters cannot be predicted with certainty, and some of them may be disposed of unfavorably to the Company, management has no reason to believe that their disposition will have a materially adverse effect on the consolidated financial position of the Company.

Another company dismissed an employee and included the following note to disclose the contingent liability resulting from the ensuing litigation:

**Contingencies:**

…A jury awarded $5.2 million to a former employee of the Company for an alleged breach of contract and wrongful termination of employment. The Company has appealed the judgment on the basis of errors in the judge's instructions to the jury and insufficiency of evidence to support the amount of the jury's award. The Company is vigorously pursuing the appeal.

The Company and its subsidiaries are also involved in various other litigation arising in the ordinary course of business.

Since it presently is not possible to determine the outcome of these matters, no provision has been made in the financial statements for their ultimate resolution. The resolution of the appeal of the jury award could have a significant effect on the Company's earnings in the year that a determination is made; however, in management's opinion, the final resolution of all legal matters will not have a material adverse effect on the Company's financial position.

Contingent liabilities may also arise from discounted notes receivable, income tax disputes, penalties that may be assessed because of some past action, and failure of another party to pay a debt that a company has guaranteed.



# RECORDING TRANSACTIONS RELATED TO PRODUCT WARRANTIES

Estimated product warranty payable When companies sell products such as computers, often they must guarantee against defects by placing a warranty on their products. When defects occur, the company is obligated to reimburse the customer or repair the product. For many products, companies can predict the number of defects based on experience. To provide for a proper matching of revenues and expenses, the accountant estimates the warranty expense resulting from an accounting period's sales which will be used as a reserve to pull actual warranty expenses from at a later date. The debit is to Warranty Expense and the credit to Estimated Warranty Payable (or Liability).

Watch this video online: https://youtu.be/OR0oVHFibt0

To illustrate, assume that a company sells personal computers and warrants all parts for one year. The average price per computer is $1,500, and the company sells 1,000 computers this year. The company expects 10% of the computers to develop defective parts within one year. By the end of the year, customers have returned 40 computers sold that year for repairs, and the repairs on those 40 computers have been recorded. The estimated average cost of warranty repairs per defective computer is $150. To arrive at a reasonable estimate of product warranty expense, the accountant makes the following calculation:

| | |
|---|---|
| Number of computers sold | 1,000 |
| Percent estimated to develop defects | x 10% |
| Total estimated defective computers | 100 |
| Deduct computers returned as defective to date | – 40 |
| Estimated additional number to become | |
| defective during warranty period | 60 |
| Estimated average warranty repair cost per compute: | x $ 150 |
| Estimated warranty payable | $9,000 |

The entry made at the end of the accounting period is:

| | | |
|---|---|---|
| | Debit | Credit |

| | | |
|---|---|---|
| Product Warranty Expense | 9,000 | |
| Estimated Warranty Payable | | 9,000 |
| To record estimated product warranty expense. | | |

When a customer returns one of the computers purchased for repair work during the warranty period, the company debits the cost of the repairs to Estimated Product Warranty Payable. For instance, assume that Evan Holman returns his computer for repairs within the warranty period. The repair cost includes parts $40, and labor $160. The company makes the following entry:

| | Debit | Credit |
|---|---|---|
| Estimated Warranty Payable | 200 | |
| Repair Parts Inventory | | 40 |
| Wages Payable | | 160 |
| To record replacement of parts under warranty. | | |



# PAYROLL ACCOUNTING DEFINED

If you haven't already, at some point you will most likely receive a paycheck. The first time you do, you will be disappointed. You will want to know who took all your money! But not to worry, this section and the next will explain where it all goes.

What is included in an employee's paycheck?

- Gross Pay: This is the amount of money you are promised either hourly, weekly or annually.
- Federal Income Tax Withheld (also referred to as FIT): You will fill out a document called a W-4 when you are hired. This document allows you to claim allowances and a federal filing status for tax purposes. These options along with your gross pay are used to calculate your federal tax withheld. This will reduce your gross pay.
- State Income Tax Withheld (also referred to as SIT): A different form than the W-4 but the same concept except it applies to the state. Not all states have a state income tax. This will reduce your gross pay.
- FICA Social Security Tax (also referred to as OASDI): This tax helps fund social security and is calculated as gross pay x 6.2% unless you make OVER $118,500 in 2015 then you are only responsible to pay 6.2% of $118,500 and nothing more. This will reduce your gross pay.
- FICA Medicare Tax (also referred to as HI): This tax helps fund medicare and is calculated as gross pay x 1.45%. Everyone must pay the 1.45% of gross pay without limit. This will reduce your gross pay.
- Voluntary Deductions: Any deductions you authorize will also reduce your gross pay. This includes things like medical premiums, 401K and savings accounts, charity donations, etc.
- Net Pay: Finally! This is the amount you will receive after all taxes and voluntary deductions have been taken out.

Wait — this section is on current liabilities so how do they fit in? Your employer will take money out of your paycheck for the items listed above and combine them with other employee amounts to send one big check to the government or business (for voluntary deductions). When you are paid, the company records liabilities for the amounts taken out of your paycheck.

Don't think employers are getting off easy! There is a cost (more than gross pay) for having employees. The employer must pay the following on every dollar an employee earns:

- FICA Social Security Tax: This tax helps fund social security and is calculated as gross pay x 6.2% unless an employee makes OVER $118,500 in 2015 then you are only responsible to pay 6.2% of $118,500 and nothing more for that employee.
- FICA Medicare Tax: This tax helps fund medicare and is calculated as gross pay x 1.45%. Everyone must pay the 1.45% of gross pay without limit.
- Federal Unemployment Tax (FUTA): This tax is for unemployment claims and is typically calculated as 0.8% of the first $7,000 of an employee's earnings. Once the employee has earned more than $7,000 in gross pay for the year, the company no longer has to pay FUTA tax.
- State Unemployment Tax (SUTA): This tax is for the state unemployment and does not have a consistent rate. The rate is provided by the state annually and can change each year by business.
- Voluntary Deductions Matching: Any matching funds the company provides for insurance or retirement plans.

In the next section we will look at the entries required for payroll with both the employee and employer side of the transactions.

# PAYROLL ACCOUNTING ENTRIES

Payroll liabilities In most business organizations, accounting for payroll is particularly important because (1) payrolls often are the largest expense that a company incurs, (2) both federal and state governments require maintaining detailed payroll records, and (3) companies must file regular payroll reports with state and federal governments and remit amounts withheld or otherwise due. Payroll liabilities include taxes and other amounts withheld from employees' paychecks and taxes paid by employers.

Watch this video online: https://youtu.be/Q0o_M5BcQKw

Employers normally withhold amounts from employees' paychecks for federal income taxes; state income taxes; FICA (social security) taxes; and other items such as union dues, medical insurance premiums, life insurance premiums, pension plans, and pledges to charities.

Assume that a company had a payroll of $35,000 for the month of April. The company withheld the following amounts from the employees' pay: federal income taxes $4,100; state income taxes $360; FICA taxes $2,678; and medical insurance premiums $940. This entry records the payroll:

| Date | Account | Debit | Credit |
|---|---|---|---|
| April | Salaries Expense | 35,000.00 | |
| | Federal Income Tax Withheld Payable (given) | | 4,100.00 |
| | State Income Tax Withheld Payable (given) | | 360.00 |
| | FICA Social Security Taxes Payable ($35,000 x 6.2%) | | 2,170.00 |

| | | | |
|---|---|---|---|
| | FICA Medicare Tax Payable ($35,000 x 1.45%) | | 507.50 |
| | Employee Medical Insurance Payable (given) | | 940.00 |
| | Salaries Payable (35,000 – 4100 – 360 – 2170 – 507.50 – 940) | | 26,922.50 |
| | To record the payroll for the month ended April 30. | | |

All accounts credited in the entry are current liabilities and will be reported on the balance sheet if not paid prior to the preparation of financial statements. When these liabilities are paid, the employer debits each one and credits Cash.

Employers normally record payroll taxes at the same time as the payroll to which they relate. Assume the payroll taxes an employer pays for April are FICA taxes, state unemployment taxes (SUTA) $1,890; and federal unemployment taxes (FUTA). No employee has earned more than $7,000 in this calendar year. The entry to record these payroll taxes would be:

| Date | Account | Debit | Credit |
|---|---|---|---|
| April | Payroll Tax Expense | 4,848 | |
| | FICA Social Security Taxes Payable ($35,000 x 6.2%) | | 2,170 |
| | FICA Medicare Tax Payable ($35,000 x 1.45%) | | 507.5 |
| | FUTA Taxes Payable ($35,000 x 0.8%) | | 280 |
| | SUTA Taxes Payable | | 1890 |
| | To record employer's payroll taxes. | | |

These amounts are in addition to the amounts withheld from employees' paychecks. The credit to FICA Taxes Payable is equal to the amount withheld from the employees' paychecks. The company can credit both its own and the employees' FICA taxes to the same liability account, since both are payable at the same time to the same agency. When these liabilities are paid, the employer debits each of the liability accounts and credits Cash.



# EXERCISES: UNIT 12

SHORT-ANSWER QUESTIONS, EXERCISES, AND PROBLEMS

**Questions**

➢ Define current liabilities.

➢ Describe the differences between clearly determinable, estimated, and contingent liabilities. Give one or more examples of each type.

➢ In what instances might a company acquire notes payable?

➢ How is the maturity value of a note calculated?

➢ How is interest on a note calculated?

➢ Explain the difference between employee and employer taxes.

➢ Describe the differences between gross pay and net pay.

Exercises

Exercise E Dunwoody Discount Toys, Inc., sells merchandise in a state that has a 5 per cent sales tax. Rather than record sales taxes collected in a separate account, the company records both the sales revenue and the sales taxes in the Sales account. At the end of the first quarter of operations, when it is time to remit the sales taxes to the state taxing agency, the company has $ 420,000 in the Sales account. Determine the correct amount of sales revenue and the amount of sales tax payable.

Exercise F Assume the following note appeared in the annual report of a company:

*In 2009, two small retail customers filed separate suits against the company alleging misrepresentation, breach of contract, conspiracy to violate federal laws, and state antitrust violations arising out of their purchase of retail grocery stores through the company from a third party. Damages sought range up to $ 10 million in each suit for actual and treble damages and punitive damages of $ 2 million in one suit and $ 10 million in the other. The company is vigorously defending the actions and management believes there will be no adverse financial effect.*

What kind of liability is being reported? Why is it classified this way? Do you think it is possible to calculate a dollar amount for this obligation? How much would the company have to pay if it lost the suit and had to pay the full amount?

Exercise G Determine the maturity date for each of the following notes:

| Issue Date | Life | |
|---|---|---|
| 2010 January 13 | 30 | days |
| 2010 January 31 | 90 | days |
| 2010 June 4 | 1 | year |
| 2010 December 2 | 1 | month |

Exercise H Crawford, Inc., gave a $ 20,000, 120-day, 12 per cent note to Dunston, Inc., in exchange for merchandise. Crawford uses periodic inventory procedure. Prepare journal entries to record the issuance of the note and the entries needed at maturity for Dunston, Inc., assuming payment is made by Crawford at maturity.

Exercise I Based on the facts in the previous exercise, prepare the entries that Dunston, Inc., would make at the maturity date, assuming Crawford defaults.

Exercise J John Wood is negotiating a bank loan for his company, Wood, Inc., of $ 16,000 for 90 days. The bank's current interest rate is 10 per cent. Prepare Wood's entries to record the loan under each of the following assumptions:

1. Wood signs a note for $ 16,000. Interest is deducted in calculating the proceeds turned over to him.
2. Wood signs a note for $ 16,000 and receives that amount. Interest is to be paid at maturity.

**Exercise K** Based on the previous exercise, prepare the entry or entries that would be made at the maturity date for each alternative, assuming the loan is paid before the end of the accounting period.

## Problems

**Problem C** Ruiz Company sells merchandise in a state that has a 5 per cent sales tax. On 2010 January 2, Ruiz sold goods with a sales price of $ 80,000 on credit. Sales taxes collected are recorded in a separate account. Assume that sales for the entire month were $ 900,000. On 2010 January 31, the company remitted the sales taxes collected to the state taxing agency.

1. Prepare the general journal entries to record the January 2 sales revenue. Also prepare the entry to show the remittance of the taxes on January 31.
2. Now assume that the merchandise sold on January 2 also is subject to federal excise taxes of 12 per cent. The federal excise taxes collected are remitted to the proper agency on January 31. Show the entries on January 2 and January 31.

**Problem D** Honest Tim's Auto Company sells used cars and warrants all parts for one year. The average price per car is $ 10,000, and the company sold 900 in 2009. The company expects 30 per cent of the cars to develop defective parts within one year of sale. The estimated average cost of warranty repairs per defective car is $ 600. By the end of the year, 80 cars sold that year had been returned and repaired under warranty. On 2010 January 4, a customer returned a car purchased in 2009 for repairs under warranty. The repairs were made on January 8. The cost of the repairs included parts, $ 400, and labor, $ 210.

1. Calculate the amount of the estimated product warranty payable.
2. Prepare the entry to record the estimated product warranty payable on 2009 December 31.
3. Prepare the entry to record the repairs made on 2010 January 8.

## Alternate problems

**Alternate problem C** Beacham Hardware, Inc., sells merchandise in a state that has a 6 per cent sales tax. On 2010 July 1, it sold goods with a sales price of $ 20,000 on credit. Sales taxes collected are recorded in a separate account. Assume that sales for the entire month were $ 400,000. On 2010 July 31, the company remitted the sales taxes collected to the state taxing agency.

1. Prepare the general journal entries to record the July 1 sales revenue and sales tax payable. Also prepare the entry to show the remittance of the taxes on July 31.
2. Now assume that the merchandise sold also is subject to federal excise taxes of 10 per cent in addition to the 6 per cent sales tax. The company remitted the federal excise taxes collected to the proper agency on July 31. Show the entries on July 1 and July 31.

**Alternate problem D** Quick Wheels, Inc., sells racing bicycles and warrants all parts for one year. The average price per bicycle is $ 560, and the company sold 4,000 in 2009. The company expects 20 per cent of the bicycles to develop defective parts within one year of sale. The estimated average cost of warranty repairs per defective bicycle is $ 40. By the end of the year, 500 bicycles sold that year had been returned and repaired under warranty. On 2010 January 2, a customer returned a bicycle purchased in 2009 for repairs under warranty. The repairs were made on January 3. The cost of the repairs included parts, $ 25, and labor, $ 15.

1. Calculate the amount of the estimated product warranty payable.
2. Prepare the entry to record the estimated product warranty payable on 2009 December 31.
3. Prepare the entry to record the repairs made on 2010 January 3.

# UNIT 13: FORMS OF BUSINESS ORGANIZATIONS

## SOLE PROPRIETORSHIPS AND PARTNERSHIPS

As a reminder from Unit 1, for accounting purposes, each business form is separate from other business entities and from its owner(s).

A sole proprietorship is an unincorporated business owned by one single person and often managed by that same person. Sole proprietors include physicians, lawyers, electricians, and other people in business for themselves. Many small service businesses and retail establishments are also sole proprietorships. Some characteristics of a sole proprietorship are:

1. No legal formalities are necessary to organize such businesses, and usually business operations can begin with only a limited investment (called Capital).
2. A sole proprietorship does not pay taxes on profits at the business level but instead pays taxes based on the company's earnings on the owner's personal income tax.
3. The business owner is personally liable for all debts of his or her company. This is called unlimited liability. Creditors can take and use your personal assets to cover the company's outstanding business debt if the company does not have enough money to pay debt.
4. A sole proprietor can take money out of the business any time he or she wants which is recorded in an contra-equity account called Drawing or Withdrawals.

A partnership is an unincorporated business owned by two or more persons associated as partners. Often the same persons who own the business also manage the business. Many small retail establishments and professional practices, such as dentists, physicians, attorneys, and many CPA firms, are partnerships. The characteristics of a partnership include:

1. As with a sole proprietorship, if the company cannot pay its debts the partners personal assets can and will be used to pay off the debt. See how this unlimited liability is even riskier in the case of a partnership. Each partner is personally liable not only for his or her own actions but also for the actions of all the partners. If, through mismanagement by one of your partners, the partnership is forced into bankruptcy, the creditors can go after you for all outstanding debts of the partnership.
2. Another fun one is mutal agency. This means partners can sign contracts on behalf of the company with or without the other partner's knowledge or approval. This makes the unlimited liability part very scary!
3. Partneship agreements can be written or verbal, yes, verbal! Any partner contributions are recorded in their own Capital account.
4. As with a sole proprietorship, the business itself does not pay taxes. Instead, the earnings of the company are divided between the partners using an agreed upon rate and the earnings are taxed on each partner's personal income tax.
5. A partnership has a limited life meaning that when the partners change for any reason, the existing partnership ends and new one must be formed.
6. Partners can take money out of the business when they want. This is recorded in each partner's Withdrawal or Drawing account.

# JOURNAL ENTRIES FOR PARTNERSHIPS

## Investing in a partnership

Partners (or owners) can invest cash or other assets in their business. They can even transfer a note or mortgage to the business if one is associated with an asset the owner is giving the business. Assets contributed to the business are recorded at the fair market value. Anytime a partner invests in the business the partner receives capital or ownership in the partnership. You will have one capital account and one withdrawal (or drawing) account for each partner.

To illustrate, Sam Sun and Ron Rain decided to form a partnership. Sam contributes $100,000 cash to the partnership. Ron is going to give $25,000 cash and an automobile with a market value of $30,000. Ron is also going to transfer the $20,000 note on the automobile to the business. The journal entries would be:

| Account | Debit | Credit |
|---|---|---|
| Cash | 100,000 | |
| S. Sun, Capital | | 100,000 |
| To record cash contribution by owner | | |
| | | |
| Cash | 25,000 | |
| Automobile | 30,000 | |
| Note Payable | | 20,000 |
| R. Rain, Capital (25,000 + 30,000 – 20,000) | | 35,000 |
| To record assets and note contributed by owner | | |

The entries could be separated as illustrated or it could be combined into one entry with a debit to cash for $125,000 ($100,000 from Sam and $25,000 from Ron) and the other debits and credits remaining as illustrated. Either way is acceptable. Since the note will be paid by the partnership, it is recorded as a liability for the partnership and reduces the capital balance of Ron Rain.

Partners can take money out of the business whenever they want. Partners are typically not considered employees of the company and may not get paychecks. When the partners take money out of the business, it is recorded in the Withdrawals or Drawing account. Remember, this is a contra-equity account since the owners are reducing the value of their ownership by taking money out of the company.

To illustrate, Sam Sun wants to go on a beach vacation and decides to take $8,000 out of the business. Ron Rain wants to go to Scotland and will take $15,000 out of the business. The journal entries would be:

| Account | Debit | Credit |
|---|---|---|

| | | |
|---|---|---|
| S. Sun, Withdrawal | 8,000 | |
| Cash | | 8,000 |
| To record cash withdrawn by owner | | |
| | | |
| R. Rain, Withdrawal | 15,000 | |
| Cash | | 15,000 |
| To record cash withdrawn by owner | | |

Just as in the previous example, the entries could also be combined into one entry with the credit to cash $23,000 ($8,000 from Sam + $15,000 from Ron) and the debits as listed above instead.

## Income Allocation

Once net income is calculated from the income statement (revenues – expenses), net income or loss is allocated or divided between the partners and closed to their individual capital accounts. The partners should agree upon an allocation method when they form the partnership. The partners can divide income or loss anyway they want but the 3 most common ways are:

1. **Agreed upon percentages**: Each partner receives a previously agreed upon percentage. For example, Sam Sun will get 60% and Ron Rain will get 40%. To allocate income, net income or loss is multiplied by the percent agreed upon.
2. **Percentage of capital**: Each partner receives a percentage of capital calculated as Partner Capital / Total capital for all partners. Using Sam and Ron, Sam has capital of $100,000 and Ron has capital of $35,000 for a total partnership capital of $135,000 (100,000 + 35,000). Sam's percentage of capital would be 74% (100,000 / 135,000) and Ron's percentage would be 26% (35,000 / 135,000). To allocate income, the percent of capital is multiplied by the net income or loss for the period.
3. **Salaries, Interest, Agreed upon percent**: Since owners are not employees and typically do not get paychecks, they should still be compensated for work they do for the business. In this method, we start with net income and give salaries out to the partners, then we calculate an interest amount based on their investment in the business, and any remainder is allocated using set percentages. This is by far the most confusing so a video example would be helpful.

Watch this video online: https://youtu.be/wODP0UekxhM

Note: The video shows a sharing ratio of 3:1. To use this in calculations, you will add the numbers presented together (3 + 1 = 4) and divide each number of the sharing ratio by this total to get a percentage. The sharing ratio of 3:1 means 75% ( 3/4) and 25% ( 1/4).

The journal entries to close net income or loss and allocate to the partners for each of the scenarios presented in the video would be (*remember, revenues and expenses are closed into income summary first and then net income or loss is closed into the capital accounts)*:

| Account | Debit | Credit |
|---|---|---|
| Income Summary | 70,000 | |
| Partner A, Capital | | 37,500 |
| Partner B, Capital | | 32,500 |
| To record allocation of $70,000 net income to partners. | | |

| | | |
|---|---|---|
| | | |
| Income Summary | 30,000 | |
| Partner A, Capital | | 7,500 |
| Partner B, Capital | | 22,500 |
| To record allocation of $30,000 net income to partners. | | |
| | | |
| Partner A, Capital | 22,500 | |
| Partner B, Capital | | 12,500 |
| Income Summary | | 10,000 |
| To record allocation of $10,000 net LOSS to partners. | | |

If the partners cannot or do not decide how income will be allocated, allocate it equally between the partners (for 4 partners divide net income by 4; for 3 partners divide net income by 3, etc.).

## Liquidation of a Partnership

Sometimes things do not go as well as planned in a business and it may be necessary to go out of business. When a partnership goes out of business, the following items must be completed:

- All closing entries should be completed including allocating any net income or loss to the partners.
- Any non-cash assets should be sold for cash and any gain or loss from the sale would be allocated to the partners.
- Any liabilities should be paid.
- Any remaining cash is allocated to the partners based on the capital balance in each partner's account (note: this is not an allocated figure but the actual capital balance for each partner after the other transactions).

Here is a good (but long) video demonstrating the liquidation process and the journal entries required.

Watch this video online: https://youtu.be/rqFHf2uB6og



# CHANGES TO THE PARTNERS

## Partner Withdrawal

In your partnership, you may decide to add new partners. Or, you may decide you or one of your partners need to leave the partnership. Worst case scenario is the death of one of your partners. What do you do?

For withdrawal of a partnership, either from death or choice, there are a several scenarios:

1. The individual partners pay, with their own cash and not the partnership cash, the leaving partner for a share of the leaving partner's capital account.
2. The partnership pays the leaving partner for the value of his or her capital account + a cash bonus.
3. The leaving partner pays a bonus to the remaining partners by not taking the full amount of the his or her capital balance. Any remaining balance would be allocated between the remaining partners.

This video will demonstrate the process for both scenarios and the journal entries for the first scenario.

Watch this video online: https://youtu.be/I92UrTGT6gQ

When a bonus is paid to the retiring partner using partnership cash, the capital account of the retiring partner is debited and any bonus amount is allocated to the remaining partner accounts according to their agreed upon profit and loss sharing percentages.

In the video, a partner was leaving and received a $2,000 bonus or $12,000 total cash from the partnership since his capital balance was $10,000 (let's call him S. Leavy). Two partners remain (we will call them I. Staying and M. Too) and share profits equally. The journal entry to withdrawal of S. Leavy from the partnership is:

| Account | Debit | Credit |
|---|---|---|
| S. Leavy, Capital | 10,000 | |
| I. Staying, Capital ($2000 bonus / 2) | 1,000 | |
| M. Too, Capital ($2000 bonus / 2) | 1,000 | |
| Cash | | 12,000 |
| To record bonus paid to retiring partner (S.Leavy) | | |

The last scenario in the video, a partner was leaving but decided not to take the full amount of his capital balance. S. Leavy had a capital balance of $12,000 and wants to leave the partnership by receiving $8,000 cash. Two partners remain (we will call them I. Staying and M. Too) and share profits equally. The journal entry to withdrawal of S. Leavy from the partnership is:

| Account | Debit | Credit |
|---|---|---|
| S. Leavy, Capital | 12,000 | |
| Cash | | 8,000 |
| I. Staying, Capital ($4000 bonus / 2) | | 2,000 |
| M. Too, Capital ($4000 bonus / 2) | | 2,000 |
| To record bonus paid by retiring partner (S.Leavy) | | |

## Partner Admission

A partner can be added to an existing partnership in four ways, including:

1. New partner can purchase part of the interest of another partner.
2. New partner can invest cash or other assets in the business.
3. New partner can pay a bonus to existing partners by paying more than interest percentage received.
4. New partner can receive a bonus from partnership by paying less than the interest percentage received.

We will look at each one individually including journal entries and effect on owner's capital.

1. New partner can purchase part of the interest of another partner.

Sam Sun and Roni Rain are partners. Sam has a capital balance of $100,000 and Roni $90,000. Chloe Cloud wants to join the partnership. Roni Rain has agreed to sell Chloe 1/3 of her interest in the partnership for $40,000 cash. The cash will be paid directly to Roni and not to the partnership. This will not change total partnership equity but instead 1/3 of Roni Rain's capital balance will be transferred to Chloe Cloud in the following entry:

| | Debit | Credit |
|---|---|---|
| R. Rain, Capital | 30,000 | |
| C. Cloud, Capital | | 30,000 |
| To record admittance of C. Cloud. | | |

Total partnership equity remains at $190,000 with Sam Sun having $100,000, Roni Rain $60,000 (90,000 original – 30,000 to Chloe), Chloe Cloud $30,000.

2. New partner can invest cash or other assets in the business.

In this scenario, the new partner will provide cash or other assets directly to the partnership to become an owner. Since the partnership is receiving the cash or other assets, we will record those at fair market values and there will be no change to the existing partners.

Chloe Cloud invests $50,000 cash to be come a new partner with Sam Sun and Roni Rain. Since the cash is received by the partnership, we will record this and give Chloe cloud her capital balance. The entry to record this would be:

| | Debit | Credit |
|---|---|---|
| Cash | 50,000 | |
| C. Cloud, Capital | | 50,000 |
| To record admittance of C. Cloud for cash. | | |

Assuming the same beginning facts as example 1, the new partnership equity would be $240,000 (Sam Sun $100,000; Roni Rain $90,000; Chloe Cloud $50,000).

3. New partner can pay a bonus to existing partners by paying more than interest percentage received. This occurs when the partnership has a current market value greater than the current partner's equity.

Assume Sun and Rain partnership equity is $190,000 total. Chloe Cloud will pay the partnership $85,000 cash to get a 30% interest in the business. First, we need to calculate the new value of the partnership. The new value will be existing capital $190,000 + $85,000 new partner cash for $275,000. Second, we calculate the value of a 30% interest by multiplying new capital total by 30 % (275,000 x 30% = $82,500). Third, we compare the cash paid by new partner $85,000 – to value of 30% interest $82,500 to get the bonus to the other partners of $2,500. Finally, we will divide the bonus between the partners using profit and loss sharing agreements but for ease let us assume it is divided equally ($2,500 / 2 partners = $1,250 each). We will increase each of the old partner's capital accounts by the bonus amount. The journal entry would be:

| | Debit | Credit |
|---|---|---|
| Cash (paid by Cloud) | 85,000 | |
| C. Cloud, Capital (30% interest) | | 82,500 |

| | | |
|---|---|---|
| S. Sun, Capital ($2,500 bonus / 2) | | 1,250 |
| R. Rain, Capital ($2,500 bonus / 2) | | 1,250 |
| To record admission and bonus to C. Cloud | | |

The new partnership equity would be $275,000 with Cloud added and Sun and Rain will have increased their capital by $1,250 each. Capital balances are: Sun $101,250; Rain $91,250; and Cloud $82,500.

4. New partner can receive a bonus from partnership by paying less than the interest percentage received. This can occur when the new partner has a special skill or expertise needed by the partnership or the partnership just needs the cash!

Assume Sun and Rain partnership equity is $190,000 total. Chloe Cloud will pay the partnership $42,000 cash to get a 20% interest in the business. First, we need to calculate the new value of the partnership. The new value will be existing capital $190,000 + $42,000 new partner cash for $232,000. Second, we calculate the value of a 20% interest by multiplying new capital total by 20 % (232,000 x 20% = $46,400). Third, we compare the value of the 20% interest $46,400 – cash paid by new partner $42,000to get the bonus to the new partner of $4,400. Finally, we will divide the bonus between the partners using profit and loss sharing agreements but for ease let us assume it is divided equally ($4,400/ 2 partners = $2,200 each). This bonus would reduce each of the old partner's capital balances. The journal entry would be:

| | Debit | Credit |
|---|---|---|
| Cash (paid by Cloud) | 42,000 | |
| S. Sun, Capital ($4,400 / 2) | 2,200 | |
| R. Rain, Capital ($4,400 / 2) | 2,200 | |
| C. Cloud, Capital | | 82,500 |
| To record admission and bonus to C. Cloud | | |

The new partnership equity would be $232,000 with Cloud added but Sun and Rain decreased their capital by $2,200 each. Capital balances are: Sun $97,800; Rain $87,800; and Cloud $46,400.



# CORPORATIONS

### The corporation

A corporation is an entity recognized by law as possessing an existence separate and distinct from its owners; that is, it is a separate legal entity. Endowed with many of the rights and obligations possessed by a person, a corporation can enter into contracts in its own name; buy, sell, or hold property; borrow money; hire and fire employees; and sue and be sued. Let's look at a video to learn about the difference in partnerships and corporations.

Watch this video online: https://youtu.be/5BsOF1uJZnQ

Corporations have a remarkable ability to obtain the huge amounts of capital necessary for large-scale business operations. Corporations acquire their capital by issuing shares of stock; these are the units into which corporations divide their ownership. Investors buy shares of stock in a corporation for two basic reasons. First, investors expect the value of their shares to increase over time so that the stock may be sold in the future at a profit. Second, while investors hold stock, they expect the corporation to pay them dividends (usually in cash) in return for using their money.

### Advantages of the corporate form of business

Corporations have many advantages over sole proprietorships and partnerships. The major advantages a corporation has over a sole proprietorship are the same advantages a partnership has over a sole proprietorship. Although corporations may have more owners than partnerships, both have a broader base for investment, risk, responsibilities, and talent than do sole proprietorships. Since corporations are more comparable to partnerships than to sole proprietorships, the following discussion of advantages contrasts the partnership with the corporation.

- Easy transfer of ownership. In a partnership, a partner cannot transfer ownership in the business to another person if the other partners do not want the new person involved in the partnership. In a publicly held (owned by many stockholders) corporation, shares of stock are traded on a stock exchange between unknown parties; one owner usually cannot dictate to whom another owner can or cannot sell shares.
- Limited liability. Each partner in a partnership is personally responsible for all the debts of the business. In a corporation, the stockholders are not personally responsible for its debts; the maximum amount a stockholder can lose is the amount of his or her investment.
- Continuous existence of the entity. In a partnership, many circumstances, such as the death of a partner, can terminate the business entity. These same circumstances have no effect on a corporation because it is a legal entity, separate and distinct from its owners.
- Easy capital generation. The easy transfer of ownership and the limited liability of stockholders are attractive features to potential investors. Thus, it is relatively easy for a corporation to raise capital by issuing shares of stock to many investors. Corporations with thousands of stockholders are not uncommon.
- Professional management. Generally, the partners in a partnership are also the managers of that business, regardless of whether they have the necessary expertise to manage a business. In a publicly held corporation, most of the owners (stockholders) do not participate in the day-to-day operations and management of the entity. They hire professionals to run the business on a daily basis.
- Separation of owners and entity (no mutual agency). Since the corporation is a separate legal entity, the owners do not have the power to bind the corporation to business contracts. This feature eliminates the potential problem of mutual agency that exists between partners in a partnership. In a corporation, one stockholder cannot jeopardize other stockholders through poor decision making.

The corporate form of business has the following disadvantages:

- Double taxation. Because a corporation is a separate legal entity, its net income is subject to double taxation. The corporation pays a tax on its income, and stockholders pay a tax on corporate income received as dividends.
- Government regulation. Because corporations are created by law, they are subject to greater regulation and control than single proprietorships and partnerships.

Corporations are chartered by the state. Each state has a corporation act that permits the formation of corporations by qualified persons. Incorporators are persons seeking to bring a corporation into existence. Most state corporation laws require a minimum of three incorporators, each of whom must be of legal age, and a majority of whom must be citizens of the United States.

The laws of each state view a corporation organized in that state as a domestic corporation and a corporation organized in any other state as a foreign corporation. If a corporation intends to conduct business solely within one state, it normally seeks incorporation in that state because most state laws are not as severe for domestic corporations as for foreign corporations. Corporations conducting interstate business usually incorporate in the state that has laws most advantageous to the corporation being formed. Important considerations in choosing a state are the powers granted to the corporation, the taxes levied, the defenses permitted against hostile takeover attempts by others, and the reports required by the state.

Once incorporators agree on the state in which to incorporate, they apply for a corporate charter. A **corporate charter** is a contract between the state and the incorporators, and their successors, granting the corporation its legal existence. The application for the corporation's charter is called the **articles of incorporation**.

After supplying the information requested in the incorporation application form, incorporators file the articles with the proper office in the state of incorporation. Each state requires different information in the articles of incorporation, but most states ask for the following:

- Name of corporation.
- Location of principal offices.
- Purposes of business.
- Number of shares of stock authorized, class or classes of shares, and voting and dividend rights of each class of shares.
- Value of assets paid in by the incorporators (the stockholders who organize the corporation).
- Limitations on authority of the management and owners of the corporation.

On approving the articles, the state office (frequently the secretary of state's office) grants the charter and creates the corporation.

As soon as the corporation obtains the charter, it is authorized to operate its business. The incorporators call the first meeting of the stockholders. Two of the purposes of this meeting are to elect a board of directors and to adopt the bylaws of the corporation.

The **bylaws** are a set of rules or regulations adopted by the board of directors of a corporation to govern the conduct of corporate affairs. The bylaws must be in agreement with the laws of the state and the policies and purposes in the corporate charter. The bylaws contain, along with other information, provisions for: (1) the place, date, and manner of calling the annual stockholders' meeting; (2) the number of directors and the method for electing them; (3) the duties and powers of the directors; and (4) the method for selecting officers of the corporation.

**Organization costs** are the costs of organizing a corporation, such as state incorporation fees and legal fees applicable to incorporation. The firm debits these costs to an account called Organization Costs. The Organization Costs account is an asset because the costs yield benefits over the life of the corporation; if the fees had not been paid, no corporate entity would exist. Since the account is classified on the balance sheet as an intangible asset, it is amortized over its finite useful life. Most organizations write off these costs fairly rapidly because they are small in amount.

As an illustration, assume that De-Leed Corporation pays state incorporation fees of $10,000 and attorney's fees of $ 5,000 for services rendered related to the acquisition of a charter with the state. The entry to record these costs is:

| | Debit | Credit |
|---|---|---|
| Organization Costs | 15,000 | |
| Cash | | 15,000 |
| To record costs incurred in organizing corporation. | | |

Assuming the corporation amortizes the organization costs over a 10-year period, this entry records amortization at the end of the year:

| | Debit | Credit |
|---|---|---|
| Amortization Expense—Organization Costs | 1,500 | |
| Organization Costs | | 1,500 |

| | | |
|---|---|---|
| To record organization costs amortization expense. | | |
| (15,000/10 years = $1,500). | | |

Management of the corporation is through the delegation of authority from the stockholders to the directors to the officers. The stockholders elect the board of directors. The board of directors formulates the broad policies of the company and selects the principal officers, who execute the policies.

Watch the quick video on the Corporate Structure:

Watch this video online: https://youtu.be/wtMORWO5h9Y

**Stockholders** Stockholders are the owners of the corporation. You become an owner by receiving shares of stock in the company. Stockholders do not have the right to participate actively in the management of the business unless they serve as directors and/or officers. However, stockholders do have certain basic rights, including the right to (1) dispose of their shares, (2) buy additional newly issued shares in a proportion equal to the percentage of shares they already own (called the **preemptive right),** (3) share in dividends when declared, (4) share in assets in case of liquidation, and (5) participate in management indirectly by voting at the stockholders' meeting (one vote for every share of stock).

Normally, companies hold stockholders' meetings annually. At the annual stockholders' meeting, stockholders vote on such issues as changing the charter, increasing the number of authorized shares of stock to be issued, approving pension plans, selecting the independent auditor, and other related matters. Stockholders who do not personally attend the stockholders' meeting may vote by proxy. A **proxy** is a legal document signed by a stockholder, giving a designated person the authority to vote the stockholder's shares at a stockholders' meeting.

**Board of directors** Elected by the stockholders, the **board of directors** is primarily responsible for formulating policies for the corporation. The board appoints administrative officers and delegates to them the execution of the policies established by the board. The board's more specific duties include: (1) authorizing contracts, (2) declaring dividends, (3) establishing executive salaries, and (4) granting authorization to borrow money. The decisions of the board are recorded in the minutes of its meetings. The minutes are an important source of information to an independent auditor, since they may serve as notice to record transactions (such as a dividend declaration) or to identify certain future transactions (such as a large loan).

**Corporate officers** A corporation's bylaws usually specify the titles and duties of the officers of a corporation. The number of officers and their exact titles vary from corporation to corporation, but most have a president, several vice presidents, a secretary, a treasurer, and a controller.

The president is the chief executive officer (CEO) of the corporation. He or she is empowered by the bylaws to hire all necessary employees except those appointed by the board of directors.

Most corporations have more than one vice president. Each vice president is responsible for one particular corporate operation, such as sales, engineering, or production. The corporate secretary maintains the official records of the company and records the proceedings of meetings of stockholders and directors. The treasurer is accountable for corporate funds and may supervise the accounting function within the company. A controller carries out the accounting function. The controller usually reports to the treasurer of the corporation.

# COMMON AND PREFERRED STOCK

All corporations have common stock. Common stock provides the following rights to shareholders:

- sell or transfer any of their shares
- buy additional newly issued shares in a proportion equal to the percentage of shares they already own (called the **preemptive right),**
- receive a dividend when declared,
- receive a portion of any money left over after paying all debts in a liquidation, and
- one vote for every share of stock.

It is important to note that shareholders cannot take money out of the business whenever they want like owners could in a sole proprietorship or partnership. Shareholders receive earnings of the company in the form of dividends which must be declared by the board of directors.

There is some terminology we need to get familiar with for stock. These include:

- **Authorized shares**: Authorized share are the total number of shares we are allowed to sell as specified in the corporate charter.
- **Issued shares:** Issued shares are the total number of share we have given out to shareholders.
- **Outstanding shares**: Outstanding shares are the total number of shares currently held by shareholders. Issues and outstanding shares will be different if the company has treasury stock, which we will discuss later.
- **Par value**: Random value assigned to each share of stock **in the corporate charter.**
- **No par value:** A par value was not assigned to each share of stock in the corporate charter.
- **Stated value:** No par value stock (meaning no value was assigned to stock in the charter) but the board of directors voted and determined a value for each share of stock.
- **Market value**: Current value of a share of stock as determined by the stock exchange.

All corporations have common stock. Another type of stock some corporations may have is **preferred stock.** Preferred stock has the same rights and terminology associated with common stock with a few differences. Preferred stock is guaranteed a specific amount or rate of dividends each year when dividends are declared. Preferred stockholders may give up their right to vote.

Watch this video online: https://youtu.be/oVVt6P2q-6c

**Types of preferred stock**

When a corporation issues both preferred and common stock, the preferred stock may be:

- **Noncumulative preferred stock** is preferred stock on which the right to receive a dividend expires whenever the dividend is not declared. This means that if the company does not declare dividends this year they do not have to pay preferred shareholders the guaranteed dividend amount.
- **Cumulative preferred stock** is preferred stock for which the right to receive a basic dividend accumulates if the dividend is not paid. Companies must pay unpaid cumulative preferred dividends before paying any dividends on the common stock. This means if the company does not declare dividends this year, the amount owed from this year will rollover to next year. Preferred shareholders must receive all dividends owed before common shareholders can get a dividend.
- **Convertible preferred stock** is preferred stock that is convertible into common stock of the issuing corporation. Many preferred stocks do not carry this special feature; they are nonconvertible. Holders of convertible preferred stock shares may exchange them, at their option, for a certain number of shares of common stock of the same corporation.
- **Callable preferred stock** means that the corporation can inform nonconvertible preferred stockholders that they must surrender their stock to the company. Also, convertible preferred stockholders must either surrender their stock or convert it to common shares. Most preferred stocks are callable at the option of the issuing corporation. Preferred shares are usually callable at par value plus a small premium of 3 or 4

% of the par value of the stock. This **call premium** is the difference between the amount at which a corporation calls its preferred stock for redemption and the par value of the preferred stock.

Why would a corporation call in its preferred stock? Corporations call in preferred stock for many reasons: (1) the outstanding preferred stock may require a 12 per cent annual dividend at a time when the company can secure capital to retire the stock by issuing a new 8 per cent preferred stock; (2) the issuing company may have been sufficiently profitable to retire the preferred stock out of earnings; or (3) the company may wish to force conversion of its convertible preferred stock because the cash dividend on the equivalent common shares is less than the dividend on the preferred shares.

We will discuss how noncumulative and cumulative preferred stock affects cash dividends in the next unit.



# JOURNAL ENTRIES TO ISSUE STOCK

## Stock issuances

Each share of common or preferred capital stock either has a par value or lacks one. The corporation's charter determines the par value printed on the stock certificates issued. Par value may be any amount—1 cent, 10 cents, 16 cents, $ 1, $5, or $100. Low par values of $10 or less are common in our economy.

Par value gives no clue as to the stock's market value. Shares with a par value of $5 have traded (sold) in the market for more than $600, and many $100 par value preferred stocks have traded for considerably less than par. Par value is not even a reliable indicator of the price at which shares can be issued. New corporations can issue shares at prices well in excess of par value or for less than par value if state laws permit. Par value gives the accountant a constant amount at which to record capital stock issuances in the capital stock accounts. As stated earlier, the total par value of all issued shares is generally the legal capital of the corporation.

To record the issue of common (or preferred) stock, you will:

| | | |
|---|---|---|
| **Debit** | Cash or other item received | (shares issued x price paid per share) or market value of item received |
| **Credit** | Common (or Preferred) Stock | (shares issued x PAR value) |
| **Credit** | Paid in capital in excess of par value, common (or preferred) stock | (difference between value received and par value of stock) |

Keep in mind your journal entry must always **balance** (total debits must equal total credits). What happens if we don't have a par value? Watch this video to demonstrate par and no-par value transactions. Notice how the accounting is the same for common and preferred stock. After the video, we will look at some more examples.

Watch this video online: https://youtu.be/PvAVHdQ6ctk

To illustrate the issuance of stock for cash, assume a company issues 10,000 shares of $20 par value common stock at $22 per share. The following entry records the issuance:

| | Debit | Credit |
|---|---|---|
| Cash (10,000 shares x $22 per share) | 220,000 | |
| Common Stock, $20 par (10,000 shares x $20 par per share) | | 200,000 |
| Paid-In Capital in Excess of Par Value—Common (220,000 cash – 200,000 par) | | 20,000 |
| To record the issuance of 10,000 shares of stock for cash. | | |

Notice that the credit to the Common Stock account is the par value times the number of shares issued. The accountant credits the excess over par value ($20,000) to Paid-In Capital in Excess of Par Value; it is part of the paid-in capital contributed by the stockholders. Thus, paid-in capital in excess of par (or stated) value represents capital contributed to a corporation in addition to that assigned to the shares issued and recorded in capital stock accounts. The paid-in capital section of the balance sheet appears as follows:

| | |
|---|---|
| Paid-in capital: | |
| Common stock—par value, $20; 10,000 shares | |
| authorized, issued and outstanding | $ 200,000 |
| Paid-in capital in excess of par value—common | 20,000 |
| Total paid-in capital | $ 220,000 |

When it issues no-par stock with a stated value, a company carries the shares in the capital stock account at the stated value. Any amounts received in excess of the stated value per share represent a part of the paid-in capital of the corporation and the company credits them to Paid-In Capital in Excess of Stated Value. The legal capital of a corporation issuing no-par shares with a stated value is usually equal to the total stated value of the shares issued.

To illustrate, assume that the DeWitt Corporation, which is authorized to issue 10,000 shares of common stock without par value, assigns a stated value of $20 per share to its stock. DeWitt issues the 10,000 shares for cash at $ 23 per share. The entry to record this transaction is:

| | Debit | Credit |
|---|---|---|
| Cash (10,000 shares x $23 per share) | 230,000 | |
| Common Stock, $20 stated value (10,000 shares x $20 stated value per share) | | 200,000 |
| Paid-In Capital in Excess of Stated Value—Common (230,000 cash – 200,000 stated) | | 30,000 |
| To record issuance of 10,000 shares of stock for cash. | | |

DeWitt carries the $ 30,000 received over and above the stated value of $200,000 permanently as paid-in capital because it is a part of the capital originally contributed by the stockholders. However, the legal capital of the DeWitt Corporation is $200,000.

A corporation that issues no-par stock without a stated value credits the entire amount received to the capital stock account. For instance, consider the DeWitt Corporation's issuance 10,000 shares of no-par stock for $250,000. If no stated value had been assigned, the entry would have been as follows:

| | Debit | Credit |
|---|---|---|
| Cash | 250,000 | |
| Common Stock, no par | | 250,000 |
| To record issuance of 10,000 shares for cash. | | |

Since the company may issue shares at different times and at differing amounts, its credits to the capital stock account are not uniform amounts per share. This contrasts with issuing par value shares or shares with a stated value. The actual capital contributed by stockholders is $250,000. In some states, the entire amount received for shares without par or stated value is the amount of legal capital. The legal capital in this example would then be equal to $ 250,000.

As you saw in the video, stock can be issued for cash or for other assets. When issuing capital stock for property or services, companies must determine the dollar amount of the exchange. Accountants generally record the transaction at the fair value of (1) the property or services received or (2) the stock issued, whichever is more clearly evident.

To illustrate, assume that the owners of a tract of land deeded it to a corporation in exchange for 1,000 shares of $12 par value common stock. The land had a market value of $14,000. The required entry is:

| | Debit | Credit |
|---|---|---|
| Land (use market value) | 14,000 | |
| Common Stock, $12 par (1,000 shares x $12 par) | | 12,000 |
| Paid-In Capital in Excess of Par Value—Common (14,000 market value – 12,000 par) | | 2,000 |
| To record the receipt of land for capital stock. | | |

As another example, assume a firm issues 100 shares of preferred stock with a par value of $40 per share in exchange for legal services received in organizing as a corporation. The attorney previously agreed to a price of $5,000 for these legal services but decided to accept stock in lieu of cash. In this example, the correct entry is:

| | Debit | Credit |
|---|---|---|
| Organization Costs (use agreed upon price) | 5,000 | |
| Preferred Stock, $40 par (100 shares x $40 par) | | 4,000 |
| Paid-In Capital in Excess of Par Value—Preferred (5,000 price – 4,000 par) | | 1,000 |
| To record the receipt of legal services for capital stock. | | |

# TREASURY STOCK

## Treasury stock

Treasury stock is the corporation's own capital stock that it has issued and then reacquired; this stock has not been canceled and is legally available for reissuance. Because it has been issued, we cannot classify treasury stock as unissued stock.  Instead, treasury stock reduces shares outstanding but does not change shares issued.

A corporation may reacquire its own capital stock as treasury stock to: (1) cancel and retire the stock; (2) reissue the stock later at a higher price; (3) reduce the shares outstanding and thereby increase earnings per share; or (4) issue the stock to employees. If the intent of reacquisition is cancellation and retirement, the treasury shares exist only until they are retired and canceled by a formal reduction of corporate capital.

For dividend or voting purposes, most state laws consider treasury stock as issued but not outstanding, since the shares are no longer in the possession of stockholders. Also, accountants do not consider treasury shares outstanding in calculating earnings per share.

When firms reacquire treasury stock, they record the stock at cost as a debit in a stockholders' equity account called Treasury Stock.[3] They credit reissuances to the Treasury Stock account at the original cost of paid to reaquire the stock (not the par or stated value). Thus, the Treasury Stock account is debited at cost when shares are acquired and credited at cost when these shares are sold. Any excess of the reissue price over cost represents additional paid-in capital and is credited to **Paid-In Capital—Common (Preferred) Treasury Stock.**

Watch this video online: https://youtu.be/MusfMph9xEQ

To further illustrate, assume that on February 18, the Hillside Corporation reacquired 100 shares of its outstanding common stock for $55 each. On April 18, the company reissued 30 shares of its treasury stock for  $58 each. The entries to record these events are:

| | Account | Debit | Credit |
|---|---|---|---|
| Feb 18 | Treasury stock – Common (100 shares x $55) | 5,500 | |
| | Cash | | 5,500 |
| | Acquired 100 shares of treasury stock at $55. | | |
| | | | |
| Apr. 18 | Cash (30 shares x $58) | 1,740 | |
| | Treasury stock – Common (30 shares x $55) | | 1,650 |
| | Paid-In Capital – treasury stock (1,740 price received – 1,650 our cost) | | 90 |
| | Reissued 30 shares of treasury stock at $58; cost is $55 per share. | | |

When the reissue price of subsequent shares is less than the acquisition price, firms debit the difference between cost and reissue price to Paid-In Capital — Treasury Stock. This account, however, never develops a debit balance. By definition, no paid-in capital account can have a debit balance. If Hillside reissued an additional 20 shares at  $52 per share on  June 12, the entry would be:

| | Account | Debit | Credit |
|---|---|---|---|

| | | | |
|---|---|---|---|
| Jun 12 | Cash (20 shares x $52) | 1,040 | |
| | Paid-In Capital – Treasury stock (1,100 our cost – 1,040 received) | 60 | |
| | Treasury stock – Common (20 shares x $55) | | 1,100 |
| | Reissued 20 shares of treasury stock at $52; cost is $55 per share. | | |

At this point, the credit balance in the Paid-In Capital—Common Treasury Stock Transactions account would be $30 ($90 credit from Apr 18 – $60 debit from Jun 12) . If the remaining 50 shares are reissued on July 16, for $53 per share, the entry would be:

| | Account | Debit | Credit |
|---|---|---|---|
| Jul 16 | Cash (50 shares x $53 price received) | 2,650 | |
| | Paid-In Capital – Treasury Stock ($30 balance remaining) | 30 | |
| | Retained earnings (to balance entry $2,750 cost – $2,650 cash – $30 paid in capital balance) | 70 | |
| | Treasury stock – Common (50 shares x $55 cost) | | 2,750 |
| | Reissued 50 shares of treasury stock at $53; cost is $55 per share. | | |

Notice that Hillside has exhausted the Paid-In Capital—Common Treasury Stock Transactions account credit balance. If more than $30 is debited to that account, it would develop a debit balance. Thus, the remaining $70 of the excess of cost over reissue price is a special distribution to the stockholders involved and is debited to the Retained Earnings account.

When treasury stock is shown on a balance sheet date, it customarily appears at cost, as a deduction from the sum of total paid-in capital and retained earnings.



# THE STOCKHOLDER'S EQUITY SECTION OF THE BALANCE SHEET

To summarize and review this unit, we will look at how each item is reported in the Stockholder's Equity section of the balance sheet.

Watch this video online: https://youtu.be/AP_aXM8sMfc

The video explains we have 3 sections in stockholder's equity:

- Paid in Capital: includes common stock, preferred stock, and any Paid in Capital accounts including Paid in Capital for treasury stock.
- Retained Earnings: comes from the Statement of Retained Earnings financial statement
- Treasury Stock: reports the cost we paid for Treasury Stock and this reduces total equity

When we report Common or Preferred stock, we also must include the details in the accounts including par, no-par or stated value and shares authorized, issued and outstanding. Let's look at a real company example.

## What does Kohl's 2015 Form 10-K communicate about its stockholders' equity?


Kohl's Corporation (KSS) operates department stores in 49 states in the U.S. and has annual sales in excess of $18 billion. Its fiscal year ends on the Saturday closest to January 31 each year.

Kohl's has several line items comprising its stockholders' equity. See the excerpts to follow from Kohl's 2015 Form 10-K: its Consolidated Balance Sheets, an enlarged partial Consolidated Balance Sheet (page F-3), its Consolidated Statements of Changes in Shareholders' Equity (page F-5), and a section from its Notes to Financial Statements (page F-8).

Financial Statements

***Kohl's Corporation Consolidated Balance Sheets from p. F-3 of Form 10-K as of January 31, 2015:***

**KOHL'S CORPORATION**
**CONSOLIDATED BALANCE SHEETS**
**(Dollars In Millions)**

| | January 31, 2015 | | February 1, 2014 | |
|---|---|---|---|---|
| **Assets** | | | | |
| Current assets: | | | | |
| Cash and cash equivalents | $ | 1,407 | $ | 971 |
| Merchandise inventories | | 3,814 | | 3,874 |
| Deferred income taxes | | 116 | | 142 |
| Other | | 361 | | 327 |
| Total current assets | | 5,698 | | 5,314 |
| Property and equipment, net | | 8,515 | | 8,745 |
| Other assets | | 218 | | 298 |
| Total assets | $ | 14,431 | $ | 14,357 |
| **Liabilities and Shareholders' Equity** | | | | |
| Current liabilities: | | | | |
| Accounts payable | $ | 1,511 | $ | 1,365 |
| Accrued liabilities | | 1,160 | | 1,138 |
| Income taxes payable | | 78 | | 116 |
| Current portion of capital lease and financing obligations | | 110 | | 139 |
| Total current liabilities | | 2,859 | | 2,758 |
| Long-term debt | | 2,793 | | 2,792 |
| Capital lease and financing obligations | | 1,858 | | 1,930 |
| Deferred income taxes | | 368 | | 339 |
| Other long-term liabilities | | 562 | | 560 |
| Shareholders' equity: | | | | |
| Common stock - 367 and 364 million shares issued | | 4 | | 4 |
| Paid-in capital | | 2,743 | | 2,598 |
| Treasury stock, at cost, 166 and 153 million shares | | (8,744) | | (8,052) |
| Accumulated other comprehensive loss | | (20) | | (34) |
| Retained earnings | | 12,008 | | 11,462 |
| Total shareholders' equity | | 5,991 | | 5,978 |
| Total liabilities and shareholders' equity | $ | 14,431 | $ | 14,357 |

See accompanying Notes to Consolidated Financial Statements

F-3

***Kohl's Corporation Consolidated Balance Sheets from p. F-3 of Form 10-K as of January 31, 2015 (enlarged Shareholders' Equity section):***

| | | | | |
|---|---|---|---|---|
| Shareholders' equity: | | | | |
| Common stock - 367 and 364 million shares issued | | 4 | | 4 |
| Paid-in capital | | 2,743 | | 2,598 |
| Treasury stock, at cost, 166 and 153 million shares | | (8,744) | | (8,052) |
| Accumulated other comprehensive loss | | (20) | | (34) |
| Retained earnings | | 12,008 | | 11,462 |
| Total shareholders' equity | | 5,991 | | 5,978 |
| Total liabilities and shareholders' equity | $ | 14,431 | $ | 14,357 |

***Kohl's Corporation Consolidated Statements of Changes in Shareholders' Equity from p. F-5 of Form 10-K as of January 31, 2015:***

**KOHL'S CORPORATION**
**CONSOLIDATED STATEMENTS OF CHANGES IN SHAREHOLDERS' EQUITY**
**(In Millions, Except per Share Data)**

| | Common Stock | | Paid-In | Treasury Stock | | Accumulated Other Comprehensive | Retained | |
|---|---|---|---|---|---|---|---|---|
| | Shares | Amount | Capital | Shares | Amount | Loss | Earnings | Total |
| Balance at January 28, 2012 | 358 | $ 4 | $ 2,339 | (111) | $ (5,977) | $ (53) | $ 10,195 | $ 6,508 |
| Comprehensive income | — | — | — | — | — | 8 | 986 | 994 |
| Stock options and awards, net of tax | 2 | — | 115 | — | (9) | — | — | 106 |
| Dividends paid ($1.28 per common share) | — | — | — | — | 3 | — | (303) | (300) |
| Treasury stock purchases | — | — | — | (27) | (1,260) | — | — | (1,260) |
| Balance at February 2, 2013 | 360 | 4 | 2,454 | (138) | (7,243) | (45) | 10,878 | 6,048 |
| Comprehensive income | — | — | — | — | — | 11 | 889 | 900 |
| Stock options and awards, net of tax | 4 | — | 144 | — | (13) | — | — | 131 |
| Dividends paid ($1.40 per common share) | — | — | — | — | 3 | — | (305) | (302) |
| Treasury stock purchases | — | — | — | (15) | (799) | — | — | (799) |
| Balance at February 1, 2014 | 364 | 4 | 2,598 | (153) | (8,052) | (34) | 11,462 | 5,978 |
| Comprehensive income | — | — | — | — | — | 14 | 867 | 881 |
| Stock options and awards, net of tax | 3 | — | 145 | — | (19) | — | — | 126 |
| Dividends paid ($1.56 per common share) | — | — | — | — | 4 | — | (321) | (317) |
| Treasury stock purchases | — | — | — | (13) | (677) | — | — | (677) |
| Balance at January 31, 2015 | 367 | $ 4 | $ 2,743 | (166) | $ (8,744) | $ (20) | $ 12,008 | $ 5,991 |

See accompanying Notes to Consolidated Financial Statements

F-5

***Excerpt from Notes to Financial Statements on p. F-8 of Form 10-K as of January 31, 2015:***

**KOHL'S CORPORATION**
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**

*p. F-8*

**1. Business and Summary of Accounting Policies**

**Business**

As of January 31, 2015, we operated 1,162 department stores in 49 states and a website (www.Kohls.com) that sell moderately-priced private label, exclusive and national brand apparel, footwear, accessories, beauty and home products. Our stores generally carry a consistent merchandise assortment with some differences attributable to regional preferences. Our website includes merchandise which is available in our stores, as well as merchandise which is available only on-line.

Our authorized capital stock consists of 800 million shares of $0.01 par value common stock and 10 million shares of $0.01 par value preferred stock.

## Questions

1. Why would a fiscal year end of "the Saturday closest to January 31 each year" make sense for Kohl's?
2. What types of stock is Kohl's authorized to issue? How many shares of each type are authorized to be issued?
3. Approximately how many shares of common stock had been issued as of January 31, 2015?
4. Approximately how many shares of common stock were outstanding as of January 31, 2015? (Hint: You will need to calculate this number.)
5. Why is treasury stock shown as a negative on the balance sheet?
6. Has Kohl's accumulated earnings to date exceeded its accumulated losses and dividends declared to date? How do you know?



# EXERCISES: UNIT 13

SHORT-ANSWER QUESTIONS, EXERCISES, AND PROBLEMS

➢ Cite the major advantages of the corporate form of business organization and indicate why each is considered an advantage.

➢ What is meant by the statement that corporate income is subject to double taxation? Cite several other disadvantages of the corporate form of organization.

➢ Why is Organization Expense not a good title for the account that records the costs of organizing a corporation? Could you justify leaving the balance of an Organization Costs account intact throughout the life of a corporation?

➢ What are the basic rights associated with a share of capital stock if there is only one class of stock outstanding?

➢ Explain the purpose or function of: (a) the stockholders' ledger, (b) the minutes book, (c) the stock-transfer agent, and (d) the stock registrar.

➢ What are the differences between par value stock and stock with no-par value?

➢ Corporate capital stock is seldom issued for less than par value. Give two reasons why this statement is true.

➢ Explain the terms liquidation value and redemption value.

➢ What are the meanings of the terms stock preferred as to dividends and stock preferred as to assets?

➢ What do the terms cumulative and noncumulative mean in regard to preferred stock?

➢ What are dividends in arrears, and how should they be disclosed in the financial statements?

➢ A corporation has 1,000 shares of 8 per cent, $ 200 par value, cumulative, preferred stock outstanding. Dividends on this stock have not been declared for three years. Is the corporation legally liable to its preferred stockholders for these dividends? How should this fact be shown in the balance sheet, if at all?

➢ Explain why a corporation might issue a preferred stock that is both convertible into common stock and callable.

➢ Explain the nature of the account entitled Paid-In Capital in Excess of Par Value. Under what circumstances is this account credited?

➢ What are the two main elements of stockholders' equity in a corporation? Explain the difference between them.

➢ Name several sources of paid-in capital. Would it suffice to maintain one account called Paid-In Capital for all sources of paid-in capital? Why or why not?

➢ Does accounting for treasury stock resemble accounting for an asset? Is treasury stock an asset? If not, where is it properly shown on a balance sheet?

➢ What are some possible reasons for a corporation to reacquire its own capital stock as treasury stock?

Exercises

Exercise A Kelly Green and Rose Violet form a partnership. Kelly contributes $130,000 cash and Rose contributes equipment worth $20,000 and a building worth $150,000. The building has a mortgage of $70,000 that will now be paid by the partnership. Write the required journal entries for each partner's investment.

Exercise B Partner Z withdraws cash of $25,000 and Partner Y withdraws $18,000. Write the journal entries required to record each partner's withdrawal.

Exercise C Partner Z withdraws cash of $25,000 and Partner Y withdraws $18,000. Write the journal entries required to record each partner's withdrawal.

**Exercise D** Sonny Shade, Roni Rain, and Chloe Cloud form the Stormy Season partnership. Sonny has a capital balance of $200,000; Roni $300,000; and Chloe $600,000. Income and loss allocated based on (1) salaries given to Sonny $70,000, Roni $40,000 and Chloe $20,000; (2) 10% interest based on their capital balances; (3) remainder divided equally. Calculate the amount of net income to be allocated to each partner if net income is $255,000.

**Exercise E** Assume the same facts as in Exercise ? but instead of net income there is a net loss of $45,000. Calculate the amount of net loss to be allocated to each partner and the required journal entry to close income summary.

**Exercise F** Gordon Company issued 10,000 shares of common stock for $ 1,120,000 cash. The common stock has a par value of $ 100 per share. Give the journal entry for the stock issuance.

**Exercise G** Thore Company issued 30,000 shares of $ 20 par value common stock for $ 680,000. What is the journal entry for this transaction? What would the journal entry be if the common stock had no-par or stated value?

**Exercise H** Li & Tu, Inc., needed land for a plant site. It issued 100 shares of $ 480 par value common stock to the incorporators of their corporation in exchange for land, which cost $ 56,000 one year ago. Experienced appraisers recently valued the land at $ 72,000. What journal entry would be appropriate to record the acquisition of the land?

**Exercise I** Smart Corporation owes a trade creditor $ 30,000 on open account which the corporation does not have sufficient cash to pay. The trade creditor suggests that Smart Corporation issue to him 750 shares of the $ 24 par value common stock, which is currently selling on the market at $ 40. Present the entry or entries that should be made on Smart Corporation's books.

**Exercise J** Why would a law firm ever consider accepting stock of a new corporation having a total par value of $ 320,000 as payment in full of a $ 480,000 bill for legal services rendered? If such a transaction occurred, give the journal entry the issuing company would make on its books.

**Exercise K** Kelly Company had outstanding 50,000 shares of $ 20 stated value common stock, all issued at $ 24 per share, and had retained earnings of $ 800,000. The company reacquired 2,000 shares of its stock for cash at book value from the widow of a deceased stockholder.

1. Give the entry to record the reacquisition of the stock.
2. Give the entry to record the subsequent reissuance of this stock at $ 50 per share.
3. Give the entry required if the stock is instead reissued at $ 30 per share and there were no prior treasury stock transactions.

## Problems

**Problem A** LMN Partnership consists of capital balances for Partner L $425,000, Partner M $150,000 and Partner N $325,000. Calculate the amount of net income (or loss) to be allocated to each partner and the required journal entry to close income summary for each independent situation below. Net income for the year is $240,000.

1. Net Income is divided equally
2. Net Income is divided based on a percentage of capital balance
3. Net income is allocated giving salaries of $50,000 to Partner L and $30,000 to Partner N. Each partner receives 10% of their capital balance and any remainder is divided equally.
4. Assume the same facts as 3 above but there is a net loss of $4,000 instead of net income.

**Problem B** The PQ partnership is not going well and the partners have decided to liquidate the business. The partners share income and loss in a ratio of 2:1. The balance sheet for the business is listed below:

| | |
|---|---|
| PQ Company | |
| Balance Sheet | |

| Assets | | Liabilities and Equity | |
|---|---|---|---|
| Cash | 50,000 | Accounts Payable | 500,000 |
| Building | 800,000 | Partner P, Capital | 170,000 |
| | | Partner Q, Capital | 180,000 |
| Total Assets | 850,000 | Total Liab. and Equity | 850,000 |

Prepare the liquidation schedule and all required journal entries for the liquidation assuming the building is sold for $650,000 cash.

**Problem C** The bookkeeper of Hart Company has prepared the following incorrect statement of stockholders' equity for the year ended 2009 December 31:

| | | |
|---|---|---|
| Stockholders' equity: | | |
| Paid-In Capital: | | |
| Preferred stock – 6%, cumulative (8,000 shares) | $1,003,200 | |
| Common stock – 50,000 shares | 2,856,000 | |
| Total paid-in capital | | $3,859,200 |
| Retained earnings | | 1,636,800 |
| Total stockholders' equity | | $5,496,000 |

The authorized stock consists of 12,000 shares of preferred stock with a $ 120 par value and 75,000 shares of common stock, $ 48 par value. The preferred stock was issued on two occasions: (1) 5,000 shares at par, and (2) 3,000 shares at $ 134.40 per share. The 50,000 shares of common stock were issued at $ 62.40 per share. Five thousand shares of treasury common stock were reacquired for $ 264,000. The bookkeeper deducted the cost of the treasury stock from the Common Stock account.

Prepare the correct stockholders' equity section of the balance sheet at 2009 December 31.

**Problem D** On 2008 December 27, Glade Company was authorized to issue 250,000 shares of $ 24 par value common stock. It then completed the following transactions:

2009

Jan. 14 Issued 45,000 shares of common stock at $ 30 per share for cash.

29 Gave the promoters of the corporation 25,000 shares of common stock for their services in organizing the company. The board of directors valued these services at $ 744,000.

19 Exchanged 50,000 shares of common stock for the following assets at the indicated fair market values:

| | |
|---|---|
| Land | $ 216,000 |
| Building | 528,000 |
| Machinery | 720,000 |

1. Prepare general journal entries to record the transactions.
2. Prepare the balance sheet of the company as of 2009 March 1.

**Problem E** In the corporate charter that it received on 2009 May 1, Norris Company was authorized to issue 15,000 shares of common stock. The company issued 1,000 shares immediately for $ 82 per share, cash.

On July 2, the company issued 100 shares of stock to a lawyer to satisfy a $ 8,400 bill for legal services rendered in organizing the corporation.

On July 5, the company issued 1,000 shares to the principal promoter of the corporation in exchange for a patent. Another 200 shares were issued to this same person for costs incurred and services rendered in bringing the corporation into existence. The market value of the stock was $ 84 per share.

1. Set up T-accounts, and post these transactions. Then prepare a balance sheet for the Norris Company as of 2009 July 5, assuming the authorized stock has a par value of $ 75 per share.
2. Repeat part (a) for the stockholders' equity accounts, and prepare the stockholders' equity section of the July 5 balance sheet assuming the stock authorized has no par value but has a $ 30 per share stated value.
3. Repeat part (a) for the stockholders' equity accounts assuming the stock authorized has neither par nor stated value. Prepare the stockholders' equity section of the balance sheet.

**Problem F** On 2009 May 1, Farmington Company received a charter that authorized it to issue:

- 4,000 shares of no-par preferred stock to which a stated value of $ 12 per share is assigned. The stock is entitled to a cumulative dividend of $ 9.60, convertible into two shares of common stock, callable at $ 208, and entitled to $ 200 per share in liquidation.
- 1,500 shares of $ 400 par value, $ 20 cumulative preferred stock, which is callable at $ 420 and entitled to $ 412 in liquidation.
- 60,000 shares of no-par common stock to which a stated value of $ 40 is assigned.

May 1 All of the $ 9.60 cumulative preferred was issued at $ 204 per share, cash.

2 All of the $ 20 cumulative preferred was exchanged for merchandise inventory, land, and buildings valued at $ 128,000, $ 160,000, and $ 425,000, respectively.

3 Cash of $ 15,000 was paid to reimburse promoters for costs incurred for accounting, legal, and printing services. In addition, 1,000 shares of common stock were issued to the promoters for their services. The value of all of the services (including those paid in cash) was $ 55,000.

1. Prepare journal entries for these transactions.
2. Assume that retained earnings were $ 200,000. Prepare the stockholders' equity section of the 2009 May 31, balance sheet.

**Problem G** On 2008 January 2, the King Company received its charter. It issued all of its authorized 3,000 shares of no-par preferred stock at $ 104 and all of its 12,000 authorized shares of no-par common stock at $ 40 per share. The preferred stock has a stated value of $ 50 per share, is entitled to a basic cumulative dividend of $ 6 per share, is callable at $ 106 beginning in 2010, and is entitled to $ 100 per share plus cumulative dividends in the event of liquidation. The common stock has a stated value of $ 10 per share.

On 2009 December 31, the end of the second year of operations, retained earnings were $ 90,000. No dividends have been declared or paid on either class of stock.

Prepare the stockholders' equity section of King Company's 2009 December 31, balance sheet.

**Alternate problems**

**Alternate problem A** The trial balance of Dex Corporation as of 2009 December 31, contains the following selected balances:

| | |
|---|---|
| Notes payable (17%, due 2011 May 1) | $4,000,000 |

| | |
|---|---|
| Allowance for uncollectible accounts | 60,000 |
| Common stock (without par value, $20 stated value; 300,000 shares authorized, issued, and outstanding) | 6,000,000 |
| Retained earnings, unappropriated | 500,000 |
| Dividends payable (in cash, declared December 15 on preferred stock) | 14,000 |
| Appropriation for pending litigation | 600,000 |
| Preferred stock (6%, $200 par value; 3,000 shares authorized, issued, and outstanding) | 600,000 |
| Paid-In Capital – Donations | 400,000 |
| Paid-In Capital in Excess of Par Value – Preferred | 10,000 |

Present the stockholders' equity section of the balance sheet as of 2009 December 31.

**Alternate problem B** On 2009 January 1, Cowling Company was authorized to issue 500,000 shares of $ 5 par value common stock. It then completed the following transactions:

2009

Jan. 14 Issued 90,000 shares of common stock at $ 24 per share for cash.

29 Gave the promoters of the corporation 50,000 shares of common stock for their services in organizing the company. The board of directors valued these services at $ 620,000.

Feb. 19 Exchanged 100,000 shares of common stock for the following assets at the indicated fair market values:

| | |
|---|---|
| Equipment | $ 180,000 |
| Building | 440,000 |
| Land | 600,000 |

1. Prepare general journal entries to record the transactions.
2. Prepare the balance sheet of the company as of 2009 March 1.

**Alternate problem C** On 2009 July 3, Barr Company was authorized to issue 15,000 shares of common stock; 3,000 shares were issued immediately to the incorporators of the company for cash at $ 320 per share. On July 5 of that year, an additional 300 shares were issued to the incorporators for services rendered in organizing the company. The board valued these services at $ 96,000. On 2009 July 6, legal and printing costs of $ 12,000 were paid. These costs related to securing the corporate charter and the stock certificates.

1. Set up T-accounts and post these transactions. Then prepare the balance sheet of the Barr Company as of the close of 2009 July 10, assuming the authorized stock has a $ 160 par value.
2. Repeat (a) for the T-accounts involving stockholders' equity, assuming the stock is no-par stock with a $ 240 stated value. Prepare the stockholders' equity section of the balance sheet.
3. Repeat (a) for the T-accounts involving stockholders' equity, assuming the stock is no-par stock with no stated value. Prepare the stockholders' equity section of the balance sheet.

**Alternate problem D** Tempo Company received its charter on 2009 April 1, authorizing it to issue: (1) 10,000 shares of $ 400 par value, $ 32 cumulative, convertible preferred stock; (2) 10,000 shares of $ 12 cumulative no-par preferred stock having a stated value of $ 20 per share and a liquidation value of $ 100 per share; and (3) 100,000 shares of no-par common stock without a stated value.

On April 2, incorporators of the corporation acquired 50,000 shares of the common stock for cash at $ 80 per share, and 200 shares were issued to an attorney for services rendered in organizing the corporation. On April 3, the company issued all of its authorized shares of $ 32 convertible preferred stock for land valued at $ 1,600,000 and a building valued at $ 4,800,000. The property was subject to a mortgage of $ 2,400,000. On April 8, the company issued 5,000 shares of the $ 12 preferred stock in exchange for a patent valued at $ 1,040,000. On April 10, the company issued 1,000 shares of common stock for cash at $ 80 per share.

1. Prepare general journal entries for these transactions.
2. Prepare the stockholders' equity section of the 2009 April 30, balance sheet. Assume retained earnings were $ 80,000.
3. Assume that each share of the $ 32 convertible preferred stock is convertible into six shares of common stock and that one-half of the preferred is converted on 2009 September 1. Give the required journal entry.

**Alternate problem E** Kane Company issued all of its 5,000 shares of authorized preferred stock on 2008 January 1, at $ 100 per share. The preferred stock is no-par stock, has a stated value of $ 5 per share, is entitled to a cumulative basic preference dividend of $ 6 per share, is callable at $ 110 beginning in 2009, and is entitled to $ 100 per share in liquidation plus cumulative dividends. On this same date, Kane also issued 10,000 authorized shares of no-par common stock with a $ 10 stated value at $ 50 per share.

On 2009 December 31, the end of its second year of operations, the company's retained earnings amounted to $ 160,000. No dividends have been declared or paid on either class of stock since the date of issue.

Prepare the stockholders' equity section of Kane Company's 2009 December 31, balance sheet.

## Beyond the numbers—Critical thinking

**Business decision case A** Rudd Company and Clay Company have extremely stable net income amounts of $ 4,800,000 and $ 3,200,000, respectively. Both companies distribute all their net income as dividends each year. Rudd Company has 100,000 shares of $ 80 par value, 6 per cent preferred stock, and 500,000 shares of $ 8 par value common stock outstanding. Clay Company has 50,000 shares of $ 40 par value, 8 per cent preferred stock, and 400,000 shares of $ 8 par value common stock outstanding. Both preferred stocks are cumulative.

1. Compute the annual dividend per share of preferred stock and per share of common stock for each company.
2. Based solely on the preceding information, which common stock would you predict to have the higher market price per share? Why?
3. Which company's stock would you buy? Why?

**Business decision case B** Jesse Waltrip recently inherited $ 480,000 cash that he wishes to invest in the common stock of either the West Corporation or the East Corporation. Both corporations have manufactured the same types of products for five years. The stockholders' equity sections of the two corporations' latest balance sheets follow:

| | | |
|---|---|---|
| WEST CORPORATION | | |
| Stockholders' equity: | | |
| Paid-in capital: | | |
| Common stock—$125 par value, 30,000 shares | | |
| authorized, issued and outstanding | | $3,750,000 |
| Retained earnings | | 3,450,000 |

| | | |
|---|---|---|
| Total stockholders' equity | | $7,200,000 |
| EAST CORPORATION | | |
| Stockholders' equity: | | |
| Paid-in capital: | | |
| Preferred stock—8%, $500 par value, cumulative 4,000 shares | | |
| authorized, issued and outstanding | $2,000,000 | |
| Common stock—$125 par value, 40,000 shares authorized, | | |
| issued and outstanding | 5,000,000 | $7,000,000 |
| Retained earnings | | 560,000 |
| Total stockholders' equity | | $7,560,000 |

The West Corporation has paid a cash dividend of $ 6 per share each year since its creation; its common stock is currently selling for $ 590 per share. The East Corporation's common stock is currently selling for $ 480 per share. The current year's dividend and three prior years' dividends on the preferred stock are in arrears. The preferred stock has a liquidation value of $ 600 per share.

1. What is the book value per share of the West Corporation common stock and the East Corporation common stock? Is book value the major determinant of market value of the stock?
2. Based solely on the previous information, which investment would you recommend to Waltrip? Why?

Annual report analysis C Determine the 2003 return on average common stockholders' equity for The Limited in the Annual report appendix. Explain in writing why this information is important to managers, investors, and creditors.

Ethics case D Refer to the ethics case concerning Joe Morrison to answer the following questions:

1. Which alternative would benefit the company and its management over the next several years?
2. Which alternative would benefit society?
3. If you were Morrison, which side of the argument would you take?

Group project E In teams of two or three students, examine the annual reports of three companies and calculate each company's return on common shareholders' equity for the most recent two years. At least two years are needed to observe any changes. As a team, decide in which of the three companies you would invest. Appoint a spokesperson for the team to explain to the class which company the team would invest in and why.

Group project F In a team of two or three students, locate the annual reports of three companies that have preferred stock in their stockholders' equity section. Determine the features of the preferred stock. Analyze the data in the annual report to determine whether dividends have been paid on the preferred stock each year. Are there dividends in arrears? Write a report to your instructor summarizing your findings. Also be prepared to make a short presentation to the class.

Group project G In a group of one or two students, contact state officials and/or consult library resources to inquire about the incorporation laws in your state. Determine your state laws regarding the issuance of stock at an amount below par value, how legal capital is determined, and the requirements and government fees for incorporating a company in your state. Write a report to your instructor summarizing the results of your investigation and be prepared to make a short presentation to your class.

Using the Internet—A view of the real world

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Pursue choices on the screen until you locate the consolidated statement of stockholders' equity. You will probably go down some "false paths" to get to this financial statement, but you can get there. This experience is all part of learning to use the Internet. Note the changes that have occurred in the Common Stock, Additional Paid-In Capital, and Retained Earnings accounts. Check out the notes to the financial statements for further information. Write a memo to your instructor summarizing your findings.

Visit the following website for Gartner Group:

http://www.gartner.com

Pursue choices on the screen until you locate the consolidated statement of stockholders' equity. You will probably go down some "false paths" to get to this financial statement, but you can get there. This experience is all part of learning to use the Internet. Trace the changes that have occurred in the last three years in the Common Stock account. Check out the notes to the financial statements for further information. Write a memo to your instructor summarizing your findings.

1. [1]Some corporations have eliminated the preemptive right because the preemptive right makes it difficult to issue large blocks of stock to the stockholders of another corporation to acquire that corporation.

# UNIT 14: STOCKHOLDERS' EQUITY, EARNINGS AND DIVIDENDS

## RETAINED EARNINGS: ENTRIES AND STATEMENTS

### Retained earnings

The **retained earnings** portion of stockholders' equity typically results from accumulated earnings, reduced by net losses and dividends. Like paid-in capital, retained earnings is a source of assets received by a corporation. Paid-in capital is the actual investment by the stockholders; retained earnings is the investment by the stockholders through earnings not yet withdrawn.

The balance in the corporation's Retained Earnings account is the corporation's net income, less net losses, from the date the corporation began to the present, less the sum of dividends paid during this period. Net income increases Retained Earnings, while net losses and dividends decrease Retained Earnings in any given year. Thus, the balance in Retained Earnings represents the corporation's accumulated net income not distributed to stockholders.

When the Retained Earnings account has a debit balance, a **deficit** exists. A company indicates a deficit by listing retained earnings with a negative amount in the stockholders' equity section of the balance sheet. The firm need not change the title of the general ledger account even though it contains a debit balance. The most common credits and debits made to Retained Earnings are for income (or losses) and dividends. Occasionally, accountants make other entries to the Retained Earnings account.

### Retained earnings appropriations

The amount of retained earnings that a corporation may pay as cash dividends may be less than total retained earnings for several contractual or voluntary reasons. These contractual or voluntary restrictions or limitations on retained earnings are **retained earnings appropriations.** For example, a loan contract may state that part of a corporation's  $100,000 of retained earnings is not available for cash dividends until the loan is paid. Or a board of directors may decide to use assets resulting from net income for plant expansion rather than for cash dividends. An example of a voluntary restriction was General Electric's annual report statement that cash dividends were limited "to support enhanced productive capability and to provide adequate financial resources for internal and external growth opportunities".

Companies formally record retained earnings appropriations by transferring amounts from Retained Earnings to accounts such as "Appropriation for Loan Agreement" or "Retained Earnings Appropriated for Plant Expansion". Even though some refer to retained earnings appropriations as retained earnings reserves, using the term reserves is discouraged.

Other reasons for appropriations of retained earnings include pending litigation, debt retirement, and contingencies in general. Such appropriations do not reduce total retained earnings. They merely disclose to balance sheet readers that a portion of retained earnings is not available for cash dividends. Thus, recording these appropriations guarantees that the corporation limits its outflow of cash dividends while repaying a loan, expanding a plant, or taking on some other costly endeavor. Recording retained earnings appropriations does not involve the setting aside of cash for the indicated purpose; it merely divides retained earnings into two parts—appropriated retained earnings and unappropriated retained earnings. The establishment of a separate fund would require a specific directive from the board of directors. The only entry required to record the appropriation of $ 25,000 of retained earnings to fulfill the provisions in a loan agreement is:

| | Debit | Credit |
|---|---|---|
| Retained earnings | 25,000 | |
| Retained Earnings, Appropriation per loan agreement | | 25,000 |
| To record restriction on retained earnings. | | |

When the retained earnings appropriation has served its purpose of restricting dividends and the loan has been repaid, the board of directors may decide to return the appropriation intact to Retained Earnings. The entry to do this is:

| | Debit | Credit |
|---|---|---|
| Retained Earnings, Appropriation per loan agreement | 25,000 | |
| Retained Earnings | | 25,000 |
| To return balance in appropriation per Loan Agreement to Retained earnings. | | |

On the balance sheet, retained earnings appropriations appear in the stockholders' equity section as follows:

| | | |
|---|---|---|
| Stockholders' equity: | | |
| Paid-in capital: | | |
| Preferred stock – 8%, $50 par value; 500 shares authorized; issued and outstanding | $25,000 | |
| Common stock – $5 par value; 10,000 shares authorized, issued and outstanding | 50,000 | |
| Total paid-in capital | | $75,000 |
| Retained earnings: | | |
| Appropriated: | | |
| Per loan agreement | $25,000 | |
| Unappropriated | 20,000 | |
| Total retained earnings | | 45,000 |
| Total stockholders' equity | | $120,000 |

Note that a retained earnings appropriation does not reduce either stockholders' equity or total retained earnings but merely earmarks (restricts) a portion of retained earnings for a specific reason.

The formal practice of recording and reporting retained earnings appropriations is decreasing. Footnote explanations such as the following are replacing these appropriations:

*Note 7. Retained earnings restrictions. According to the provisions in the loan agreement, retained earnings available for dividends are limited to $20,000.*

Such footnotes appear after the formal financial statements in "Notes to Financial Statements". *The Retained Earnings account on the balance sheet would be referenced as follows: "Retained Earnings (see note 7)… $45,000".*

## Prior Period Adjustments

According to *FASB Statement No. 16*, prior period adjustments consist almost entirely of corrections of errors in previously published financial statements. Corrections of abnormal, nonrecurring errors that may have been caused by the improper use of an accounting principle or by mathematical mistakes are prior period adjustments. Normal, recurring corrections and adjustments, which follow inevitably from the use of estimates in accounting practice, are not treated as prior period adjustments. Also, mistakes corrected in the same year they occur are not prior period adjustments.

To illustrate a prior period adjustment, suppose that Anson purchased land in 2014 at a total cost of $200,000 and recorded this amount in an expense account instead of in the Land account. Discovery of the error on 2015 May 1, after publication of the 2014 financial statements, would require a prior period adjustment. The adjustment would be recorded directly in the Retained Earnings account. Assuming the error had resulted in an $80,000 underpayment of taxes in 2014, the entry to correct the error would be:

| | | Debit | Credit |
|---|---|---|---|
| May 1 | Land | 200,000 | |
| | Federal income taxes payable | | 80,000 |
| | Retained earnings | | 120,000 |
| | To correct an accounting error expensing land. | | |

Prior period adjustments do not appear on the income statements but in the current-year financial statements as adjustments to the opening balance of retained earnings on the statement of retained earnings as be:

| | |
|---|---|
| Retained Earnings, Jan 1 | $200,000 |
| Less: Prior Period Adjustment | -120,000 |
| Adjusted Beginning Balance | $ 80,000 |

Changes in the composition of retained earnings reveal important information about a corporation to financial statement users. A separate formal statement—the statement of retained earnings—discloses such changes.

## Statement of retained earnings

A statement of retained earnings is a formal statement showing the items causing changes in unappropriated and appropriated retained earnings during a stated period of time. Changes in unappropriated retained earnings usually consist of the addition of net income (or deduction of net loss) and the deduction of dividends and appropriations. Changes in appropriated retained earnings consist of increases or decreases in appropriations.

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An alternative to the statement of retained earnings is the statement of stockholders' equity.



# ENTRIES FOR CASH DIVIDENDS

**Dividends** are distributions of earnings by a corporation to its stockholders. Usually the corporation pays dividends in cash, but it may distribute additional shares of the corporation's own capital stock as dividends. Occasionally, a company pays dividends in merchandise or other assets. Since dividends are the means whereby the owners of a corporation share in its earnings, accountants charge them against retained earnings. **Dividends are always based on shares outstanding!**

Before dividends can be paid, the board of directors must declare them so they can be recorded in the corporation's minutes book. Three dividend dates are significant:

- **Date of declaration.** The date of declaration indicates when the board of directors approved a motion declaring that dividends should be paid. The board action creates the liability for dividends payable (or stock dividends distributable for stock dividends).
- **Date of record.** The board of directors establishes the date of record; it determines which stockholders receive dividends. The corporation's records (the stockholders' ledger) determine its stockholders as of the date of record.
- **Date of payment.** The date of payment indicates when the corporation will pay dividends to the stockholders.

To illustrate how these three dates relate to an actual situation, assume the board of directors of the Allen Corporation declared a cash dividend on May 5, (date of declaration). The cash dividend declared is $1.25 per share to stockholders of record on July 1, (date of record), payable on July 10, (date of payment). Because financial transactions occur on both the date of declaration (a liability is incurred) and on the date of payment (cash is paid), journal entries record the transactions on both of these dates. No journal entry is required on the date of record. The Dividends Payable account appears as a current liability on the balance sheet.

**Cash dividends** are cash distributions of accumulated earnings by a corporation to its stockholders. To illustrate the entries for cash dividends, consider the following example. On January 21, a corporation's board of directors declared a 2% cash dividend on $100,000 of outstanding common stock. The dividend will be paid on March 1, to stockholders of record on February 5. An entry is not needed on the date of record; however, the entries at the declaration and payment dates are as follows:

| | | Debit | Credit |
|---|---|---|---|
| Jan 21 | Retained earnings ($100,000 x 2% dividend) | 2,000 | |
| | Dividends payable | | 2,000 |
| | Declared 2% cash dividend to payable Mar 1 to shareholders of record Feb 5. | | |
| | | | |
| Mar 1 | Dividends payable | 2,000 | |
| | Cash | | 2,000 |

| | | | |
|---|---|---|---|
| | Paid the dividend declared on January 21. | | |

Often a cash dividend is stated as so many dollars per share. For instance, the dividend could have been stated as $2 per share. When they declare a cash dividend, some companies debit a Dividends account instead of Retained Earnings. (Both methods are acceptable.) The Dividends account is then closed to Retained Earnings at the end of the fiscal year.

A company that lacks sufficient cash for a cash dividend may declare a stock dividend to satisfy its shareholders. Note that in the long run it may be more beneficial to the company and the shareholders to reinvest the capital in the business rather than paying a cash dividend. If so, the company would be more profitable and the shareholders would be rewarded with a higher stock price in the future.

## Preferred Stock Dividends

**Stock preferred as to dividends** means that the preferred stockholders receive a specified dividend per share before common stockholders receive any dividends. A **dividend on preferred stock** is the amount paid to preferred stockholders as a return for the use of their money. For no-par preferred stock, the dividend is a specific dollar amount per share per year, such as $4.40 per share. For par value preferred stock, the dividend is usually stated as a percentage of the par value, such as 8% of par value; occasionally, it is a specific dollar amount per share. Most preferred stock has a par value. The formula for calculating ANNUAL preferred dividends is:

**Preferred shares outstanding x preferred par value x dividend rate**

Usually, stockholders receive dividends on preferred stock quarterly. Such dividends—in full or in part—must be declared by the board of directors before paid. In some states, corporations can declare preferred stock dividends only if they have retained earnings (income that has been retained in the business) at least equal to the dividend declared.

**Noncumulative preferred stock** is preferred stock on which the right to receive a dividend expires whenever the dividend is not declared. When noncumulative preferred stock is outstanding, a dividend omitted or not paid in any one year need not be paid in any future year. Because omitted dividends are lost forever, noncumulative preferred stocks are not attractive to investors and are rarely issued.

**Cumulative preferred stock** is preferred stock for which the right to receive a basic dividend accumulates if the dividend is not paid. Companies must pay unpaid cumulative preferred dividends before paying any dividends on the common stock.

For example, assume a company has 10,00 shares of cumulative $10 par value, 10% preferred stock outstanding, common stock outstanding of $200,000, and retained earnings of $30,000. The company did not pay dividends last year. The company would pay the preferred stockholders dividends of $20,000 (10,000 shares preferred stock x $10 par value x 10% dividend rate = $10,000 per year x 2 years) before paying any dividends to the common stockholders. If the board declares dividends of $25,000, $20,000 would be paid to preferred and the remaining $5,000 ($25,0000 dividends – $20,000 paid to preferred) would be shared by common stockholders. Common stockholders are not guaranteed dividends and will receie only the amount left over after paying preferred stock holders. Keep in mind, you can never pay out more in dividends than you have declared!

**Dividends in arrears** are cumulative unpaid dividends, including the dividends not declared for the current year. Dividends in arrears never appear as a liability of the corporation because they are not a legal liability until declared by the board of directors. However, since the amount of dividends in arrears may influence the decisions of users of a corporation's financial statements, firms disclose such dividends in a footnote. An appropriate footnote might read: *"Dividends in the amount of $20,000, representing two years' dividends on the company's 10%, cumulative preferred stock, were in arrears as of December 31".*

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The board of directors of a corporation possesses sole power to declare dividends. The legality of a dividend generally depends on the amount of retained earnings available for dividends—not on the net income of any one period. Firms can pay dividends in periods in which they incurred losses, provided retained earnings and the cash position justify the dividend. And in some states, companies can declare dividends from current earnings despite an accumulated deficit. The financial advisability of declaring a dividend depends on the cash position of the corporation.



# STOCK DIVIDENDS AND SPLITS

A company that lacks sufficient cash for a cash dividend may declare a stock dividend to satisfy its shareholders. Note that in the long run it may be more beneficial to the company and the shareholders to reinvest the capital in the business rather than paying a cash dividend. If so, the company would be more profitable and the shareholders would be rewarded with a higher stock price in the future.

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Stock dividends are payable in additional shares of the declaring corporation's capital stock. When declaring stock dividends, companies issue additional shares of the same class of stock as that held by the stockholders.

Corporations usually account for stock dividends by transferring a sum from retained earnings to permanent paid-in capital. The amount transferred for stock dividends depends on the size of the stock dividend. For stock dividends, most states permit corporations to debit Retained Earnings or any paid-in capital accounts other than those representing legal capital. In most circumstances, however, they debit Retained Earnings when a stock dividend is declared.

Stock dividends have no effect on the total amount of stockholders' equity or on net assets. They merely decrease retained earnings and increase paid-in capital by an equal amount. Immediately after the distribution of a stock dividend, each share of similar stock has a lower book value per share. This decrease occurs because more shares are outstanding with no increase in total stockholders' equity.

Stock dividends do not affect the individual stockholder's percentage of ownership in the corporation. For example, a stockholder who owns 1,000 shares in a corporation having 100,000 shares of stock outstanding, owns 1% of the outstanding shares. After a 10% stock dividend, the stockholder still owns 1% of the outstanding shares—1,100 of the 110,000 outstanding shares.

A corporation might declare a stock dividend for several reasons:

- Retained earnings may have become large relative to total stockholders' equity, so the corporation may desire a larger permanent capitalization.
- The market price of the stock may have risen above a desirable trading range. A stock dividend generally reduces the per share market value of the company's stock.
- The board of directors of a corporation may wish to have more stockholders (who might then buy its products) and eventually increase their number by increasing the number of shares outstanding. Some of the stockholders receiving the stock dividend are likely to sell the shares to other persons.
- Stock dividends may silence stockholders' demands for cash dividends from a corporation that does not have sufficient cash to pay cash dividends.

The percentage of shares issued determines whether a stock dividend is a small stock dividend or a large stock dividend. Firms use different accounting treatments for each category.

Recording small stock dividends A stock dividend of less than 20 to 25% of the outstanding shares is a small stock dividend and has little effect on the market value (quoted market price) of the shares. Thus, the firm accounts for the dividend at the current market value of the outstanding shares.

Assume a corporation is authorized to issue 20,000 shares of $100 par value common stock, of which 8,000 shares are outstanding. Its board of directors declares a 10% stock dividend (800 shares). The quoted market price of the stock is $125 per share immediately before the stock dividend is announced. Since the distribution is less than 20 to 25 per cent of the outstanding shares, the dividend is accounted for at market value. The entry for the declaration of the stock dividend on August 10, is:

| | | Debit | Credit |
|---|---|---|---|
| Aug. 10 | Retained earnings (or Stock Dividends) (800 shares x $125) | 100,000 | |
| | Common stock dividend distributable (800 shares x $100 par value) | | 80,000 |
| | Paid-In capital – Common Stock ($100,000 market value – $80,000 par) | | 20,000 |
| | To record the declaration of a 10% stock dividend | | |

This entry records the issuance of the shares:

| | | Debit | Credit |
|---|---|---|---|
| Sept. 20 | Common stock dividend distributable | 80,000 | |
| | Common stock | | 80,000 |

The **common stock dividend distributable account** is a stockholders' equity (paid-in capital) account credited for the par or stated value of the shares distributable when recording the declaration of a stock dividend until the stock is issued to shareholders. Since a stock dividend distributable is not to be paid with assets, it is not a liability.

Suppose, on the other hand, that the common stock in the preceding example is no-par stock and has a stated value of $50 per share. The entry to record the declaration of the stock dividend (when the market value is $125) is:

| | Debit | Credit |
|---|---|---|
| Retained earnings (800 shares x $125 market value) | 100,000 | |
| Common stock dividends distributable (800 shares x $50 stated value) | | 40,000 |
| Paid-in capital in excess of stated, Common ($100,000 market – $40,000 stated value) | | 60,000 |

## Stock Splits

A company can control their market price in some cases. When the market price is too high, people will not invest in the company. What can we do? We can split our stock! A stock splits does not cause an accounting entry as it does not change any monetary amounts listed on the financial statements. What does it do?

- Shares increase by number of the stock split
- Par value decreases by the number of the stock split

As an example, think of a pizza. The pizza has 8 slices and costs $16 per pizza which is $2 per share ($16 price / 8 slices). I ask the pizza parlor to double-cut the pizza into 16 slices instead of 8 slices. The cost of my pizza is still $16 but the cost per slice is now $1 per slice ($16 cost / 16 slices).

The 8 slices of a typical pizza represent the shares of stock and the $2 cost per share is the par value of the stock.  When I double cut the pizza, this represents a 2-1 stock split with 16 shares of stock (or slices of pizza) for the new par value of $1 per share.

### Accounting in the Headlines

## How did Apple's 7-for-1 stock split affect its total stockholders' equity?

In June 2014, Apple, Inc. (AAPL) did a 7-for-1 stock split, meaning that an investor who previously held one share of Apple stock would have seven shares on the date of the split.  Before the split, Apple had 861 million shares of stock valued at roughly $650 each.  After the split, Apple had approximately 6 billion shares valued at roughly $94 per share.  (The total market value of Apple's stock increased on the date of the stock split due to market fluctuation; the stock split had no immediate impact on the value of Apple.)

Apple stated that it executed this 7-for-1 stock split because it wanted to make its shares available to more investors.  Due to the split, the market price per share would go from about $650 per share down to about $94 per share, making the stock affordable for more people.

The par value of Apple's common stock is $0.00001 per share as of September 27, 2014 (Apple's year end.)

Apple has split its stock four times since it began operations.  Three times, Apple has conducted a two-for-one stock split (in 1987, 2000, and 2005.)  If you had purchased one share of Apple stock at its original issuance on December 12, 1980 ($22 per share market price), you would have 56 shares today.

#### Questions

1. What impact does the stock split have on Apple's total stockholders' equity?
2. What impact does a stock split have on a stock's par value? Explain.
3. Has the par value of one share of Apple stock changed since it was originally issued in 1980? Explain.



# ITEMS REPORTED ON A CORPORATE INCOME STATEMENT

#### Net income inclusions and exclusions

Accounting has long faced the problem of what to include in the net income reported for a period. Should net income include only the revenues and expenses related to normal operations? Or should it include the results of discontinued operations and unusual, nonrecurring gains and losses? And further, should the determination of net income for this year, include an item that can be clearly associated with a prior year, such as additional federal income taxes for last year? Or should such items, including corrections of errors, be carried directly to retained earnings? How are the effects of making a change in accounting principle to be reported?

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*APB Opinion No. 9* (December 1966) sought to provide answers to some of these questions. The Opinion directed that unusual and nonrecurring items having an earnings or loss effect are extraordinary items (reported in the income statement) or prior period adjustments (reported in the statement of retained earnings). Extraordinary items are reported separately after net income from regular continuing activities.

Assume that the Anson Company has 1,000,000 shares of common stock outstanding and the company's earnings are taxed at 40%. Also, assume the following:

- Anson sold its Cosmetics Division on August 1, at a loss of $500,000. The net operating loss of that division through July 31, was $2,000,000.
- Anson had a taxable gain in of $40,000 from a sale of a subsidiary at an amount greater than what was on the company's balance sheet (extraordinary item).
- Anson discovered that the $ 200,000 cost of land acquired in last year had been expensed for both financial accounting and tax purposes. A prior period adjustment was made this year.

Next, we explain the effects of these assumptions in greater detail (we learned the prior period adjustment earlier but will review its presentation here).

A **discontinued operation** occurs when a business sells a segment (usually an unprofitable department or division) to another company or abandons it. When a company discontinues a segment, it shows the relevant information in a special section of the income statement immediately after income from continuing operations and before extraordinary items. Two items of information appear:

- The income or loss (net of tax effect) from the segment's operations for the portion of the current year before it was discontinued.
- The gain or loss (net of tax effect) on disposal of the segment.

To illustrate, Anson's sale of its Cosmetics Division on August 1 led to a before-tax loss of $500,000. The after-tax loss was $500,000 x 60% = $300,000. The operating loss before taxes through July 31 was $2,000,000. The after-tax operating loss for that period was $2,000,000 x 60% = $1,200,000.

Prior to 1973, companies reported a gain or loss as an extraordinary item if it was either unusual in nature or occurred infrequently. As a result, companies were inconsistent in the financial reporting of certain gains and losses. This inconsistency led to the issuance of *APB Opinion No. 30* (September 1973). *Opinion No. 30* redefined **extraordinary items** as those unusual in nature and occurring infrequently. Note that both conditions must be met—unusual nature and infrequent occurrence. Accountants determine whether an item is unusual and infrequent in light of the environment in which the company operates. Examples of extraordinary items include gains or losses that are the direct result of a major catastrophe (a flood or hurricane where few have occurred before), a confiscation of property by a foreign government, or a prohibition under a newly enacted law.

Extraordinary items are included in the determination of periodic net income, but are disclosed separately (net of their tax effects) in the income statement below "Income from continuing operations". As shown below, Anson reported the extraordinary items after reporting the loss from discontinued operations.

Gains or losses related to ordinary business activities are not extraordinary items regardless of their size. For example, material write-downs of uncollectible receivables, obsolete inventories, and intangible assets are not extraordinary items. However, such items may be separately disclosed as part of income from continuing operations.

Changes in accounting principle can materially alter a company's reported net income and financial position. **Changes in accounting principle** are changes in accounting methods pertaining to such items as inventory. Such a change includes a change in inventory valuation method from FIFO to LIFO.

According to *APB Opinion No. 20*, a company should consistently apply the same accounting methods from one period to another. However, a company may make a change if the newly adopted method is preferable and if the change is adequately disclosed in the financial statements. In the period in which a company makes a change in accounting principle, it must disclose on the financial statements the nature of the change, its justification, and its effect on net income. Also, the company must show on the income statement for the year of the change and the cumulative effect of the change on prior years' income (net of tax).

Most discontinued operations, extraordinary items, changes in accounting principle, and prior period adjustments affect the amount of income taxes a corporation must pay. To report the income tax effect, *FASB Statement No.*

*96* requires reporting all of these items net of their tax effects.[5] **Net-of-tax effect** means that items appear at the dollar amounts remaining after deducting the income tax effects. Thus, the total effect of a discontinued operation, an extraordinary item, a change in accounting principle, or a prior period adjustment appears in one place in the appropriate financial statement. The reference to "Income from continuing operations" on the income statement represents the results of transactions (including income taxes) that are normal for the business and may be expected to recur. Note that the tax effect of an item may appear separately, as it does for the gain on voluntary early retirement of debt below or the company may mention it parenthetically with only the net amount shown.

Anson Company

Income Statement

For the Year Ended December 31

| | | |
|---|---|---|
| Net sales | | $41,000,000 |
| Other revenues | | 2,250,000 |
| Total revenue | | $43,250,000 |
| Cost of goods sold | $22,000,000 | |
| Administrative, selling, and general expenses | 12,000,000 | 34,000,000 |
| Income before federal income taxes | | $9,250,000 |
| Deduct: Federal income taxes (40%) | | (3,700,000) |
| **Income from continuing operations** | | $5,550,000 |
| **Discounted operations:** | | |
| Loss from operations of discontinued Cosmetics Division (net of 40% tax effect of $800,000) | $(1,200,000) | |
| Loss on disposal of Cosmetics Division (net of 40% tax effect of $200,000) | (300,000) | (1,500,000) |
| Income before extraordinary item and the cumulative effect of a change in accounting principle | | $4,050,000 |
| **Extraordinary item:** | | |
| Gain on sale of subsidiary over book value | $40,000 | |
| Less: Tax effect (40%) | (16,000) | 24,000 |
| Income after extraordinary item | | $4,074,000 |
| **Net income** | | **$4,074,000** |
| **Earnings per share of common stock:** | | |
| Income from continuing operations | | $ 5.550 |
| Discontinued operations | | (1.500) |
| Extraordinary item | | 0.024 |

| | | |
|---|---|---|
| Net income | | $4.074 |

- Income from continuing operations of $5,550,000 is more representative of the continuing earning power of the company than is the net income figure of $4,077,600.
- Following income, the special items from continuing operations appear at their actual impact on the company—that is, net of their tax effect.
- EPS is reported both before ($5.550) and after ($ 4.078) the discontinued operations, extraordinary item, and the cumulative effect of a change in accounting principle.

Anson Company

Statement of Retained Earnings

For the Year Ended December 31

| | |
|---|---|
| Retained earnings, January 1 | $5,000,000 |
| Prior period adjustment: | |
| Correction of error of expensing land (net of tax effect of $80,000) | -120,000 |
| Retained earnings, January 1, as adjusted | $5,120,000 |
| Add: Net income | 4,077,600 |
| | $9,197,600 |
| Less: Dividends | – 500,000 |
| Retained earnings, December 31 | $8,687,600 |

- The correction of the $200,000 error adds only $120,000 to retained earnings. This result occurs because the mistake was included in the last year's tax return and taxes were underpaid by $80,000. In the this year's return, the $80,000 of taxes would have to be paid.



# EXERCISES: UNIT 14

## Short-Answer Questions, Exercises, and Problems: Corporations: Paid-in Capital, Retained Earnings, Dividends and Treasury Stock

### Short-Answer Questions

➢ What are dividends in arrears, and how should they be disclosed in the financial statements?

➢ A corporation has 1,000 shares of 8 per cent, $ 200 par value, cumulative, preferred stock outstanding. Dividends on this stock have not been declared for three years. Is the corporation legally liable to its preferred stockholders for these dividends? How should this fact be shown in the balance sheet, if at all?

➢ What are the two main elements of stockholders' equity in a corporation? Explain the difference between them.

➢ Name several sources of paid-in capital. Would it suffice to maintain one account called Paid-In Capital for all sources of paid-in capital? Why or why not?

➢ Does accounting for treasury stock resemble accounting for an asset? Is treasury stock an asset? If not, where is it properly shown on a balance sheet?

➢ What are some possible reasons for a corporation to reacquire its own capital stock as treasury stock?

➢ What is the purpose underlying the statutes that provide for restriction of retained earnings in the amount of the cost of treasury stock? Are such statutes for the benefit of stockholders, management, or creditors?

➢ What is the effect of each of the following on the total stockholders' equity of a corporation: (a) declaration of a cash dividend, (b) payment of a cash dividend already declared, (c) declaration of a stock dividend, and (d) issuance of a stock dividend already declared?

➢ The following dates are associated with a cash dividend of $ 80,000: July 15, July 31, and August 15. Identify each of the three dates, and give the journal entry required on each date, if any.

➢ How should a declared but unpaid cash dividend be shown on the balance sheet? How should a declared but unissued stock dividend be shown?

➢ On May 8, the board of directors of Park Corporation declared a dividend, payable on June 5, to stockholders of record on May 17. On May 10, James sold his capital stock in Park Corporation directly to Benton for $ 20,000, endorsing his stock certificate and giving it to Benton. Benton placed the stock certificate in her safe. On May 30, Benton sent the certificate to the transfer agent of Park Corporation for transfer. Who received the dividend? Why?

➢ What are the possible reasons for a corporation to declare a stock dividend?

➢ Why is a dividend consisting of the distribution of additional shares of the common stock of the declaring corporation not considered income to the recipient stockholders?

➢ What is the difference between a small stock dividend and a large stock dividend?

➢ What is the purpose of a retained earnings appropriation?

➢ What is a statement of stockholders' equity?

➢ Describe a discontinued operation.

➢ What are extraordinary items? Where and how are they reported?

➢ Give an example of a change in accounting principle. How are the effects of changes in accounting principle reported?

➢ What are prior period adjustments? Where and how are they reported?

➢ Why are stockholders and potential investors interested in the amount of a corporation's EPS? What does the EPS amount reveal that total earnings do not.

Exercises

**Exercise A** Winters Corporation has outstanding 1,000 shares of noncumulative preferred stock and 2,000 shares of common stock. The preferred stock is entitled to an annual dividend of $ 100 per share before dividends are declared on common stock. What are the total dividends received by each class of stock if Winters Corporation distributes $ 280,000 in dividends in 2010?

**Exercise B** Zeff Corporation has 2,000 shares outstanding of cumulative preferred stock and 6,000 shares of common stock. The preferred stock is entitled to an annual dividend of $ 18 per share before dividends are declared on common stock. No preferred dividends were paid for last year and the current year. What are the total dividends received by each class of stock if Zeff Corporation distributes $ 108,000 in dividends?

**Exercise A** The 2009 December 31, trial balance of Yamey Corporation had the following account balances:

| | |
|---|---|
| Common stock (no-par value; 200,000 shares authorized, issued, and outstanding; stated value of $20 per share) | $4,000,000 |
| Notes payable (12% due 2010 May 1) | 500,000 |
| Retained earnings, unappropriated | 2,500,000 |
| Dividends payable in cash (declared December 15, on preferred stock) | 12,000 |
| Appropriation per loan agreement | 480,000 |
| Preferred stock (6%, par value $200; 2,000 shares authorized, issued, and outstanding) | 400,000 |
| Paid-In capital in excess of stated value – Common | 300,000 |
| Paid-In Capital in Excess of Par Value – Preferred | 40,000 |

Present in proper form the stockholders' equity section of the balance sheet.

**Exercise B** Fogg Company has issued all of its authorized 5,000 shares of $ 400 par value common stock. On 2009 February 1, the board of directors declared a dividend of $ 12 per share payable on 2009 March 15, to stockholders of record on 2009 March 1. Give the necessary journal entries.

**Exercise C** The stockholders' equity section of Jay Company's balance sheet on 2009 December 31, shows 100,000 shares of authorized and issued $ 20 stated value common stock, of which 9,000 shares are held in the treasury. On this date, the board of directors declared a cash dividend of $ 2 per share payable on 2010 January 21, to stockholders of record on January 10. Give dated journal entries for these.

**Exercise D** Kevin Company has outstanding 75,000 shares of common stock without par or stated value, which were issued at an average price of $ 80 per share, and retained earnings of $ 3,200,000. The current market price of the common stock is $ 120 per share. Total authorized stock consists of 500,000 shares.

1. Give the required entry to record the declaration of a 10 per cent stock dividend.
2. If, alternatively, the company declared a 30 per cent stock dividend, what additional information would you need before making a journal entry to record the dividend?

**Exercise E** Grant Corporation's stockholders' equity consisted of 60,000 authorized shares of $ 30 par value common stock, of which 30,000 shares had been issued at par, and retained earnings of $ 750,000. The company then split its stock, two for one, by changing the par value of the old shares and issuing new $ 15 par shares.

1. Give the required journal entry to record the stock split.
2. Suppose instead that the company declared and later issued a 10 per cent stock dividend. Give the required journal entries, assuming that the market value on the date of declaration was $ 40 per share.

**Exercise F** The balance sheet of Willis Company contains the following:

Appropriation per loan agreement $ 900,000

1. Give the journal entry made to create this account.
2. Explain the reason for the appropriation's existence and its manner of presentation in the balance sheet.

**Exercise E** Li & Tu, Inc., needed land for a plant site. It issued 100 shares of $ 480 par value common stock to the incorporators of their corporation in exchange for land, which cost $ 56,000 one year ago. Experienced appraisers recently valued the land at $ 72,000. What journal entry would be appropriate to record the acquisition of the land?

**Exercise H** Evan Company received 200 shares of its $ 200 stated value common stock on 2009 December 1, as a donation from a stockholder. On 2009 December 15, it reissued the stock for $ 62,400 cash. Give the journal entry or entries necessary for these transactions.

**Exercise I** Vista Company has revenues of $ 80 million, expenses of $ 64 million, a tax-deductible earthquake loss (its first such loss) of $ 4 million, and a tax-deductible loss of $ 6 million resulting from the voluntary early extinguishment (retirement) of debt. The assumed income tax rate is 40 per cent. The company's beginning-of-the-year retained earnings were $ 30 million, and a dividend of $ 2 million was declared.

1. Prepare an income statement for the year.
2. Prepare a statement of retained earnings for the year.

**Exercise J** Conner Company had retained earnings of $ 56,000 as of 2009 January 1. In 2009, Conner Company had sales of $ 160,000, cost of goods sold of $ 96,000, and other operating expenses, excluding taxes, of $ 32,000. In 2009, Conner Company discovered that it had, in error, depreciated land over the last three years resulting in a balance in the accumulated depreciation account of $ 40,000. The assumed tax rate for Conner Company is 40 per cent. Present in proper form a statement of retained earnings for the year ended 2009 December 31.

**Exercise K** The following information relates to Perry Corporation for the year ended 2009 December 31:

| | |
|---|---|
| Common stock outstanding | 75,000 shares |
| Income from continuing operations | $1,523,200 |
| Loss on discontinued operations (net of tax) | 240,000 |
| Extraordinary gain (net of tax) | 144,000 |

Calculate EPS for the year ended 2009 December 31. Present the information in the same format used in the corporation's income statement.

**Exercise L** Dean Company had an average number of shares of common stock outstanding of 200,000 in 2009 and 215,000 in 2010. Net income for these two years was as follows:

| | |
|---|---|
| 2009 | $2,208,000 |
| 2010 | 2,304,000 |

1. Calculate EPS for the years ended 2009 December 31, and 2010.
2. What might the resulting figures tell a stockholder or a potential investor?

## Problems

**Problem A** The outstanding capital stock of Robbins Corporation consisted of 3,000 shares of 10 per cent preferred stock, $ 250 par value, and 30,000 shares of no-par common stock with a stated value of $ 250. The preferred was issued at $ 412, the common at $ 480 per share. On 2005 January 1, the retained earnings of the company were $ 250,000. During the succeeding five years, net income was as follows:

| | |
|---|---|
| 2005 | $767,500 |

| | |
|---|---|
| 2006 | 510,000 |
| 2007 | 48,000 |
| 2008 | 160,000 |
| 2009 | 662,500 |

No dividends were in arrears as of 2005 January 1, and during the five years 2005-2009, the board of directors declared dividends in each year equal to net income of the year.

Prepare a schedule showing the dividends declared each year on each class of stock assuming the preferred stock is:

1. Cumulative.
2. Noncumulative.

**Problem B** The only stockholders' equity items of Jody Company at 2009 June 30, are:

| | | |
|---|---|---|
| Stockholders' equity: | | |
| Paid-in capital: | | |
| Common stock – $200 par value, 10,000 shares authorized, 6,000 shares issued and outstanding | $1,200,000 | |
| Paid-in capital in excess of par value | 480,000 | |
| Total paid-in capital | | $1,680,000 |
| Retained earnings | | 480,000 |
| Total stockholders' equity | | $2,160,000 |

On 2009 August 4, a 4 per cent cash dividend was declared, payable on September 3. On November 16, a 10 per cent stock dividend was declared. The shares were issued on December 1. The market value of the common stock was $ 360 per share on November 16 and $ 354 per share on December 1.

Prepare journal entries for these dividend transactions.

**Problem C** Following are selected transactions of White Corporation:

2002

Dec. 31 The board of directors authorized the appropriation of $ 50,000 of retained earnings to provide for the future acquisition of a new plant site and the construction of a new building. (On the last day of the next six years, the same action was taken. You need not make entries for these six years.)

2007

Jan. 2 Purchased a new plant site for cash, $ 100,000.

Mar. 29 Entered into a contract for construction of a new building, payment to be made within 30 days following completion.

2009

Feb. 10 Following final inspection and approval of the new building, Dyer Construction Company was paid in full, $ 500,000.

Mar. 10 The board of directors authorized release of the retained earnings appropriated for the plant site and building.

Apr. 2 A 5 per cent stock dividend on the 100,000 shares of $ 50 par value common stock outstanding was declared. The market price on this date was $ 55 per share.

Prepare journal entries for all of these transactions.

**Problem D** Following are selected data of Kane Corporation at 2009 December 31:

| | |
|---|---|
| Net income for the year | $512,000 |
| Dividends declared on preferred stock | 72,000 |
| Retained earnings appropriated during the year for future plant expansion | 240,000 |
| Dividends declared on common stock | 64,000 |
| Retained earnings, January 1, unappropriated | 720,000 |
| Directors ordered that the balance in the "Appropriation per loan agreement", related to a loan repaid on 2009 March 31, be returned to unappropriated retained earnings | 480,000 |

Prepare a statement of retained earnings for the year ended 2009 December 31.

**Problem E** The stockholders' equity of Sayers Company at 2009 January 1, is as follows:

| | |
|---|---|
| Common stock – no-par value, stated value of $20; 100,000 shares authorized, 60,000 shares issued | $1,200,000 |
| Paid-in capital in excess of stated value | 200,000 |
| Appropriation per loan agreement | 75,200 |
| Unappropriated retained earnings | 424,000 |
| Treasury stock (3,000 shares at cost) | (72,000) |

During 2009, the following transactions occurred in the order listed:

- Issued 10,000 shares of stock for $ 368,000.
- Declared a 4 per cent stock dividend when the market price was $ 48 per share.
- Sold 1,000 shares of treasury stock for $ 43,200.
- Issued stock certificates for the stock dividend declared in transaction 2.
- Bought 2,000 shares of treasury stock for $ 67,200.
- Increased the appropriation by $ 43,200 per loan agreement.

Prepare journal entries as necessary for these transactions.

**Problem F** The stockholders' equity of Briar Company on 2008 December 31, consisted of 1,000 authorized, issued, and outstanding shares of $ 72 cumulative preferred stock, stated value $ 240 per share, which were originally issued at $ 1,192 per share; 100,000 shares authorized, issued, and outstanding of no-par, $ 160 stated value common stock, which were originally issued at $ 160; and retained earnings of $ 1,120,000. Following are selected transactions and other data relating to 2009. No previous treasury stock transactions had occurred.

- The company reacquired 2,000 shares of its common stock at $ 336.
- One thousand of the treasury shares were reissued at $ 288.
- Stockholders donated 1,000 shares of common stock to the company. These shares were immediately reissued at $ 256 to provide working capital.

- The first quarter's dividend of $ 18 per share was declared and paid on the preferred stock. No other dividends were declared or paid during 2009.

The company suffered a net loss of $ 224,000 for the year 2009.

1. Prepare journal entries for the preceding numbered transactions.
2. Prepare the stockholders' equity section of the 2009 December 31, balance sheet.

**Problem G** The following stockholders' equity section is from Bell Company's 2008 October 31, balance sheet:

| | | |
|---|---|---|
| Stockholders' equity: | | |
| Paid-in capital: | | |
| Preferred stock – $60 par value, 6%; 1,000 shares authorized; 350 shares issued and outstanding | $ 21,000 | |
| Common stock – $6 par value; 100,000 shares authorized; 40,000 shares issued and outstanding | 240,000 | |
| Paid-in capital from donation of plant site | 15,000 | |
| Total paid-in capital | | $276,000 |
| Retained earnings: | | |
| Appropriated: | | |
| Appropriation for contingencies | $ 12,000 | |
| Unappropriated | 33,300 | |
| Total retained earnings | | 45,300 |
| Total stockholders' equity | | $321,300 |

During the ensuing fiscal year, Bell Company entered into the following transactions:

- The appropriation of $ 12,000 of retained earnings had been authorized in October 2008 because of the likelihood of an unfavorable court decision in a pending lawsuit. The suit was brought by a customer seeking damages for the company's alleged breach of a contract to supply the customer with certain products at stated prices in 2007. The suit was concluded on 2009 March 6, with a court order directing the company to pay $ 10,500 in damages. These damages were not deductible in determining the income tax liability. The board ordered the damages paid and the appropriation closed. The loss does not qualify as an extraordinary item.
- The company acquired 1,000 shares of its own common stock at $ 9 in May 2009. On June 30, it reissued 500 of these shares at $ 7.20.
- Dividends declared and paid during the year were 6 per cent on preferred stock and 18 cents per share on common stock. Both dividends were declared on September 1 and paid on 2009 September 30.

For the fiscal year, the company had net income after income taxes of $ 11,400, excluding the loss of the lawsuit.

1. Prepare journal entries for the preceding numbered transactions.
2. Prepare a statement of retained earnings for the year ended 2009 October 31.
3. Prepare the stockholders' equity section of the 2009 October 31, balance sheet.

**Problem H** Selected data for Brinks Company for 2009 are given below:

| | |
|---|---|
| Common stock – $20 par value | $2,000,000 |
| Sales, net | 1,740,000 |
| Selling and administrative expenses | 320,000 |
| Cash dividends declared and paid | 120,000 |
| Cost of goods sold | 800,000 |
| Depreciation expense | 120,000 |
| Interest revenue | 20,000 |
| Loss on write-down of obsolete inventory | 40,000 |
| Retained earnings (as of 2008/12/31) | 2,000,000 |
| Operating less on Candy Division up to point of sale in 2009 | 40,000 |
| Loss on disposal of Candy Division | 200,000 |
| Earthquake loss | 96,000 |
| Cumulative negative effect on prior years' income of changing from straight-line to an accelerated method of computing depreciation. | 64,000 |

Assume the applicable federal income tax rate is 40 per cent. All of the items of expense, revenue, and loss are included in the computation of taxable income. The earthquake loss resulted from the first earthquake experienced at the company's location. In addition, the company discovered that in 2008 it had erroneously charged to expense the $ 160,000 cost of a tract of land purchased that year and had made the same error on its tax return for 2008.

1. Prepare an income statement for the year ended 2009 December 31.
2. Prepare a statement of retained earnings for the year ended 2009 December 31.

**Alternate problems**

**Alternate problem A** On 2005 January 1, the retained earnings of Quigley Company were $ 432,000. Net income for the succeeding five years was as follows:

| | |
|---|---|
| 2005 | $288,000 |
| 2006 | 216,000 |
| 2007 | 4,800 |
| 2008 | 48,000 |
| 2009 | 264,000 |

The outstanding capital stock of the corporation consisted of 2,000 shares of preferred stock with a par value of $ 480 per share that pays a dividend of $ 19.20 per year and 8,000 shares of no-par common stock with a stated value of $ 240 per share. No dividends were in arrears as of 2005 January 1.

Prepare schedules showing how the net income for these five years was distributed to the two classes of stock if in each of the years the entire current net income was distributed as dividends and the preferred stock was:

1. Cumulative.
2. Noncumulative.

**Alternate problem B** The stockholders' equity section of Carson Company's 2008 December 31, balance sheet follows:

| | | |
|---|---|---|
| Stockholders' equity: | | |
| Paid-In Capital: | | |
| Common stock – $120 par value; authorized, 2,000 shares; issued and outstanding, 1,000 shares | $120,000 | |
| Paid-in capital in excess of par value | 6,000 | |
| Total paid-in capital | | $126,000 |
| Retained earnings | | 48,000 |
| Total stockholders' equity | | $174,000 |

On 2009 July 15, the board of directors declared a cash dividend of $ 12 per share, which was paid on 2009 August 1. On 2009 December 1, the board declared a stock dividend of 10 per cent, and the shares were issued on 2009 December 15. Market value of the stock was $ 144 on December 1 and $ 168 on December 15.

Prepare journal entries for these dividend transactions.

**Alternate problem C** The ledger of Falcone Company includes the following account balances on 2009 September 30:

| | |
|---|---|
| Appropriation for contingencies | $210,000 |
| Appropriation for plant expansion | 392,000 |
| Retained earnings, unappropriated | 700,000 |

During October 2009, the company took action to:

- Increase the appropriation for contingencies by $ 60,000.
- Decrease the appropriation for plant expansion by $ 160,000.
- Establish an appropriation per loan agreement, with an annual increase of $ 48,000.
- Declare a cash dividend of $ 140,000.

Prepare the journal entries to record these transactions of Falcone Company.

**Alternate problem D** Following are selected transactions of Taylor Corporation:

2004

Dec. 31 By action of the board of directors, $ 450,000 of retained earnings was appropriated to provide for future expansion of the company's main building. (On the last day of each of the next four years, the same action was taken. You need not make entries for these years.)

2009

Jan. 3 Obtained, at a cost of $ 4,500, a building permit to construct a new wing on the main plant building.

July 30 Paid $ 1,800,000 to Starke Construction Company for completion of the new wing.

Aug. 4 The board of directors authorized the release of the sum appropriated for expansion of the plant building.

4 The board of directors declared a 10 per cent common stock dividend on the 25,000 shares of $ 500 par value common stock outstanding. The market price on this date was $ 660 per share.

Prepare journal entries to record all of these transactions.

**Alternate problem E** The following information relates to Dahl Corporation for the year 2009:

| | |
|---|---|
| Net income for the year | $ 1,680,000 |
| Dividends declared on common stock | 235,000 |
| Dividends declared on preferred stock | 134,000 |
| Retained earnings, January 1, unappropriated | 5,040,000 |
| Appropriation for retirement of bonds | 672,000 |
| Balance in “Appropriation for possible loss of a lawsuit”, no longer needed on December 31 because of a favorable court decision, is (by directors’ order) returned to unappropriated retained earnings | 840,000 |

Prepare a statement of retained earnings for the year ended 2009 December 31.

**Alternate problem F** The stockholders’ equity of Acorn Company as of 2008 December 31, consisted of 20,000 shares of authorized, issued, and outstanding $ 50 par value common stock, paid-in capital in excess of par of $ 240,000, and retained earnings of $ 400,000. Following are selected transactions for 2009:

May 1 Acquired 3,000 shares of its own common stock at $ 100 per share.

June 1 Reissued 500 shares at $ 120.

30 Reissued 700 shares at $ 90.

Oct. 1 Declared a cash dividend of $ 5 per share.

31 Paid the cash dividend declared on October 1.

Net income for the year was $ 80,000. No other transactions affecting retained earnings occurred during the year.

1. Prepare general journal entries for these transactions.
2. Prepare the stockholders’ equity section of the 2009 December 31, balance sheet.

**Alternate problem G** The stockholders’ equity section of Sager Company’s 2008 December 31, balance sheet follows:

| | | |
|---|---|---|
| Stockholders’ equity: | | |
| Paid-In Capital: | | |
| Preferred stock – $60 par value, 5%; authorized, 5,000 shares; issued and outstanding, 2,500 shares | | $150,000 |
| Common stock – without par or stated value; authorized, 50,000 shares; issued, 25,000 shares of which 500 are held in treasury | | 225,000 |
| Paid-in capital in excess of par – preferred | | 3,000 |

| | | |
|---|---|---|
| Total paid-in capital | | $378,000 |
| Retained earnings: | | |
| Appropriated: | | |
| For plant expansion | $15,000 | |
| Unappropriated (restricted as to dividends to the extent of $6,000, the cost of the treasury stock held) | 126,000 | |
| Total retained earnings | | 141,000 |
| Total paid-in capital and retained earnings | | $519,000 |
| Less: Treasury stock, common, at cost (500 shares) | | 6,000 |
| Total stockholders' equity | | $513,000 |

Following are selected transactions that occurred in 2009:

Jan. 13 Cash was received for 550 shares of previously unissued common stock at $ 13.20.

Feb. 4 A plot of land was accepted as payment in full for 500 shares of common stock, and the stock was issued. Closing market price of the common stock on this date was $ 12 per share.

Mar. 24 All of the treasury stock was reissued at $ 14.40 per share.

June 23 The regular semiannual dividend on the preferred stock was declared.

30 The preferred dividend was paid.

July 3 A 10 per cent stock dividend was declared on the common stock. Market price on this date was $ 16.80.

18 The stock dividend shares were issued.

Oct. 4 The company reacquired 105 shares of its common stock at $ 14.40.

Dec. 18 The regular semiannual dividend on the preferred stock and a $ 0.24 per share dividend on the common stock were declared.

31 Both dividends were paid.

31 An additional appropriation of retained earnings of $ 3,000 for plant expansion was authorized.

1. Prepare journal entries to record the 2009 transactions.
2. Prepare a statement of retained earnings for the year 2009, assuming net income for the year was $ 25,800.
3. Prepare the stockholders' equity section of the 2009 December 31, balance sheet.

**Alternate problem H** Selected data of Ace Company for the year ended 2009 December 31, are:

| | |
|---|---|
| Sales, net | $1,000,000 |
| Interest expense | 90,000 |
| Cash dividends on common stock | 150,000 |

| | |
|---|---|
| Selling and administrative expenses | 245,000 |
| Cash dividends on preferred stock | 70,000 |
| Rent revenue | 400,000 |
| Cost of goods sold | 650,000 |
| Flood loss (has never occurred before) | 200,000 |
| Interest revenue | 90,000 |
| Other revenue | 150,000 |
| Depreciation and maintenance on rental equipment | 270,000 |
| Stock dividend on common stock | 300,000 |
| Operating income on Plastics Division up to point of sale in 2009 | 50,000 |
| Gain on disposal of Plastics Division | 25,000 |
| Litigation loss (has never occurred before) | 400,000 |
| Cumulative positive effect on prior years' income of changing to a different depreciation method | 80,000 |

Assume the applicable federal income tax rate is 40 per cent. All of the preceding items of expense, revenue, and loss are included in the computation of taxable income. The litigation loss resulted from a court award of damages for patent infringement on a product that the company produced and sold in 2005 and 2006, but was discontinued in 2006. In addition, the company discovered that in 2005 it had erroneously charged to expense the $ 250,000 cost of a tract of land purchased that year and had made the same error on its tax return for 2008. Retained earnings as of 2009 January 1, were $ 5,600,000. Assume there were 10,000 shares of common stock and 5,000 shares of preferred stock outstanding for the entire year.

Prepare an income statement and a statement of retained earnings for 2009.

Beyond the numbers—Critical thinking

Business decision case A The stockholders' equity section of the Bates Corporation's balance sheet for 2009 June 30, follows:

| | | |
|---|---|---|
| Stockholders' equity: | | |
| Paid-in Capital: | | |
| Common stock – $20 par value; authorized 200,000 shares; issued and outstanding 80,000 shares | $1,600,000 | |
| Paid-in capital in excess of par value | 960,000 | |
| Total paid-in capital | | $2,560,000 |
| Retained earnings | | 1,520,000 |
| Total stockholders' equity | | $4,080,000 |

On 2009 July 1, the corporation's directors declared a 10 per cent stock dividend distributable on August 2 to stockholders of record on July 16. On 2009 November 1, the directors voted a $ 2.40 per share annual cash dividend payable on December 2 to stockholders of record on November 16. For four years prior to 2009, the corporation had paid an annual cash dividend of $ 2.52.

As of 2009 July 1, Bob Jones owned 8,000 shares of Bates Corporation's common stock, which he had purchased four years earlier. The market value of his stock was $ 48 per share on 2009 July 1, and $ 43.64 per share on 2009 July 16.

1. What amount of cash dividends will Jones receive in 2009? How does this amount differ from the amount of cash dividends Jones received in the previous four years?
2. Jones has asked you, his CPA, to explain why the price of the stock dropped from $ 48 to $ 43.64 on 2009 July 16. Write a memo to Jones explaining your answer.
3. Do you think Jones is better off as a result of the stock dividend and the $ 2.40 cash dividend than he would have been if he had just received the $ 2.52 cash dividend? Write a memo to Jones explaining your answer.

Business decision case B The following journal entries are for Keel Corporation:

| | | | |
|---|---|---|---|
| 1. | | | |
| | Retained earnings | 12,000 | |
| | Reserve for uncollectible accounts | | 12,000 |
| | To record the adjusting entry for uncollectible accounts. | | |
| 2. | | | |
| | Retained earnings | 48,000 | |
| | Reserve for depreciation | | 48,000 |
| | To record depreciation expense. | | |
| 3. | | | |
| | Retained earnings | 120,000 | |
| | Appropriation for plant expansion | | 120,000 |
| | To record retained earnings appropriation. | | |
| 4. | | | |
| | Retained earnings | 8,000 | |
| | Stock dividend distributable – Common | | 8,000 |
| | To record 10% stock dividend declaration (100 shares to be distributed – $80 par value, $120 market value). | | |
| 5. | | | |
| | Stock dividend distributable – Common | 8,000 | |
| | Common stock | | 8,000 |

| | | | |
|---|---|---|---|
| | To record distribution of stock dividend. | | |
| 6. | | | |
| | Treasury Stock | 32,000 | |
| | Cash | | 32,000 |
| | To record acquisition of 200 shares of $80 par value common stock at $160 per share. | | |
| 7. | | | |
| | Cash | 17,600 | |
| | Treasury Stock | | 17,600 |
| | To record sale of 100 treasury shares at $176 per share. | | |
| 8. | | | |
| | Cash | 6,800 | |
| | Treasury stock | | 6,800 |
| | To record sale of 50 treasury shares at $136 per share. | | |
| 9. | | | |
| | Common stock | 16,000 | |
| | Dividends payable | | 16,000 |
| | To record declaration of cash dividend. | | |
| 10. | | | |
| | Dividends payable | 16,000 | |
| | Cash | | 16,000 |
| | To record payment of cash dividend. | | |

The management of Keel Corporation has asked you, a CPA, to analyze these journal entries and decide whether each is correct. The explanations are all correct. Wherever a journal entry is incorrect, prepare the journal entry that should have been made.

Annual report analysis C The following questions are based on the Coca-Cola Company's 2006 annual report. To view the report, go to the Coca-Cola web site at www.cocacola.com. After you activate the web site, click on The Coca-Cola Company. Go to investors and a menu will drop down that has financials as an option with Financial Statements (select this) to its right. Click on Balance Sheet and then open it to find the total cost of treasury shares. Then go to Selected Financial Data and open it to find the number of common shares outstanding.

1. Based on the information in the balance sheet and the note, determine the number of common shares outstanding; and the total cost of treasury stock shares on hand at the end of 2006.
2. In writing, discuss what reasons Coca-Cola might have to acquire treasury stock.

3. Find Coca-Cola's basic EPS for 2006 listed in its Income Statement. If the common stock's market price at 2006 December 31, was $ 30, what was the price-earnings ratio?

Ethics case–Writing experience D Based on the ethics case, answer the following questions concerning Ace Chemical Company in writing:

1. Is this transaction fair to the creditors?
2. Why would the officers not merely declare a $ 4 million cash dividend? Is the proposed treasury stock transaction fair to the other stockholders?
3. If you were one of the officers, would you feel comfortable in going ahead with this proposed treasury stock transaction?

Group project E In teams of two to three students, go to the library to find articles evaluating accounting software packages. Use a periodicals index such as the *Accounting and Tax Index* or the *Business Periodicals Index* to locate these articles. Compare the cost and features of three accounting software packages. As a team, prepare a memorandum to the manager of a small retail business. Compare and contrast the three accounting software packages so the manager might decide which package to purchase. In the memorandum, cite the sources used in gathering the data and properly reference any direct quotes or paraphrasing. The heading of the memorandum should contain the date, to whom it is written, from whom, and the subject matter.

Group project F With a small group of students, go to the library and locate *Statement of Financial Accounting Standards No. 4*, "Reporting Gains and Losses from Extinguishing of Debt", published by the Financial Accounting Standards Board. Write a report to your instructor giving the highlights of the standard. Why are these gains and losses treated as extraordinary items? Why did the Board act on this topic? Why did one member of the Board dissent?

Group project G With one or two other students, locate the annual reports of three companies and study their statements of stockholders' equity. Determine why the number of common shares outstanding changed (if at all) during the current year. For instance, the number of outstanding shares may have increased due to new issuances, exercise of stock options, conversion of preferred stock, exercise of warrants, stock dividends, and other causes. The number of shares outstanding may have decreased because of repurchases of stock (treasury stock transactions). Write a report to your instructor presenting your findings. Also be prepared to make a short presentation to your class.

Using the Internet—A view of the real world

Visit the following website for the General Electric Company:

http://www.ge.com

Pursue choices on the screen until you locate the consolidated statement of changes in stockholders' equity. You will probably go down some "false paths" to get to this financial statement, but you can get there. This experience is all part of learning to use the Internet. Trace the changes that have occurred in the last three years in the dividends and other transactions with stockholders. Check out the notes to the financial statements for further information. Write a memo to your instructor summarizing your findings.

Visit the following website for 3M:

http://www.3m.com

Pursue choices on the screen until you locate the Financial Section. You will probably go down some "false paths" to get to this information, but you can get there. This experience is all part of learning to use the Internet. Trace the changes that have occurred in the stockholders' equity section for the most recent two years. Identify the causes of the changes. Check out the notes to the financial statements for further information. Write a memo to your instructor summarizing your findings.

1. [1]Stockholders might agree to rescind (cancel) a dividend already declared if the company is in difficult financial circumstances and needs to retain cash to pay bills or acquire assets to continue operations.
2. [2]If a corporation reduces the par value of its stock without issuing more shares, say, from $ 100 to $ 60 per share, then $ 40 per share must be removed from the appropriate capital stock account and credited to Paid-In Capital Recapitalization. Further discussion of this process, called recapitalization, is beyond the scope of this text.

3. [3]Another acceptable method of accounting for treasury stock transactions is the par value method. We leave further discussion of the par value method to intermediate accounting texts.
4. [4]The method illustrated here is called the memo method. Other acceptable methods of accounting for donated stock are the cost method and par value method. Intermediate accounting texts discuss these latter two methods.
5. [5]FASB, *Statement of Financial Accounting Standards No. 96*, “Accounting for Income Taxes” (Stamford. Conn., 1987). Copyright © by the Financial Accounting Standards Board, High Ridge Park, Stamford, Connecticut 06905, U.S.A.

# UNIT 15: LONG-TERM LIABILITIES AND INVESTMENT IN BONDS

## LONG-TERM FINANCING

In previous chapters, you learned that corporations obtain cash for recurring business operations from stock issuances, profitable operations, and short-term borrowing (current liabilities). However, when situations arise that require large amounts of cash, such as the purchase of a building, corporations also raise cash from long-term borrowing. One way to borrow this money is through getting a loan through the bank (like in the case of a mortgage) or the corporation could issue bonds. The issuing of bonds results in a Bonds Payable account.

Watch this video online: https://youtu.be/WIeHWjxvU9M

### Bonds payable

A **bond** is a long-term debt, or liability, owed by its issuer. Physical evidence of the debt lies in a negotiable bond certificate. In contrast to long-term notes, which usually mature in 10 years or less, bond maturities often run for 20 years or more.

Generally, a bond issue consists of a large number of $1,000 bonds rather than one large bond. For example, a company seeking to borrow $100,000 would issue one hundred $1,000 bonds rather than one $100,000 bond. This practice enables investors with less cash to invest to purchase some of the bonds.

Bonds derive their value primarily from two promises made by the borrower to the lender or bondholder. The borrower promises to pay (1) the**face value** or principal amount of the bond on a specific maturity date in the future and (2) periodic interest at a specified rate on face value at stated dates, usually semiannually, until the maturity date.

Large companies often have numerous long-term notes and bond issues outstanding at any one time. The various issues generally have different stated interest rates and mature at different points in the future. Companies present this information in the footnotes to their financial statements. Promissory notes, debenture bonds, and foreign bonds are shown with their amounts, maturity dates, and interest rates.

### Comparison with stock

A bond differs from a share of stock in several ways:

•A bond is a debt or liability of the issuer, while a share of stock is a unit of ownership.

•A bond has a maturity date when it must be paid. A share of stock does not mature; stock remains outstanding indefinitely unless the company decides to retire it.

•Most bonds require stated periodic interest payments by the company. In contrast, dividends to stockholders are payable only when declared; even preferred dividends need not be paid in a particular period if the board of directors so decides.

•Bond interest is deductible by the issuer in computing both net income and taxable income, while dividends are not deductible in either computation.

## Selling (issuing) bonds

A company seeking to borrow millions of dollars generally is not able to borrow from a single lender. By selling (issuing) bonds to the public, the company secures the necessary funds.

Usually companies sell their bond issues through an investment company or a banker called an **underwriter**. The underwriter performs many tasks for the bond issuer, such as advertising, selling, and delivering the bonds to the purchasers. Often the underwriter guarantees the issuer a fixed price for the bonds, expecting to earn a profit by selling the bonds for more than the fixed price.

When a company sells bonds to the public, many purchasers buy the bonds. Rather than deal with each purchaser individually, the issuing company appoints a trustee to represent the bondholders. The **trustee** usually is a bank or trust company. The main duty of the trustee is to see that the borrower fulfills the provisions of the bond indenture. A **bond indenture** is the contract or loan agreement under which the bonds are issued. The indenture deals with matters such as the interest rate, maturity date and maturity amount, possible restrictions on dividends, repayment plans, and other provisions relating to the debt. An issuing company that does not adhere to the bond indenture provisions is in default. Then, the trustee takes action to force the issuer to comply with the indenture.

Bonds may differ in some respects; they may be secured or unsecured bonds, registered or unregistered (bearer) bonds, and term or serial bonds. We discuss these differences next but first watch this video about the different bond types.

Watch this video online: https://youtu.be/Jj0V01Arebk

Certain bond features are matters of legal necessity, such as how a company pays interest and transfers ownership. Such features usually do not affect the issue price of the bonds. Other features, such as convertibility into common stock, are sweeteners designed to make the bonds more attractive to potential purchasers. These sweeteners may increase the issue price of a bond.

- **Secured bonds**: A **secured bond** is a bond for which a company has pledged specific property to ensure its payment. Mortgage bonds are the most common secured bonds. A **mortgage** is a legal claim (lien) on specific property that gives the bondholder the right to possess the pledged property if the company fails to make required payments.
- **Unsecured bonds**: An **unsecured bond** is a **debenture bond**, or simply a debenture. A debenture is an unsecured bond backed only by the general creditworthiness of the issuer, not by a lien on any specific property. A financially sound company can issue debentures more easily than a company experiencing financial difficulty.
- **Registered bonds**: A **registered bond** is a bond with the owner's name on the bond certificate and in the register of bond owners kept by the bond issuer or its agent, the registrar. Bonds may be registered as to principal (or face value of the bond) or as to both principal and interest. Most bonds in our economy are registered as to principal only. For a bond registered as to both principal and interest, the issuer pays the bond interest by check. To transfer ownership of registered bonds, the owner endorses the bond and registers it in the new owner's name. Therefore, owners can easily replace lost or stolen registered bonds.
- **Unregistered (bearer) bonds**: An **unregistered (bearer) bond** is the property of its holder or bearer because the owner's name does not appear on the bond certificate or in a separate record. Physical delivery of the bond transfers ownership.
- **Coupon bonds**: A **coupon bond** is a bond not registered as to interest. Coupon bonds carry detachable coupons for the interest they pay. At the end of each interest period, the owner clips the coupon for the period and presents it to a stated party, usually a bank, for collection.
- **Term bonds and serial bonds**: A **term bond** matures on the same date as all other bonds in a given bond issue. **Serial bonds** in a given bond issue have maturities spread over several dates. For instance, one-fourth of the bonds may mature on 2011 December 31, another one-fourth on 2012 December 31, and so on.
- **Callable bonds**: A **callable bond** contains a provision that gives the issuer the right to call (buy back) the bond before its maturity date. The provision is similar to the call provision of some preferred stocks. A company is likely to exercise this call right when its outstanding bonds bear interest at a much higher

rate than the company would have to pay if it issued new but similar bonds. The exercise of the call provision normally requires the company to pay the bondholder a call premium of about $30 to $70 per $1,000 bond. A call premium is the price paid in excess of face value that the issuer of bonds must pay to redeem (call) bonds before their maturity date.

- **Convertible bonds**: A **convertible bond** is a bond that may be exchanged for shares of stock of the issuing corporation at the bondholder's option. A convertible bond has a stipulated conversion rate of some number of shares for each $1,000 bond. Although any type of bond may be convertible, issuers add this feature to make risky debenture bonds more attractive to investors.
- **Bonds with stock warrants**: A **stock warrant** allows the bondholder to purchase shares of common stock at a fixed price for a stated period. Warrants issued with long-term debt may be nondetachable or detachable. A bond with nondetachable warrants is virtually the same as a convertible bond; the holder must surrender the bond to acquire the common stock. Detachable warrants allow bondholders to keep their bonds and still purchase shares of stock through exercise of the warrants.
- **Junk bonds** Junk bonds are high-interest rate, high-risk bonds. Many junk bonds issued in the 1980s financed corporate restructurings. These restructurings took the form of management buyouts (called leveraged buyouts or LBOs), hostile takeovers of companies by outside parties, or friendly takeovers of companies by outside parties. In the early 1990s, junk bonds lost favor because many issuers defaulted on their interest payments. Some issuers declared bankruptcy or sought relief from the bondholders by negotiating new debt terms.

Several advantages come from raising cash by issuing bonds rather than stock. First, the current stockholders do not have to dilute or surrender their control of the company when funds are obtained by borrowing rather than issuing more shares of stock. Second, it may be less expensive to issue debt rather than additional stock because the interest payments made to bondholders are tax deductible while dividends are not. Finally, probably the most important reason to issue bonds is that the use of debt may increase the earnings of stockholders through favorable financial leverage.

A company has **favorable financial leverage** when it uses borrowed funds to increase earnings per share (EPS) of common stock. An increase in EPS usually results from earning a higher rate of return than the rate of interest paid for the borrowed money. For example, suppose a company borrowed money at 10 per cent and earned a 15 per cent rate of return. The 5 per cent difference increases earnings.

Several disadvantages accompany the use of debt financing. First, the borrower has a fixed interest payment that must be met each period to avoid default. Second, use of debt also reduces a company's ability to withstand a major loss. A third disadvantage of debt financing is that it also causes a company to experience unfavorable financial leverage when income from operations falls below a certain level. Unfavorable financial leverage results when the cost of borrowed funds exceeds the revenue they generate; it is the reverse of favorable financial leverage. The fourth disadvantage of issuing debt is that loan agreements often require maintaining a certain amount of working capital (Current assets – Current liabilities) and place limitations on dividends and additional borrowings.



# RECORDING ENTRIES FOR BONDS

When a company issues bonds, it incurs a long-term liability on which periodic interest payments must be made, usually twice a year. If interest dates fall on other than balance sheet dates, the company must accrue interest in the proper periods. The following examples illustrate the accounting for bonds issued at face value on an interest date and issued at face value between interest dates.

**Bonds issued at face value on an interest date** Valley Company's accounting year ends on December 31. On 2010 December 31, Valley issued 10-year, 12 per cent bonds with a $100,000 face value, for $100,000. The bonds are dated December 31, call for semiannual interest payments on June 30 and December 31, and mature in 10 years on December 31. Valley made the required interest and principal payments when due. The entries for the 10 years are as follows:

On December 31, the date of issuance, the entry is:

| | | Debit | Credit |
|---|---|---|---|
| Dec 31 | Cash | 100,000 | |
| | Bonds Payable | | 100,000 |
| | To record bonds issued at face value. | | |

On each June 30 and December 31 for 10 years, beginning 2010 June 30 (ending 2020 June 30), the entry would be (*Remember, calculate interest as Principal x Interest x Frequency of the Year*):

| | | Debit | Credit |
|---|---|---|---|
| Jun 30 | Bond Interest Expense ($100,000 x 12% x 6 months / 12 months) | 6,000 | |
| | Cash | | 6,000 |
| | To record semiannual interest payment. | | |

On December 31 (10 years later), the maturity date, the entry would include the last interest payment and the amount of the bond:

| | | Debit | Credit |
|---|---|---|---|
| Dec 31 | Bond Interest Expense ($100,000 x 12% x 6 months / 12 months) | 6,000 | |
| | Bonds Payable | 100,000 | |
| | Cash | | 106,000 |
| | To record final semiannual interest and bond repayment. | | |

Note that Valley does not need any interest adjusting entries because the interest payment date falls on the last day of the accounting period. The income statement for each of the 10 years would show Bond Interest Expense of $12,000 ($ 6,000 x 2 payments per year); the balance sheet at the end of each of the years 1 to 8 would report bonds payable of $100,000 in long-term liabilities. At the end of ninth year, Valley would reclassify the bonds as a current liability because they will be paid within the next year.

The real world is more complicated. For example, assume the Valley bonds were dated October 31, issued on that same date, and pay interest each April 30 and October 31. Valley must make an adjusting entry on December 31 to accrue interest earned for November and December but not paid until April 30 of the next year. That entry would be:

| | | Debit | Credit |
|---|---|---|---|
| Dec 31 | Bond Interest Expense ($100,000 x 12% x 2 months / 12 months) | 2,000 | |

| | | | |
|---|---|---|---|
| | Interest Payable (or Bond Interest Payable) | | 2,000 |
| | To record accrued interest for November and December payable in April. | | |

The April 30 entry in the next year would include the accrued amount from December of last year and interest expense for Jan to April of this year. We will credit cash since we are paying cash to the bondholders.

| | | Debit | Credit |
|---|---|---|---|
| Dec 31 | Bond Interest Expense ($100,000 x 12% x 4 months / 12 months) | 4,000 | |
| | Interest Payable (or Bond Interest Payable) | 2,000 | |
| | Cash ($100,000 x 12% x 6 months / 12 months) | | 6,000 |
| | To record payment of 6 months bond interest. | | |

Since the 6-month period ending October 31 occurs within the same fiscal year, the bond interest entry would be:

| | | Debit | Credit |
|---|---|---|---|
| Oct 31 | Bond Interest Expense ($100,000 x 12% x 6 months / 12 months) | 6,000 | |
| | Cash | | 6,000 |
| | To record semiannual interest payment. | | |

Each year Valley would make similar entries for the semiannual payments and the year-end accrued interest. The firm would report the $2,000 Bond Interest Payable as a current liability on the December 31 balance sheet for each year.

It would be nice if bonds were always issued at the par or face value of the bonds. But, certain circumstances prevent the bond from being issued at the face amount. We may be forced to issue the bond at a discount or premium. This video will explain the basic concepts and then we will review examples:

Watch this video online: https://youtu.be/ZuQ2evNCc48

Bond prices and interest rates

The price of a bond issue often differs from its face value. The amount a bond sells for above face value is a **premium**. The amount a bond sells for below face value is a **discount**. A difference between face value and issue price exists whenever the market rate of interest for similar bonds differs from the contract rate of interest on the bonds. The **effective interest rate** (also called the yield) is the minimum rate of interest that investors accept on bonds of a particular risk category. The higher the risk category, the higher the minimum rate of interest that investors accept. The **contract rate of interest** is also called the stated, coupon, or nominal rate is the rate used to pay interest. Firms state this rate in the bond indenture, print it on the face of each bond, and use it to determine the amount of cash paid each interest period. The market rate fluctuates from day to day, responding to factors such as the interest rate the Federal Reserve Board charges banks to borrow from it; government actions to finance the national debt; and the supply of, and demand for, money.

Market and contract rates of interest are likely to differ. Issuers must set the contract rate before the bonds are actually sold to allow time for such activities as printing the bonds. Assume, for instance, that the contract rate for a bond issue is set at 12%. If the market rate is equal to the contract rate, the bonds will sell at their face value. However, by the time the bonds are sold, the market rate could be higher or lower than the contract rate.

| | |
|---|---|
| Market Rate = Contract Rate | Bond sells at par (or face or 100%) |

| | |
|---|---|
| Market Rate < Contract Rate | Bonds sells at premium (price greater than 100%) |
| Market Rate > Contract Rate | Bond sells at discount (price less than 100%) |

As shown above, if the market rate is lower than the contract rate, the bonds will sell for more than their face value. Thus, if the market rate is 10% and the contract rate is 12%, the bonds will sell at a premium as the result of investors bidding up their price. However, if the market rate is higher than the contract rate, the bonds will sell for less than their face value. Thus, if the market rate is 14% and the contract rate is 12%, the bonds will sell at a discount. Investors are not interested in bonds bearing a contract rate less than the market rate unless the price is reduced. Selling bonds at a premium or a discount allows the purchasers of the bonds to earn the market rate of interest on their investment.

Computing long-term bond prices involves finding **present values** using compound interest. Buyers and sellers negotiate a price that yields the going rate of interest for bonds of a particular risk class. The price investors pay for a given bond issue is equal to the present value of the bonds.

Issuers usually quote bond prices as percentages of face value—100 means 100% of face value, 97 means a discounted price of  97%of face value, and 103 means a premium price of 103% of face value. For example, one hundred $1,000 face value bonds issued at 103 have a price of $103,000 (100 bonds x $1,000 each x 103%). Regardless of the issue price, at maturity the issuer of the bonds must pay the investor(s) the face value (or principal amount) of the bonds.

**Bonds issued at a discount** When we issue a bond at a discount, remember we are selling the bond for less than it is worth or less than we are required to pay back.  We always record Bond Payable at the amount we have to pay back which is the face value or principal amount of the bond.  The difference between the price we sell it and the amount we have to pay back is recorded in a contra-liability account called **Discount on Bonds Payable**.  This discount will be removed over the life of the bond by amortizing (which simply means dividing) it over the life of the bond.  The discount will increase bond interest expense when we record the semiannual interest payment. Here is a video example and then we will do our own example:

Watch this video online: https://youtu.be/FjSvAmqIXOc

For our example assume Jan 1 Carr issues $100,000, 12% 3-year bonds for a price of 95 1/2 or 95.50% with interest to be paid semi-annually on June 30 and December 30 for cash.  We know this is a discount because the price is less than 100%.  The entry to record the issue of the bond on January 1 would be:

| | | Debit | Credit |
|---|---|---|---|
| Jan 1 | Cash ($100,000 x 95.5%) | 95,500 | |
| | Discount on Bonds Payable ($100,000 bond – $95,500 cash) | 4,500 | |
| | Bonds Payable ($100,000 bond amount) | | 100,000 |
| | To record issue of bond at a discount. | | |

In the balance sheet, the bonds would be reported with a **carrying value** equal to the cash received of $95,500 reported  as:

| | | |
|---|---|---|
| Long-term Liabilities: | | |
| Bonds Payable, 12% due in 3 years | $100,000 | |
| Less: Discount on Bonds Payable | (4,500) | $95,500 |

When a company issues bonds at a premium or discount, the amount of bond interest expense recorded each period differs from bond interest payments.  The bond pays interest every 6 months on June 30 and December

31. We will amortize the discount using the straight-line method meaning we will take the **total amount of the discount and divide by the total number of interest payments.** In this example the discount amortization will be $4,500 discount amount / 6 interest payment (3 years x 2 interest payments each year). The entry to record the semi-annual interest payment and discount amortization would be:

| | Debit | Credit |
|---|---|---|
| Bond Interest Expense | 6,750 | |
| Discount on Bonds Payable ($4,500 / 6 interest payments) | | 750 |
| Cash ($100,000 x 12% x 6 months / 12 months) | | 6,000 |
| To record periodic interest payment and discount amortization. | | |

At maturity, we would have completely amortized or removed the discount so the balance in the discount account would be zero. Our entry at maturity would be:

| | | Debit | Credit |
|---|---|---|---|
| Jan 1 (maturity) | Bonds Payable | 100,000 | |
| | Cash | | 100,000 |
| | Bonds Payable ($100,000 bond amount) | | 100,000 |
| | To record payment of bond at maturity. | | |

**Bonds issued at a premium** When we issue a bond at a premium, we are selling the bond for more than it is worth. We always record Bond Payable at the amount we have to pay back which is the face value or principal amount of the bond. The difference between the price we sell it and the amount we have to pay back is recorded in a liability account called **Premium on Bonds Payable**. Just like with a discount, we will remove the premium amount will be removed over the life of the bond by amortizing (which simply means dividing) it over the life of the bond. The premium will decrease bond interest expense when we record the semiannual interest payment. Here is a video example and then we will do our own example:

Watch this video online: https://youtu.be/o00D3xqvJ-k

For our example assume Jan 1 Carr issues $100,000, 12% 3-year bonds for a price of 105 1/4 or 105.25% with interest to be paid semi-annually on June 30 and December 30 for cash. We know this is a discount because the price is less than 100%. The entry to record the issue of the bond on January 1 would be:

| | | Debit | Credit |
|---|---|---|---|
| Jan 1 | Cash ($100,000 x 105.25%) | 105,250 | |
| | Premium on Bonds Payable ($105,250 cash – $100,000 bond) | | 5,250 |
| | Bonds Payable ($100,000 bond amount) | | 100,000 |
| | To record issue of bond at a premium. | | |

The **carrying value** of these bonds at issuance is equal to the cash received of $105,250, consisting of the face value of $100,000 and the premium of $5,250. The premium is an adjunct account shown on the balance sheet as an addition to bonds payable as follows:

| | | |
|---|---|---|
| Long-term Liabilities: | | |
| Bonds Payable, 12% due in 3 years | $100,000 | |
| Plus: Premium on Bonds Payable | 5,250 | $105,250 |

Remember, when a company issues bonds at a premium or discount, the amount of bond interest expense recorded each period differs from bond interest payments. A premium decreases the amount of interest expense we record semi-annually. In our example, the bond pays interest every 6 months on June 30 and December 31. We will amortize the premium using the straight-line method meaning we will take the **total amount of the premium and divide by the total number of interest payments**. In this example the premium amortization will be $5,250 discount amount / 6 interest payment (3 years x 2 interest payments each year). The entry to record the semi-annual interest payment and discount amortization would be:

| | | Debit | Credit |
|---|---|---|---|
| Jun 30 | Bond Interest Expense ($6,000 cash interest – 875 premium amortization) | 5,125 | |
| | Premium on Bonds Payable ($5,250 premium / 6 interest payments) | 875 | |
| | Cash ($100,000 x 12% x 6 months / 12 months) | | 6,000 |
| | To record period interest payment and premium amortization. | | |

Just like with a discount, we would have completely amortized or removed the premium so the balance in the premium account would be zero. Our entry at maturity would be:

| | | Debit | Credit |
|---|---|---|---|
| Jan 1 (maturity) | Bonds Payable | 100,000 | |
| | Cash | | 100,000 |
| | Bonds Payable ($100,000 bond amount) | | 100,000 |
| | To record payment of bond at maturity. | | |

**Bonds issued at face value between interest dates** Companies do not always issue bonds on the date they start to bear interest. Regardless of when the bonds are physically issued, interest starts to accrue from the most recent interest date. Firms report bonds to be selling at a stated price “plus accrued interest”. The issuer must pay holders of the bonds a full six months’ interest at each interest date. Thus, investors purchasing bonds after the bonds begin to accrue interest must pay the seller for the unearned interest accrued since the preceding interest date. The bondholders are reimbursed for this accrued interest when they receive their first six months’ interest check.

Using the facts for the Valley bonds dated 2010 December 31, suppose Valley issued its bonds on May 31, instead of on December 31. The entry required is:

| | | | | |
|---|---|---|---|---|
| May | 31 | Cash | 105,000 | |
| | | Bonds payable | | 100,000 |
| | | Bond interest payable ($100,000 x 12% x (5/12)) | | 5,000 |

| | | | | |
|---|---|---|---|---|
| | | To record bonds issued at face value plus accrued interest. | | |

This entry records the $5,000 received for the accrued interest as a debit to Cash and a credit to Bond Interest Payable.

The entry required on June 30, when the full six months' interest is paid, is:

| | | | | |
|---|---|---|---|---|
| June | 30 | Bond Interest Expense ($100,000 x 0.12 x (1/12)) | 1,000 | |
| | | Bond interest payable | 5,000 | |
| | | Cash | | 6,000 |
| | | To record bond interest payment. | | |

This entry records $1,000 interest expense on the $100,000 of bonds that were outstanding for one month. Valley collected $5,000 from the bondholders on May 31 as accrued interest and is now returning it to them.



# REDEEMING BONDS PAYABLE

## Redeeming bonds payable

Bonds may be (1) paid at maturity, (2) called, or (3) purchased in the market and retired. Bonds may also be retired by being converted into stock. Each action is either a redemption of bonds or the extinguishment of debt. A company that pays its bonds at maturity would have already amortized any related discount or premium and paid the last interest payment. The only entry required at maturity would debit Bonds Payable and credit Cash for the face amount of the bonds

An issuer may redeem some or all of its outstanding bonds before maturity by calling them. The issuer may also purchase bonds in the market and retire them. In either case, the accounting is the same. Watch this video to see how we retire bonds when the the bond was originally issued at a discount.

Watch this video online: https://youtu.be/zvXuYDvuyRE

In the video example, the carrying value of the bonds are $61,750 calculated as Bonds Payable $65,000 – Discount on Bonds Payable remaining $3,250. The cash we paid to retire the bonds is $66,150 which is greater than the carrying value of the bond of $61,750 so we are paying more to retire the bond than it is worth and we record a loss for the difference of $4,400 ($66,150 – $61,750). If the cash we paid is less the carrying value of the bonds, we are paying less than the bonds are worth so we get to record a gain on the retirement of the bonds. Let's look at another example.

Assume that on January 1, Carr calls bonds with a $10,000 face value and remaining premium on bonds payable of $272. Carr pays cash of $10,300 to retire these bonds. The carrying value on the bonds is $10,272 ($10,000 bonds payable + $272 premium on bonds payable) and we are paying cash of $10,300 which is more than the carrying value of the bonds. We will record a loss for the difference $28 ($10,300 cash- $10,272 carrying value). In the required entry, we must remove the bond and its related accounts, in this case, premium on bonds payable by debiting both accounts. The required entry is:

| | | Debit | Credit |
|---|---|---|---|
| Jan 1 | Bonds Payable | 10,000 | |
| | Premium on Bonds Payable | 272 | |
| | Loss on Retirement of Debt ($10,300 cash – 10,272 carrying value) | 28 | |
| | Cash | | 10,300 |
| | To record bond redemption at a loss. | | |

According to *FASB Statement No. 4*, gains and losses from voluntary early retirement of bonds are extraordinary items, if material. We report such gains and losses in the income statement, net of their tax effects, as described in Unit 15. The FASB is currently reconsidering the reporting of these gains and losses as extraordinary items.

A company may add to the attractiveness of its bonds by giving the bondholders the option to convert the bonds to shares of the issuer's common stock. In accounting for the conversions of **convertible bonds**, a company treats the carrying value of bonds surrendered as the capital contributed for shares issued.

Suppose a company has $10,000 face value of bonds outstanding. Each $1,000 bond is convertible into 50 shares of the issuer's $10 par value common stock so the $10,000 face value (10 bonds x $1,000 each) would convert to 500 shares (10 bonds x 50 shares per bond). On May 1, when the carrying value of the bonds was $9,800 (meaning $10,000 bonds payable – $200 discount on bonds payable balance), investors presented all of the bonds for conversion. The entry required is:

| | | Debit | Credit |
|---|---|---|---|
| May 1 | Bonds Payable | 10,000 | |
| | Discount on Bonds Payable | | 200 |
| | Common Stock (500 shares x $10 par) | | 5,000 |
| | Paid in capital in excess of par value, Common | | 4,800 |
| | To record conversion of bonds to common stock. | | |

The entry eliminates the $9,800 book value of the bonds from the accounts by debiting Bonds Payable for $10,000 and crediting Discount on Bonds Payable for $200 (remember, discount on bonds payable is a contra-liability account and has a normal debit balance). It credits Common Stock for the par value of the $5,000 shares issued (500 shares x $10 par). The excess amount ($10,000 – 200 – 5,000 = $ 4,800) is credited to Paid-In Capital in Excess of Par Value—Common.

Accounting in the Headlines

## How does a convertible bond issued by Fiat Chrysler Automobile affect the company’s balance sheet?

Fiat Chrysler Automobiles (FCA) launched a $2.5 billion convertible bond issue in December 2014. FCA will be using the funds generated from the bond issue to help to turn its Jeep, Maserati, and Alfa Romeo brands into global brands, competing directly against Volkswagen and BMW in the premium car market.

FIAT CHRYSLER AUTOMOBILES

The bond issue will mature in 2016 and will pay annual interest (an “annual coupon”). The bond will have a conversion feature that allows it to be converted into shares; an investor would presumably exercise the conversion right if the market price of FCA rises to an appropriate level at some future date. If the market price does not increase suitably, then the bondholder would simply hold the bond without converting it into FCA stock.

### Questions

1. Is the convertible bond accounted for as liability or as equity by FCA? Why?
2. How will the convertible bond issue affect FCA’s assets, liabilities, and equity?
3. Assume that investors opt to convert the bond into stock in late 2015. How will that conversion affect FCA’s assets, liabilities, and equity?



# CAPITAL LEASES AND OPERATING LEASES

A **lease** is a contract to rent property. The property owner is the grantor of the lease and is the lessor. The person or company obtaining rights to possess and use the property is the lessee. The rights granted under the lease are a **leasehold**. The accounting for a lease depends on whether it is a capital lease or an operating lease.

**Capital leases** A **capital lease** transfers to the lessee virtually all rewards and risks that accompany ownership of property. A lease is a capital lease if, among other provisions, it (1) transfers ownership of the leased property to the lessee at the end of the lease term or (2) contains a bargain purchase option that permits the lessee to buy the property at a price significantly below fair market value at the end of the lease term.

A capital lease is a means of financing property acquisitions; it has the same economic impact as a purchase made on an installment plan. Thus, the lessee in a capital lease must record the leased property as an asset and the lease obligation as a liability. Because a capital lease is an asset, the lessee depreciates the leased property over its useful life. The lessee records part of each lease payment as interest expense and the balance as a payment on the lease liability.

The proper accounting for capital leases for both lessees and lessors has been an extremely difficult problem. We leave further discussion of capital leases for an intermediate accounting text.

**Operating leases** A lease that does not qualify as a capital lease is an **operating lease.** A one-year lease on an apartment and a week's rental of an automobile are examples of operating leases. Such leases make no attempt to transfer any of the rewards and risks of ownership to the lessee. As a result, there may be no recordable transaction when a lease is signed.

In some situations, the lease may call for an immediate cash payment that must be recorded. Assume that a business signed a lease requiring the immediate payment of the annual rent of $15,000 for each of the first and fifth years of a five-year lease. The lessee would record the payment as follows:

| | | |
|---|---|---|
| Prepaid Rent | 15,000 | |
| Leasehold | 15,000 | |
| Cash | | 30,000 |
| To record first and fifth years' rent on a five-year lease. | | |

Since the Leasehold account is actually a long-term prepaid rent account for the fifth year's annual rent, it is an intangible asset until the beginning of the fifth year. Then the Leasehold account becomes a current asset and may be transferred into a Prepaid Rent account. Accounting for the balance in the Leasehold account depends on the terms of the lease. In the previous example, the firm would charge the $15,000 in the Leasehold account to expense over the fifth year only. It would charge the balance in Prepaid Rent to expense in the first year. Thus, assuming the lease year and fiscal year coincide, the entry for the first year is:

| | | |
|---|---|---|
| Rent Expense | 15,000 | |
| Prepaid Rent | | 15,000 |
| To record rent expense. | | |

The entry in the fifth year is:

| | | |
|---|---|---|
| Rent Expense (-SE) | 15,000 | |
| Leasehold (-A) | | 15,000 |
| To record rent expense. | | |

The accounting for the second, third, and fourth years would be the same as for the first year. The lessee records the rent in Prepaid Rent when paid in advance for the year and then expenses it. As stated above, the lessee may transfer the amount in the Leasehold account to Prepaid Rent at the beginning of the fifth year by debiting Prepaid Rent and crediting Leasehold. If this entry was made, the previous entry would have credited Prepaid Rent.

In some cases, when a lease is signed, the lump-sum payment does not cover a specific year's rent. The lessee debits this payment to the Leasehold account and amortizes it over the life of the lease. The straight-line method is required unless another method can be shown to be superior. Assume the $15,000 rent for the fifth year in the example was, instead, a lump-sum payment on the lease in addition to the annual rent payments. An annual adjusting entry to amortize the $15,000 over five years would read:

| | | |
|---|---|---|
| Rent Expense | 3,000 | |
| Leasehold | | 3,000 |
| To amortize leasehold. | | |

In this example, the annual rental expense is  $18,000:  $15,000 annual cash rent plus $3,000 amortization of leasehold ($15,000/5).

The lessee may base periodic rent on current-year sales or usage rather than being a constant amount. For example, if a lease called for rent equal to 5% of current-year sales and sales were $400,000, the rent would be $20,000 ($400,000 x 5%). The rent would either be paid or an adjusting entry would be made at the end of the year.



# ACCOUNTING FOR INVESTMENT IN BONDS

We will look at a similar topic but this time we, as a corporation, are purchasing bonds of another company.  We will not have a liability because we are the ones purchasing the bond or loaning the money.  We record this as an asset called Investment in Bonds.

Watch this video online: https://youtu.be/l9Q5qvYf2LI

Watch this video online: https://youtu.be/FCs1lSWa38g

Let's look at another discount example.  Assume we purchase $50,000 in bonds of ABC Corporation for $45,000 cash.  The bonds have a stated interest rate of 10% paid semi-annually and the bond matures in 5 years.

To record the purchase of these bonds, we record the amount we actually paid for the bonds (we do not use discount or premium accounts):

| | Debit | Credit |
|---|---|---|
| Investment in Bonds | 45,000 | |
| Cash | | 45,000 |
| To record purchase of ABC company bonds for cash. | | |

To record receipt of the semi-annual interest payment, we record the receipt of cash interest AND we capitalize the difference between the bond face value $50,000 and the amount we paid $45,000 of $5,000 over the life of the bond using straight-line amortization.  The entry would be:

| | Debit | Credit |
|---|---|---|
| Cash (50,000 x 10% x 6 months / 12 months) | 2,500 | |
| Interest Revenue | | 2,500 |
| To record bond interest received. | | |
| | | |
| Investment in Bonds ($5,000 / 10 interest payments) | 500 | |
| Interest Revenue | | 500 |

| | | |
|---|---|---|
| To record capitalization of bond premium. | | |

This entry would be made every 6-months for 10 interest payments. At the end of 10 interest payments, Investment in Bonds account would be equal to the bond face value of $50,000. The entry to record receipt of the bond amount at maturity would be:

| | Debit | Credit |
|---|---|---|
| Cash | 50,000 | |
| Investment in Bonds | | 50,000 |
| To record receipt of bond at maturity. | | |

If we pay a higher price for the bonds than the bond face amount, the entries would be the same except we would Debit Interest Revenue and Credit Investment in Bonds with each interest payment.



# EXERCISES: UNIT 15

## SHORT ANSWER QUESTIONS, EXERCISES, AND PROBLEMS

**Questions**

➢ What are the advantages of obtaining long-term funds by the issuance of bonds rather than additional shares of capital stock? What are the disadvantages?

➢ What is a bond indenture? What parties are usually associated with it? Explain why.

➢ Explain what is meant by the terms coupon, callable, convertible, and debenture.

➢ What is meant by the term trading on the equity?

➢ When bonds are issued between interest dates, why should the issuing corporation receive cash equal to the amount of accrued interest (accrued since the preceding interest date) in addition to the issue price of the bonds?

➢ Why might it be more accurate to describe a sinking fund as a bond redemption fund?

➢ Indicate how each of the following items should be classified in a balance sheet.

- Cash balance in a sinking fund.
- Accrued interest on bonds payable.
- Debenture bonds payable due in 2019.
- Premium on bonds payable.
- First-mortgage bonds payable, due 2010 July 1.
- Discount on bonds payable.
- First National Bank—Interest account.
- Convertible bonds payable due in 2012.

➢ Why is the effective interest rate method of computing periodic interest expense considered theoretically preferable to the straight-line method?

➢ Why would an investor whose intent is to hold bonds to maturity pay more for the bonds than their face value?

➢ Of what use is the times interest earned ratio?

Exercises

Exercise A On 2010 September 30, Domingo's Construction Company issued $ 120,000 face value of 12 per cent, 10-year bonds dated 2010 August 31, at 100, plus accrued interest. Interest is paid semiannually on February 28 and August 31. Domingo's accounting year ends on December 31. Prepare journal entries to record the issuance of these bonds, the accrual of interest at year-end, and the payment of the first interest coupon.

Exercise B On 2009 December 31, East Lansing Office Equipment Company issued $ 1,600,000 face value of 8 per cent, 10-year bonds for cash of $ 1,400,605, a price to yield 10 per cent. The bonds pay interest semiannually and mature on 2019 December 31.

1. State which is higher, the market rate of interest or the contract rate.
2. Compute the bond interest expense for the first six months of 2010, using the interest method.
3. Show how the $ 1,400,605 price must have been determined.

Exercise C Compute the annual interest expense on the bonds in the previous exercise, assuming the bond discount is amortized using the straight-line method.

Exercise D After recording the payment of the interest coupon due on 2010 June 30, the accounts of Myrtle Beach Sailboat, Inc., showed Bonds Payable of $ 300,000 and Premium on Bonds Payable of $ 10,572. Interest is payable semiannually on June 30 and December 31. The five-year, 12 per cent bonds have a face value of $ 300,000 and were originally issued to yield 10 per cent. Prepare the journal entry to record the payment of interest on 2010 December 31. Use the interest method. (Round all amounts to the nearest dollar.)

Exercise E On 2010 June 30 (a semiannual interest payment date), Holiday Rollerblade Company redeemed all of its $ 400,000 face value of 10 per cent bonds outstanding by calling them at 106. The bonds were originally issued on 2006 June 30, at 100. Prepare the journal entry to record the payment of the interest and the redemption of the bonds on 2010 June 30.

Exercise F On 2009 August 31, as part of the provisions of its bond indenture, Caribbean Cruise Line, Inc., acquired $ 480,000 of its outstanding bonds on the open market at 96 plus accrued interest. These bonds were originally issued at face value and carry a 12 per cent interest rate, payable semiannually. The bonds are dated 2002 November 30, and pay semiannual interest on May 31 and November 30. Prepare the journal entries required to record the accrual of the interest to the acquisition date on the bonds acquired and the acquisition of the bonds.

Exercise G Cleveland Heating Systems, Inc., is required to make a deposit of $ 18,000 plus semiannual interest expense of $ 540 on 2009 October 31, to the trustee of its sinking fund so that the trustee can redeem $ 18,000 of the company's bonds on that date. The bonds were issued at 100. Prepare the journal entries required on October 31 to record the sinking fund deposit, the bond retirement, payment of interest (due on that date), and payment of trustee expenses, assuming the latter is $ 100.

Exercise H After interest was paid on 2010 September 30, $ 60,000 face value of Miami Video Rentals, Inc., outstanding bonds were converted into 8,000 shares of the company's $ 5 par value common stock. Prepare the journal entry to record the conversion, assuming the bonds were issued at 100.

Exercise I A recent annual report of Wal-Mart Corporation showed the following amounts as of the dates indicated:

| | Year | Ended | January 31 |
|---|---|---|---|
| | 2001 | 2000 | 1999 |

| | | | |
|---|---|---|---|
| Earnings before interest (and taxes)(millions) | $11,583 | $10,162 | $8,008 |
| Interest expense (millions) | 1,467 | 1,079 | 838 |

Calculate the times interest earned ratio for each year and comment on the results.

**Exercise J** What is the present value of a lump-sum payment of $ 20,000 due in five years if the market rate of interest is 10 per cent per year (compounded annually) and the present value of $ 1 due in five periods at 10 per cent is 0.62092?

**Exercise K** What is the present value of a series of semiannual payments of $ 10,000 due at the end of each six months for the next five years if the market rate of interest is 10 per cent per year and the present value of an annuity of $ 1 for 10 periods at 5 per cent is 7.72173?

**Exercise L** Joe Mordino bought a ticket in the Georgia lottery for $ 1, hoping to strike it rich. To his amazement, he won $ 4,000,000. Payment was to be received in equal amounts at the end of each of the next 20 years. Mordino heard from relatives and friends he had not heard from in years. They all wanted to renew their relationship with this new millionaire. Federal and state income taxes were going to be about 40 per cent (36 per cent for federal and 4 per cent for state) on each year's income from the lottery check. The discount rate to use in all present value calculations is 12 per cent.

1. How much will Mordino actually receive after taxes each year?
2. Is Mordino a multimillionaire according to the present value of his cash inflow after taxes?
3. What is the present value of the net amount the state has to pay out? Remember that the state gets part of the money back in the form of taxes.

**Exercise M** After Joe Mordino won $ 4,000,000 in the Georgia lottery, he decided to purchase $ 10,000 of lottery tickets at the end of each year for the next 20 years. He was hoping to hit the lottery again, but he never did. If the state can earn 12 per cent on ticket revenue received, how much will the annuity of $ 10,000 from Mordino grow to by the end of 20 years?

**Problems**

**Problem A** On 2009 June 1, Economy Auto Parts, Inc., issued $ 180,000 of 10-year, 16 per cent bonds dated 2009 April 1, at 100. Interest on bonds is payable semiannually on presentation of the appropriate coupon. All of the bonds are of $ 1,000 denomination. The company's accounting period ends on June 30, with semiannual statements prepared on December 31 and June 30. The interest payment dates are April 1 and October 1.

All of the first coupons on the bonds are presented to the company's bank and paid on 2009 October 2. All but two of the second coupons are similarly received and paid on 2010 April 1.

Prepare all necessary journal entries for these transactions through 2010 April 1, including the adjusting entry needed at 2009 June 30.

**Problem B** Ecological Water Filtration, Inc., is going to issue $ 400,000 face value of 10 per cent, 15-year bonds. The bonds are dated 2009 June 30, call for semiannual interest payments, and mature on 2024 June 30.

1. Compute the price investors should offer if they seek a yield of 8 per cent on these bonds. Also, compute the first six months' interest, assuming the bonds are issued at this price. Use the interest method and calculate all amounts to the nearest dollar.
2. Repeat part (a), assuming investors seek a yield of 12 per cent.

**Problem C** On 2009 July 1, South Carolina Table Company issued $ 600,000 face value of 10 per cent, 10-year bonds. The bonds call for semiannual interest payments and mature on 2019 July 1. The company received cash of $ 531,180, a price that yields 12 per cent.

Assume that the company's fiscal year ends on March 31. Prepare journal entries (to the nearest dollar) to record the bond interest expense on 2010 January 1, and the adjustment needed on 2010 March 31, using the interest method. Calculate all amounts to the nearest dollar.

**Problem D** Storall Company issued $ 200,000 face value of 16 per cent, 20-year junk bonds on 2010 July 1. The bonds are dated 2010 July 1, call for semiannual interest payments on July 1 and January 1, and were issued to yield 12 per cent (6 per cent per period).

1. Compute the amount received for the bonds.
2. Prepare an amortization schedule similar to that in Exhibit 5. Enter data in the schedule for only the first two interest periods. Use the interest method.
3. Prepare journal entries to record issuance of the bonds, the first six months' interest expense on the bonds, and the adjustment needed on 2011 May 31, assuming the company's fiscal year ends on that date.

**Problem E** Kelly Furniture Company issued $ 400,000 face value of 18 per cent, 20-year junk bonds on 2009 October 1. The bonds are dated 2009 October 1, call for semiannual interest payments on April 1 and October 1, and are issued to yield 16 per cent (8 per cent per period).

1. Compute the amount received for the bonds.
2. Prepare an amortization schedule similar to that in Exhibit 5. Enter data in the schedule for only the first two interest periods. Use the interest method and make all calculations to the nearest dollar.
3. Prepare entries to record the issuance of the bonds, the first six months' interest on the bonds, and the adjustment needed on 2010 June 30, assuming the company's fiscal year ends on that date.

**Problem F** Houston Clothing Company issued $ 600,000 of 12 per cent serial bonds on 2009 July 1, at face value. The bonds are dated 2009 July 1; call for semiannual interest payments on July 1 and January 1; and mature at the rate of $ 120,000 per year, with the first maturity date falling on 2010 July 1. The company's accounting period ends on September 30.

Prepare journal entries to record the interest payment of 2010 July 1; the maturing of $ 120,000 of bonds on 2010 July 1; and the adjusting entry needed on 2010 September 30. Also, show how the bonds would be presented in the company's balance sheet for 2010 September 30.

## Alternate problems

**Alternate problem A** On 2009 December 1, New Jersey Waste Management Company issued $ 300,000 of 10-year, 9 per cent bonds dated 2009 July 1, at 100. Interest on the bonds is payable semiannually on July 1 and January 1. All of the bonds are registered. The company's accounting period ends on March 31. Quarterly financial statements are prepared.

The company deposits a sum of money sufficient to pay the semiannual interest on the bonds in a special checking account in First National Bank and draws interest payment checks on this account. The deposit is made the day before the checks are drawn.

Prepare journal entries to record the issuance of the bonds; the December 31 adjusting entry; the 2010 January 1, interest payment; and the adjusting entry needed on 2010 March 31, to prepare quarterly financial statements.

**Alternate problem B** Safe Toy Company is seeking to issue $ 800,000 face value of 10 per cent, 20-year bonds. The bonds are dated 2009 June 30, call for semiannual interest payments, and mature on 2029 June 30.

1. Compute the price investors should offer if they seek a yield of 8 per cent on these bonds. Also, compute the first six months' interest assuming the bonds are issued at that price. Use the interest method and calculate all amounts to the nearest dollar.
2. Repeat part (a) assuming investors seek a yield of 12 per cent.

**Alternate problem C** On 2009 July 1, Tick-Tock Clock Company issued $ 100,000 face value of 8 per cent, 10-year bonds. These bonds call for semiannual interest payments and mature on 2019 July 1. The company received cash of $ 87,538, a price that yields 10 per cent.

Assume that the company's fiscal year ends on March 31. Prepare journal entries to record the bond interest expense on 2010 January 1, and the adjustment needed on 2010 March 31, using the interest method. Calculate all amounts to the nearest dollar.

**Alternate problem D** Creative Web Page issued $ 600,000 face value of 15 per cent, 20-year bonds on 2010 October 1. The bonds are dated 2010 October 1, call for semiannual interest payments on April 1 and October 1, and are issued to yield 16 per cent (8 per cent per period).

1. Compute the amount received for the bonds.
2. Prepare an amortization schedule similar to that in Exhibit 4. Enter data in the schedule for only the first two interest periods. Use the interest method.
3. Prepare journal entries to record issuance of the bonds, the first six months' interest expense on the bonds, and the adjustment needed on 2011 May 31, assuming Creative Web Page's fiscal year ends on that date.

**Alternate problem E** Goodhew Software Systems, Inc., issued $ 100,000 face value of 10 per cent, 20-year bonds on 2009 July 1. The bonds are dated 2009 July 1, call for semiannual interest payments on July 1 and January 1, and are issued to yield 12 per cent (6 per cent per period).

1. Compute the amount received for the bonds.
2. Prepare an amortization schedule similar to that in Exhibit 4. Enter data in the schedule for only the first two interest periods. Use the interest method and calculate all amounts to the nearest dollar.
3. Prepare entries to record the issuance of the bonds, the first six months' interest on the bonds, and the adjustment needed on 2010 June 30, assuming Goodhew's fiscal year ends on that date.

**Alternate problem F** Western Solar Energy Company issued $ 400,000 of 12 per cent bonds on 2009 July 1, at face value. The bonds are dated 2009 July 1, call for semiannual payments on July 1 and January 1, and mature at the rate of $ 40,000 per year on July 1, beginning in 2010. The company's accounting period ends on September 30.

1. Prepare journal entries to record the interest expense and payment for the six months ending 2010 July 1; the maturing of the bonds on 2010 July 1; and the adjusting entries needed on 2010 September 30.
2. Show how the bonds would be presented in the company's balance sheet for 2010 September 30.

**Beyond the numbers—Critical thinking**

**Business decision case A** A company is trying to decide whether to invest $ 2 million on plant expansion and $ 1 million to finance a related increase in inventories and accounts receivable. The $ 3 million expansion is expected to increase business volume substantially. Profit forecasts indicate that income from operations will rise from $ 1.6 million to $ 2.4 million. The income tax rate will be about 40 per cent. Net income last year was $ 918,000. Interest expense on debt now outstanding is $ 70,000 per year. There are 200,000 shares of common stock currently outstanding. The $ 3 million needed can be obtained in two alternative ways:

- Finance entirely by issuing additional shares of common stock at an expected issue price of $ 75 per share.
- Finance two-thirds with bonds, one-third with additional stock. The bonds would have a 20-year life, bear interest at 10 per cent, and sell at face value. The issue price of the stock would be $ 80 per share.

Should the investment be made? If so, explain which financing plan you would recommend. (Hint: Calculate earnings per share for last year and for future years under each of the alternatives.)

**Business decision case B** An annual report of a company contained the following paragraph in the notes to the financial statements:

The 9 7/8 per cent Senior Subordinated Debentures are redeemable at the option of [the company] at 103.635 per cent of the principal amount plus accrued interest if redeemed prior to [a certain date], and at decreasing prices thereafter. Mandatory sinking fund payments of $ 3,000,000 (which [the company] may increase to $ 6,000,000 annually)…and are intended to retire, at par plus accrued interest, 75 per cent of the issue prior to maturity.

Answer the following questions:

1. What does the term debentures mean?
2. How much is the call premium initially? Does this premium decrease over time?
3. Under what circumstances might the company want to increase the sinking fund payments?

Business decision case C *The Wall Street Journal* contained a table showing yield comparisons for groups of corporate bonds. The following data have been adapted from the table:

| | | Yield | Percentage | |
|---|---|---|---|---|
| | | As of | 52-week | |
| | 4/28 | 4/27 | High | Low |
| Risk category | | | | |
| 1-10 year maturities: | | | | |
| High quality | 7.08% | 6.94% | 7.16% | 5.32% |
| Medium quality | 7.41 | 7.26 | 7.49 | 5.76 |
| Over 10 year maturities: | | | | |
| High quality | 7.91 | 7.81 | 8.06 | 6.93 |
| Medium quality | 8.36 | 8.25 | 8.49 | 7.29 |
| High-yield bonds | 10.45 | 10.48 | 10.53 | 9.25 |

| | |
|---|---|
| Standard & Poor's ratings were: | |
| High quality | AAA to AA |
| Medium quality | A to BBB |
| High yield | BB to C |

Prepare written answers to the following questions.

1. In each column of numbers, why do the yield rates increase from top to bottom?
2. For the high quality and medium quality bonds, what could account for the increase in the yield rates from 4/27 to 4/28? Take into consideration possible economic events.
3. Which risk class of bonds was closest to its 52-week high on 4/28? What could have been the cause?

**Annual report analysis D** Refer to the Annual report appendix and determine the times interest earned ratio for 2003 for The Limited. Use "operating income" to represent IBIT. Prepare written comments on the results of your analysis.

**Annual report analysis E** A recent annual report of Emhart Corporation contained the following paragraph in its notes to the financial statements:

The 6 3/4 per cent convertible subordinated debentures may be converted into shares of common stock at a price of $ 26.50 per share at any time prior to maturity. They are redeemable at prices decreasing from 105 per cent of face amount currently to 100 per cent [at a certain future date].

Answer the following questions:

1. If you held one $ 1,000 bond, how many shares of stock would you receive if you converted the bond into shares of stock? (Hint: You can use the principal amount of the bond to buy shares of stock at the stated price.)
2. Assume you held one $ 1,000 bond and the bond was called by the company at a price of 105 per cent of the face amount. If the current market price per share of the stock was $ 29, would you convert the bond into shares of stock or would you surrender the bond? Explain.

Ethics case – Writing experience F Refer to "An ethical perspective: Rawlings furniture company". Write out the answers to the following questions:

1. What motivates the brothers to pursue this new strategy?
2. Are the brothers the only ones assuming the risks?
3. How will workers, the city, the holders of the original bond issue, and the other present stockholders be affected if the junk bonds are issued and are then defaulted?
4. How might these parties (stakeholders) be affected if a new buyer outbids the management?
5. What ethical considerations are involved?

Group project G In groups of two or three students, write a two-page, double-spaced paper on one of the following topics:

The Use of Junk Bonds in the 1980s

Why Market Rates of Interest and Prices of Bonds Are Inversely Related

How a Company Can Force Conversion of Callable, Convertible Bonds

How Bond Sinking Funds Work

Do some library research on your topic and properly cite your sources. Make your analysis convincing. Your paper should be neat, contain no spelling or grammatical errors, and be the result of several drafts. Use a word processing program to prepare your paper if possible. Your paper should have a cover page with the title and the authors' names.

Group project H In a small group of students, locate *Accounting Principles Board Opinion No. 21* (from a faculty member or from the library) relating to the amortization of premiums and discounts on bonds. Investigate why the Board recommended the effective interest rate method over the straight-line method for amortizing bond premiums and discounts. Which method do you favor and why? Summarize the highlights of the APB Opinion and your own opinions in a written report to your instructor.

Group project I With one or two other students, locate the annual reports of three companies with bonds outstanding as part of their long-term debt. You should read the notes to the financial statements to determine the composition of the long-term debt. Identify the bonds (e.g. debentures, serial), their interest rates, and any other information pertaining to them. Compare the bonds outstanding for the three companies. Write a report to your instructor summarizing your findings.

Using the Internet—A view of the real world

Visit the following site for the Eastman Kodak Company:

http://www.kodak.com

By following the instructions on the screen, locate the notes to the financial statements and find the one pertaining to long-term debt. In your own words, write a short report to your instructor summarizing the types of long-term debt held by the company and some of the details of the arrangements with lenders.

Visit the following website for Eastman Chemical Company:

http://www.eastman.com

Pursue choices on the screen until you locate the financial information. Then investigate long-term borrowings. You will probably go down some "false paths" to get to this financial information, but you can get there. This experience is all part of learning to use the Internet. Check to determine the composition of the long-term borrowings. Check out the notes to the financial statements for further information. Browse around the site for any other interesting information concerning the company. Write a memo to your instructor summarizing your findings.

1. [1]Issuing bonds is only one method of using leverage. Other methods of using financial leverage include issuing preferred stock or long-term notes.
2. [2]Bonds do not normally mature in such a short time; we use a three-year life for illustrative purposes only.

# UNIT 16: INVESTMENT IN STOCKS

## INVESTMENT OF STOCKS IN OTHER CORPORATIONS

When a corporation purchases the stock of another corporation, the method of accounting for the stock investment depends on the corporation's motivation for making the investment and the relative size of the investment. A corporation's motivation for purchasing the stock of another company may be as: (1) a short-term investment of excess cash; (2) a long-term investment in a substantial percentage of another company's stock to ensure a supply of a required raw material (for example, when large oil companies invest heavily in, or purchase outright, wildcat oil drilling companies); or (3) a long-term investment for expansion (when a company purchases another profitable company rather than starting a new business operation). On the balance sheet, the first type of investment is a current asset, and the last two types are long-term (noncurrent) investments. As explained in the chapter, the purchaser's level of ownership of the investee company determines whether the investment is accounted for by the cost method or the equity method.  The video explains the different classifications for accounting based on the company's intent with the investment.

Watch this video online: https://youtu.be/rLXgpX4e6a4

### Cost and equity methods

Investors in common stock can use two methods to account for their investments the cost method or the equity method. Under both methods, they initially record the investment at cost (price paid at acquisition). Under the **cost method**, the investor company does not adjust the investment account balance subsequently for its share of the investee's reported income, losses, and dividends. Instead, the investor company receives dividends and credits them to a Dividends Revenue account. Under the **equity method**, the investor company adjusts the investment account for its share of the investee's reported income, losses, and dividends.

The Accounting Principles Board (the predecessor of the Financial Accounting Standards Board) has identified the circumstances under which each method must be used. This chapter illustrates each of those circumstances.

# COST METHOD

**Accounting for short-term stock investments and for long-term stock investments of less than 20 percent**

Accountants use the **cost method** to account for all short-term stock investments. When a company owns less than 50% of the outstanding stock of another company as a long-term investment, the percentage of ownership determines whether to use the cost or equity method. A purchasing company that owns less than 20% of the outstanding stock of the investee company, and does not exercise significant influence over it, uses the cost method. A purchasing company that owns from 20% to 50% of the outstanding stock of the investee company or owns less than 20%, but still exercises significant influence over it, uses the **equity method**. Thus, firms use the cost method for all short-term stock investments and almost all long-term stock investments of less than 20%. For investments of more than 50%, they use either the cost or equity method because the application of consolidation procedures yields the same result.

**Cost method for short-term investments and for long-term investments of less than 20 percent**

When a company purchases stock (equity securities) as an investment, accountants must classify the stock according to management's intent. If management bought the security for the principal purpose of selling it in the near term, the security would be a **trading security**. If the stock will be held for a longer term, it is called an **available-for-sale security**. Trading securities are always current assets. Available-for-sale securities may be either current assets or noncurrent assets, depending on how long management intends to hold them. Each classification is accounted for differently. This topic will be discussed later in this chapter.

Securities can be transferred between classifications; however, there are specific rules that must be met for these transfers to be allowed. These rules will be addressed in intermediate accounting. Under the cost method, investors record stock investments at cost, which is usually the cash paid for the stock. They purchase most stocks from other investors (not the issuing company) through brokers who execute trades in an organized market, such as the New York Stock Exchange. Thus, cost usually consists of the price paid for the shares, plus a broker's commission.

For example, assume that Brewer Corporation purchased as a near-term investment 1,000 shares of Cowen Company's $10 par value common stock at $14.22 per share, plus a $180 broker's commission. Brokers quote most stock prices in dollars and cents. Brewer's entry to record its investment is:

| | Debit | Credit |
|---|---|---|
| Trading securities [(1,000 shares x $14.22) + $180 commission] | 14,400 | |
| Cash | | 14,400 |
| Purchased 1,000 share of Cowen common stock as a near-term investment at 14.22 plus commission. | | |

**Accounting for cash dividends received** Investments in stock provide dividends revenue. As a general rule, investors debit cash dividends to Cash and credit Dividends Revenue. The only exception to this general rule is when a dividend declared in one accounting period is payable in the next. This exception allows a company to record the revenue in the proper accounting period. Assume that Cowen declared a  $1 per share cash dividend on December 1, to stockholders of record as of December 20, payable on January 15 of the next year. Brewer should make the following entry in December:

| | | | Debit | Credit |
|---|---|---|---|---|

| | | | | |
|---|---|---|---|---|
| Dec. | 1 | Dividends receivable | 1,000 | |
| | | Dividends revenue | | 1,000 |
| | | To record $1 per share cash dividend on Cowen common stock, payable 2010 January 15. | | |

When collecting the dividend on January 15, Brewer debits Cash and credits Dividends Receivable:

| | | | Debit | Credit |
|---|---|---|---|---|
| Jan. | 15 | Cash | 1,000 | |
| | | Dividends receivable | | 1,000 |
| | | To record the receipt of a cash dividend on Cowen common stock. | | |

**Stock dividends and stock splits** As discussed in Unit 15, a company might declare a stock dividend rather than a cash dividend. An investor does not recognize revenue on receipt of the additional shares from a stock dividend. The investor merely records the number of additional shares received and reduces the cost per share for each share held. For example, if Cowen distributed a 10% stock dividend in February, Brewer, which held 1,000 shares at a cost of $14,400 (or $14.40 per share), would receive another 100 shares and would then hold 1,100 shares at a cost per share of $13.09 (computed as $14,400/1,100 shares). Similarly, when a corporation declares a stock split, the investor would note the shares received and the reduction in the cost per share.

*FASB Statement No. 115* (1993) governs the subsequent valuation of marketable equity securities accounted for under the fair market value method.[1] Marketable refers to the fact that the stocks are readily saleable; equity securities are common and preferred stocks. The Statement also addresses the subsequent valuation of debt securities. *FASB Statement No. 159* (2007) amends *FASB Statement No. 115* and gives a fair value alternative that allows companies to elect to measure certain items at fair value at a specified date. The subsequent valuation of debt securities will be addressed in intermediate accounting classes.

| Company | No. of shares | Cost per Share | Market Price per share Dec 31 | Total cost | Total market Dec 31 | Increase/(decrease) in market value |
|---|---|---|---|---|---|---|
| A | 200 | $35 | $40 | $ 7,000 | $ 8,000 | $ 1,000 |
| B | 400 | 10 | 15 | 4,000 | 6,000 | 2,000 |
| C | 100 | 90 | 50 | 9,000 | 5,000 | (4,000) |
| | | | | $20,000 | $19,000 | $ (1,000) |

Exhibit 1: Stock portfolio of Hanson company

The FASB *Statement* requires that at year-end, companies adjust the carrying value of each of their two portfolios (trading securities and available-for-sale securities) to their fair market value. Fair market value is considered to be the market price of the securities or what a buyer or seller would pay to exchange the securities. An unrealized holding gain or loss will usually result in each portfolio.

**Trading securities** To illustrate the application of the fair market value to trading securities, assume that Hanson Company has the securities shown in Exhibit 1 in its trading securities portfolio. Applying the fair market value method reveals that the total fair market value of the trading securities portfolio is $1,000 less than its cost. The journal entry required at the end of the year is:

| | | | Debit | Credit |
|---|---|---|---|---|
| Dec. | 31 | Unrealized loss on trading securities | 1,000 | |
| | | Trading securities | | 1,000 |
| | | To record unrealized loss from market decline of trading securities. | | |

Note that the debit is to the Unrealized Loss on Trading Securities account. This loss is unrealized because the securities have not been sold. However, **the loss is reported in the income statement as a deduction in arriving at net income.** The credit in the preceding entry is to the Trading Securities account so as to adjust its balance to its fair market value. (An unrealized holding gain would be an addition to net income.)

If Hanson sold investment C on January 1 of the next year, the company would receive $5,000 (assuming no change in market values from the previous day). The loss on the sale results from market changes last year rather than in the current year; the fair market value procedure placed that loss in the proper year. The entry for the sale is:

| | | | Debit | Credit |
|---|---|---|---|---|
| Jan. | 1 | Cash | 5,000 | |
| | | Trading securities- Company C Stock | | 5,000 |
| | | To record sale of Company C Stock. | | |

No adjustment needs to be made to the unrealized loss account previously debited because the unrealized loss recorded last year has flowed through the income statement and been closed to retained earnings through the closing process.

Available-for-sale securities

Watch this video online: https://youtu.be/k6yAgMbyFFg

For another example assume a marketable equity security that management does not intend to sell in the near term has a cost of $32,000 and a current market value on December 31 of $31,000. The treatment of the loss depends on whether it results from a temporary decline in market value of the stock or a permanent decline in the value. Assume first that the loss is related to a "temporary" decline in the market value of the stock. The required entry is:

| | | | Debit | Credit |
|---|---|---|---|---|
| Dec. | 31 | Unrealized loss on available-for-sale securities | 1,000 | |
| | | Available-for-sale securities | | 1,000 |
| | | To record unrealized loss from market decline of available-for-sale securities. | | |

These accounts would appear on the balance sheet as follows:

Hanson Company

Partial Balance Sheet

December 31

| | |
|---|---|
| Investments (or Current Assets)*: | |
| Available-for-sale securities | $31,000 |
| Stockholders' equity: | |
| Capital stock | $xxx,xxx |
| Additional paid-in capital | X,xxx |
| Total paid-in capital | $xxx,xxx |
| Less: Unrealized loss on available-for-sale securities | 1,000 |
| | $xxx,xxx |
| Retained earnings | Xx,xxx |
| Total stockholders' equity | $xxx,xxx |

*Depending on the length of time management intends to hold the securities.

Note that the unrealized loss for available-for-sale securities appears in the balance sheet as a separate negative component of stockholders' equity rather than in the income statement (as it does for trading securities). An unrealized gain would be shown as a separate positive component of stockholders' equity. An unrealized loss or gain on available-for-sale securities is not included in the determination of net income because it is **not** expected to be realized in the near future. These securities will probably not be sold soon.

The sale of an available-for-sale security results in a realized gain or loss and is reported on the income statement for the period. Any unrealized gain or loss on the balance sheet must be recognized at that time. Assume the stock discussed above is sold on January 1 of the next year for $31,000 (assuming no change in market value from the previous day) after the company had held the stock for three years. The entries to record this sale are:

| | | | Debit | Credit |
|---|---|---|---|---|
| Jan. | 1 | Realized loss on available-for-sale securities | 1,000 | |
| | | Unrealized loss on available-for-sale securities | | 1,000 |
| | | Cash | 31,000 | |
| | | Available-for-sale securities | | 31,000 |

The account debited in the first entry shows that the unrealized loss has been realized with the sale of the security; the amount is reported in the income statement. The second entry writes off the security and records the cash received and is similar to the entry for the sale of trading securities.

A loss on an individual available-for-sale security that is considered to be "permanent" is recorded as a realized loss and deducted in determining net income. The entry to record a permanent loss of $1,400 reads:

| | | |
|---|---|---|
| Realized loss on available-for-sale securities | 1,400 | |
| Available-for-sale securities | | 1,400 |

| | | |
|---|---|---|
| To record loss in value of available-for-sale securities. | | |

No part of the $1,400 loss is subject to reversal if the market price of the stock recovers. The stock's reduced value is now its "cost". When this stock is later sold, the sale will be treated in the same manner as trading securities. The loss or gain has already been recognized on the income statement. Therefore, the entry would simply record the cash received and write off the security sold for its fair market value. If the market value of the security has fluctuated since the last time the account had been adjusted (end of the year), then an additional gain or loss may have to be recorded to account for this fluctuation.



# EQUITY METHOD

**The equity method for long-term investments of between 20 percent and 50 percent**

When a company (the **investor**) purchases between 20% and 50% of the outstanding stock of another company (the investee) as a long-term investment, the purchasing company is said to have significant influence over the investee company. In certain cases, a company may have significant influence even when its investment is less than 20%. In either situation, the investor must account for the investment under the equity method.

Watch this video online: https://youtu.be/EIoeMEVkoUI

When using the **equity method** in accounting for stock investments, the investor company must recognize its share of the investee company's income, regardless of whether or not it receives dividends. The logic behind this treatment is that the investor company may exercise influence over the declaration of dividends and thereby manipulate its own income by influencing the investee's decision to declare (or not declare) dividends.

Thus, when the investee reports income or losses, the investor company must recognize its share of the investee's income or losses. For example, assume that Tone Company (the investor) owns 30% of Dutch Company (the investee) and Dutch reports $50,000 net income in the current year. Under the equity method, Tone makes the following entry as of the end of year:

| | Debit | Credit |
|---|---|---|
| Investment in Dutch Company | 15,000 | |
| Income from Dutch Company ($50,000 x 0.30) | | 15,000 |
| To record 30% of Dutch Company's Net Income. | | |

The $15,000 income from Dutch would be reported on Tone's income statement. The investment account is also increased by $15,000.

If the investee incurs a loss, the investor company debits a loss account and credits the investment account for the investor's share of the loss. For example, assume Dutch incurs a loss of $10,000 during the year. Since it still owns 30% of Dutch, Tone records its share of the loss as follows:

| | | |
|---|---|---|
| Loss from Dutch Company ($10,000 x 0.30) | 3,000 | |

| | | |
|---|---|---|
| Investment in Dutch Company | | 3,000 |
| To recognize 30% of Dutch Company's loss. | | |

Tone would report the $3,000 loss on its income statement. The $3,000 credit reduces Tone's equity in the investee. Furthermore, because dividends are a distribution of income to the owners of the corporation, if Dutch declares and pays $20,000 in dividends, this entry would also be required for Tone:

| | | |
|---|---|---|
| Cash | 6,000 | |
| Investment in Dutch Company ($20,000 x 0.30) | | 6,000 |
| To record receipt of 30% of dividends paid by Dutch Company. | | |

Under the equity method just illustrated, the Investment in the Dutch Company account always reflects Tone's 30% interest in the net assets of Dutch.



# CONSOLIDATED FINANCIAL STATEMENTS

## Reporting for stock investments of more than 50 percent

In recent years, many companies have expanded by purchasing a major portion, or all, of another company's outstanding voting stock. The purpose of such acquisitions ranges from ensuring a source of raw materials (such as oil), to desiring to enter into a new industry, or seeking income on the investment. Both corporations remain separate legal entities, regardless of the investment purpose. In this section, you learn how to account for business combinations.

As stated in the introduction to this chapter, a corporation that owns more than 50% of the outstanding voting common stock of another corporation is the **parent company**. The corporation acquired and controlled by the parent company is the **subsidiary company**.

A parent company and its subsidiaries maintain their own accounting records and prepare their own financial statements. However, since a central management controls the parent and its subsidiaries and they are related to each other, the parent company usually must prepare one set of financial statements. These statements, called **consolidated statements**, consolidate the parent's financial statement amounts with its subsidiaries' and show the parent and its subsidiaries as a single enterprise.

Watch this video online: https://youtu.be/kLS9cCkS5hE

According to *FASB Statement No. 94*, consolidated statements must be prepared (1) when one company owns more than 50 per cent of the outstanding voting common stock of another company, and (2) unless control is likely to be temporary or if it does not rest with the majority owner (e.g. the company is in legal reorganization or bankruptcy).[2] Thus, almost all subsidiaries must be included in the consolidated financial statements under *FASB Statement No. 94.* Previously, the consolidated statements did not include subsidiaries in markedly dissimilar businesses than those of the parents.

Financial transactions involving a parent and one of its subsidiaries or between two of its subsidiaries are **intercompany transactions**. In preparing consolidated financial statements, parent companies eliminate the effects of intercompany transactions by making **elimination entries**. Elimination entries allow the presentation of all account balances as if the parent and its subsidiaries were a single economic enterprise. Elimination entries appear only on a consolidated statement work sheet, not in the accounting records of the parent or subsidiaries. After elimination entries are prepared, the parent totals the amounts remaining for each account of the work sheet and prepares the consolidated financial statements.

#### Uses and limitations of consolidated statements

Consolidated financial statements are of primary importance to stockholders, managers, and directors of the parent company. The parent company benefits from the income and other financial strengths of the subsidiary. Likewise, the parent company suffers from a subsidiary's losses and other financial weaknesses.

Consolidated financial statements are of limited use to the creditors and minority stockholders of the subsidiary. The subsidiary's creditors have a claim against the subsidiary alone; they cannot look to the parent company for payment. Minority stockholders in the subsidiary do not benefit or suffer from the parent company's operations. These minority stockholders benefit from the subsidiary's income and financial strengths; they suffer from the subsidiary's losses and financial weaknesses. Thus, the subsidiary's creditors and minority stockholders are more interested in the subsidiary's individual financial statements than in the consolidated statements. Because of these factors, annual reports always include the financial statements of the consolidated entity, and sometimes include the financial statements of certain subsidiary companies alone, but never include the parent company's financial statements alone.



# EXERCISES: UNIT 16

## SHORT ANSWER QUESTIONS, EXERCISES AND PROBLEMS

#### Questions

➢ For what reasons do corporations purchase the stock of other corporations?

➢ Explain how marketable securities should be classified in the balance sheet.

➢ Describe the valuation bases used for marketable equity securities.

➢ Under what circumstances is the equity method used to account for stock investments?

➢ Explain briefly the accounting for stock dividends and stock splits from the investor's point of view.

➢ Of what significance is par value to the investing corporation?

➢ What is the purpose of preparing consolidated financial statements?

➢ Under what circumstances must consolidated financial statements be prepared?

➢ Why is it necessary to make elimination entries on the consolidated statement work sheet? Are these elimination entries also posted to the accounts of the parent and subsidiary? Why or why not?

➢ Why might a corporation pay an amount in excess of the book value for a subsidiary's stock? Why might it pay an amount less than the book value of the subsidiary's stock?

➢ The item Minority interest often appears as one amount in the consolidated balance sheet. What does this item represent?

➢ How do a subsidiary's earnings, losses, and dividends affect the investment account of the parent when the equity method of accounting is used?

➢ Why are consolidated financial statements of limited usefulness to the creditors and minority stockholders of a subsidiary?

Exercises

Exercise A On 2010 July 1, Tam Company purchased 200 shares of Del Company capital stock as a temporary investment (trading securities) at $ 676.80 per share plus a commission of $ 720. On July 15, a 10 per cent stock dividend was received. Tam received a cash dividend of $ 3.60 per share on 2010 August 12. On November 1, Tam sold all of the shares for $ 835.20 per share, less a commission of $ 720. Prepare entries to record all of these transactions in Tam Company's accounts.

Exercise B Key Company purchased 200 shares of Franklin Company stock at a total cost of $ 7,560 on 2010 July 1. At the end of the accounting year (2010 December 31), the market value for these shares was $ 6,840. By 2011 December 31, the market value had risen to $ 7,920. This stock is the only marketable equity security that Key Company owns. The company classifies the securities as trading securities. Give the entries necessary at the date of purchase and at 2010 December 31, and 2011.

Exericse C Corbit Company has marketable equity securities that have a fair market value at year-end that is $ 13,440 below their cost. Give the required entry if:

1. The securities are current assets classified as trading securities.
2. The securities are noncurrent assets classified as available-for-sale securities, and the loss is considered to be temporary.
3. The securities are noncurrent assets classified as available-for-sale securities, and the loss is considered to be permanent.

State where each of the accounts debited in (a), (b), and (c) would be reported in the financial statements.

Exercise D Ruiz Company owns 75 per cent of Sim Company's outstanding common stock and uses the equity method of accounting. Sim Company reported net income of $ 702,000 for 2010. On 2010 December 31, Sim Company paid a cash dividend of $ 189,000. In 2011, Sim Company incurred a net loss of $ 125,000. Prepare entries to reflect these events on Ruiz Company's books.

Exercise E On 2010 February 1, Larkin Company acquired 100 per cent of the outstanding voting common stock of TRD Company for $ 8,400,000 cash. The stockholders' equity of the TRD Company consisted of common stock, $ 6,720,000, and retained earnings, $ 1,680,000. Prepare (a) the entry to record the investment in TRD Company and (b) the elimination entry on the work sheet used to prepare a consolidated balance sheet as of the date of acquisition.

Exercise F Given the facts in the previous exercise, how much would be recorded as goodwill in each of the following instances? The same amount was paid, but the parent company acquired a—

1. 90 per cent interest.
2. 70 per cent interest.
3. 55 per cent interest.

Exercise G Heidi Corporation acquired, for cash, 80 per cent of the outstanding voting common stock of Sumpter Company. After the close of business on the date of acquisition, Sumpter Company's stockholders' equity consisted of common stock, $ 5,880,000, and retained earnings, $ 2,184,000. The cost of the investment exceeded the book value by $ 302,400 and was attributable to above-average earnings prospects. Prepare (a) the entry to record the investment in Sumpter Company and (b) the elimination entry on the work sheet used to prepare consolidated financial statements as of the date of acquisition.

**Exercise H** On 2009 January 1, Company J acquired 85 per cent of the outstanding voting common stock of Company K. On that date, Company K's stockholders' equity consisted of:

| | |
|---|---|
| Stockholders' equity: | |
| Paid-in capital: | |
| Common stock, $90 par; 30,000 shares authorized, issued, and outstanding | $2,700,000 |
| Retained earnings | 675,000 |
| Total stockholders' equity | $3,375,000 |

Compute the difference between cost and book value in each of the following cases:

1. Company J pays $ 2,868,750 cash for its interest in Company K.
2. Company J pays $ 3,375,000 cash for its interest in Company K.
3. Company J pays $ 2,610,000 cash for its interest in Company K.

**Exercise I** The 2010 January 1, stockholders' equity section of Saye Company's balance sheet follows:

| | |
|---|---|
| Stockholders' equity: | |
| Paid-in capital: | |
| Common stock, $144 par; authorized, 200,000 shares; issued, and outstanding, 150,000 shares | $21,600,000 |
| Paid-in capital in excess of par value | 3,600,000 |
| Total paid-in capital | $25,200,000 |
| Retained earnings | 2,160,000 |
| Total stockholders' equity | $27,360,000 |

Ninety per cent of Saye Company's outstanding voting common stock was acquired by Tim Company on 2011 January 1, for $ 24,048,000. Compute (a) the book value of the investment, (b) the difference between cost and book value, and (c) the minority interest.

**Exercise J** Company S purchased 90 per cent of Company T's outstanding voting common stock on 2010 January 2. The investment is accounted for under the equity method. Company S paid $ 2,790,000 for its proportionate equity of $ 2,430,000. The difference was due to undervalued land owned by Company T. Company T earned $ 324,000 during 2010 and paid cash dividends of $ 108,000.

1. Compute the balance in the investment account on 2010 December 31.
2. Compute the amount of the minority interest on (1) 2010 January 2, and (2) 2010 December 31.

## Problems

**Problem A** Paris Company acquired on 2010 July 15, 400 shares of Rome Company $ 720 par value capital stock at $ 698.40 per share plus a broker's commission of $ 1,728. On 2010 August 1, Paris Company received a cash dividend of $ 8.64 per share. On 2010 November 3, it sold 200 of these shares at $ 756 per share less a broker's commission of $ 1,152. On 2010 December 1, Rome Company issued shares comprising a 100 per cent stock dividend declared on its capital stock on November 18.

On 2010 December 31, the end of Paris Company's calendar-year accounting period, the market quotation for Rome Company's common stock was $ 331.20 per share. The decline was considered to be temporary.

1. Prepare journal entries to record all of these data assuming the securities are considered temporary investments classified as trading securities. Where should the accounts in the last entry appear in the financial statements?
2. Assume Rome Company has become a major customer so the shares are held for long-term affiliation purposes. Indicate how the investment should be shown in the balance sheet.

**Problem B** On 2010 October 17, Strong Company purchased the following common stocks (all trading securities) at the indicated per share prices that included commissions:

| | |
|---|---|
| 600 shares of X Company common stock @ $216 | $129,600 |
| 1,000 shares of Y Company common stock @ $144 | 144,000 |
| 1,600 shares of Z Company common stock @ $72 | 115,200 |
| | $388,800 |

On 2010 December 31, the market prices per share of the above common stocks were X, $ 223.20; Y, $ 136.80; and Z, $ 54.

Summarized, the cash dividends per share received in 2011 were X, $ 14.40; Y, $ 7.20; and Z, $ 5.40.

On 2011 December 31, the per share market prices were X, $ 252.80; Y, $ 115.20; and Z, $ 72.

All of these changes in market prices are considered temporary.

Prepare journal entries for all of these transactions, including calendar year-end adjusting entries, assuming the shares of common stock acquired are considered trading securities.

If the securities acquired are considered available-for-sale securities, how would the entries differ?

For both parts a and b, give the descriptions (titles) and the dollar amounts of the items that would appear in the income statements for 2010 and 2011.

**Problem C** On 2010 January 1, Long Company acquired 80 per cent of the outstanding voting common stock of Fall Company for $ 4,032,000 cash. Long Company uses the equity method. During 2010, Fall reported $ 672,000 of net income and paid $ 288,000 in dividends. The stockholders' equity section of the 2009 December 31, balance sheet for Fall follows:

| | |
|---|---|
| Stockholders' equity: | |
| Paid-in capital: | |
| Common stock – $42 par | $4,200,000 |
| Retained earnings | 840,000 |
| Total stockholders' equity | $5,040,000 |

1. Prepare the general journal entries to record the investment and the effect of Fall's income and dividends on Long Company's accounts.
2. Prepare the elimination entry that would be made on the work sheet for a consolidated balance sheet as of the date of acquisition.

**Problem D** Pearson Company acquired 75 per cent of the outstanding voting common stock of Frost Company for $ 1,444,800 cash on 2010 January 1. The investment is accounted for under the equity method. During 2010, 2011, and 2012, Frost Company reported the following:

| | Net income<br>(loss) | Dividends<br>Paid |
|---|---|---|
| 2010 | $357,840 | $290,640 |
| 2011 | (45,360) | -0- |
| 2012 | 108,360 | 72,240 |

1. Prepare general journal entries to record the investment and the effect of the subsidiary's income, losses, and dividends on Pearson Company's accounts.
2. Compute the balance in the investment account on 2012 December 31.

Problem E Cord Company acquired 100 per cent of the outstanding voting common stock of Thorpe Company on 2010 January 2, for $ 2,700,000. At the end of business on the date of acquisition, the balance sheets for the two companies were as follows:

| | Cord<br>Company | Thorpe<br>Company |
|---|---|---|
| Assets | | |
| Cash | $ 315,000 | $ 180,000 |
| Accounts receivable, net | 234,000 | 144,000 |
| Notes receivable | 360,000 | 90,000 |
| Merchandise inventory | 495,000 | 234,000 |
| Investment in Thorpe Company | 2,700,000 | |
| Equipment, net | 648,000 | 450,000 |
| Building, net | 1,890,000 | 990,000 |
| Land | 765,000 | 405,000 |
| Total assets | $7,407,000 | $2,493,000 |
| Liabilities and stockholders' equity | | |
| Accounts payable | $ 117,000 | $ 135,000 |
| Notes payable | 90,000 | 108,000 |
| Common stock – $45 par value | 5,400,000 | 1,800,000 |
| Retained earnings | 1,800,000 | 450,000 |
| Total liabilities and stockholders' equity | $7,407,000 | $2,493,000 |

The excess of cost over book value is attributable to the above-average earnings prospects of Thorpe Company. On the date of acquisition, Thorpe Company borrowed $ 72,000 from Cord Company by giving a note.

1. Prepare a work sheet for a consolidated balance sheet as of the date of acquisition.
2. Prepare a consolidated balance sheet for 2010 January 2.

Problem F Refer to the previous problem, Cord Company uses the equity method. Assume the following are from the adjusted trial balances of Cord Company and Thorpe Company on 2010 December 31:

| | Cord Company | Thorpe Company |
|---|---|---|
| Debit balance accounts | | |
| Cash | $ 351,000 | $ 315,000 |
| Accounts receivable, net | 378,000 | 180,000 |
| Notes receivable | 315,000 | 45,000 |
| Merchandise inventory, December 31 | 495,000 | 287,100 |
| Investment in Thorpe Company | 2,790,000 | |
| Equipment, net | 615,000 | 427,500 |
| Building, net | 1,814,400 | 950,400 |
| Land | 765,000 | 405,000 |
| Cost of goods sold | 1,800,000 | 630,000 |
| Expense (excluding depreciation and taxes) | 720,000 | 270,900 |
| Depreciation expense | 108,000 | 62,100 |
| Income tax expense | 585,000 | 189,000 |
| Dividends | 540,000 | 108,000 |
| Total of the accounts with debit balances | $11,277,000 | $3,870,000 |
| Credit balance accounts | | |
| Accounts payable | $ 135,000 | $ 180,000 |
| Notes payable | 144,000 | 90,000 |
| Common stock – $45 par value | 5,400,000 | 1,800,000 |
| Retained earnings – January 1 | 1,800,000 | 450,000 |
| Revenue from sales | 3,600,000 | 1,350,000 |
| Income from Thorpe Company | 198,000 | |

| | | |
|---|---|---|
| Total of the accounts with credit balances | $11,277,000 | $3,870,000 |

There is no intercompany debt at the end of the year.

Prepare a work sheet for consolidated financial statements on 2010 December 31.

**Problem G** Using the work sheet from Problem F, prepare the following items:

1. Consolidated income statement for the year ended 2010 December 31.
2. Consolidated statement of retained earnings for the year ended 2010 December 31.
3. Consolidated balance sheet for 2010 December 31.

**Alternate problems**

**Alternate problems A** On 2010 September 1, Ramsey Company purchased the following relatively long-term investments classified as available-for-sale securities:

- Two thousand shares of Lacey Company capital stock at $ 439.20 plus broker's commission of $ 5,760.
- One thousand shares of Membrow Company capital stock at $ 705.60 plus broker's commission of $ 5,040.

Cash dividends of $ 18.00 per share on the Lacey capital stock and $ 14.40 per share on the Membrow capital stock were received on December 7 and December 10, respectively.

On 2010 December 31, per share market values are Lacey, $ 460.80; and Membrow, $ 655.20.

1. Prepare journal entries to record these transactions.
2. Prepare the necessary adjusting entry(ies) at 2010 December 31, to adjust the carrying values assuming that market price changes are believed to be temporary. Where would the accounts appear in the financial statements?

**Alternate problem B** Kress, Inc., purchased on 2010 July 2, 240 shares of Baker Company $ 180 par value common stock as a temporary investment at $ 288 per share, plus a broker's commission of $ 432.

On 2010 July 15, a cash dividend of $ 7.20 per share was received. On 2010 September 1, Baker Company split its $ 180 par value common shares two for one.

On 2010 November 2, Kress sold 200 shares of Baker common stock at $ 180, less a broker's commission of $ 288.

1. Prepare journal entries to record all of the above transactions.
2. How would you recommend that the remaining shares be classified in the 2010 December 31, balance sheet if still held at that date?
3. Assume the remaining shares were considered current assets classified as trading securities at the end of 2010, at which time their market value was $ 128 per share. Prepare any necessary adjusting entries for the end of 2010.

**Alternate problem C** Prime Company acquired 90 per cent of the outstanding voting common stock of Orr Company 2010 January 1, for $ 7,560,000 cash. Prime Company uses the equity method. During 2010 Orr reported $ 1,512,000 of net income and paid $ 504,000 in cash dividends. The stockholders' equity section of the 2009 December 31, balance sheet for Orr follows:

| | |
|---|---|
| Stockholders' equity: | |
| Paid-in capital: | |
| Common stock, $21.00 par | $6,720,000 |
| Retained earnings | 1,680,000 |

| | |
|---|---|
| Total stockholders' equity | $8,400,000 |

1. Prepare general journal entries to record the investment and the effect of Orr's earnings and dividends on Prime Company's accounts.
2. Prepare the elimination entry that would be made on the work sheet for a consolidated balance sheet as of the date of acquisition.

**Alternate problem D** Codd Company acquired 70 per cent of the outstanding voting common stock of Snow Company for $ 8,568,000 on 2010 January 1. The investment is accounted for under the equity method. During the years 2010-2012, Snow Company reported the following:

| | Net Income | Dividends |
|---|---|---|
| | (loss) | Paid |
| 2007 | $1,454,880 | $871,920 |
| 2008 | 372,960 | 223,440 |
| 2009 | (23,520) | 55,860 |

1. Prepare general journal entries to record the investment and the effect of the subsidiary's income, losses, and dividends on Codd Company's accounts.
2. Compute the investment account balance on 2011 December 31.

**Alternate problem E** Maple Company acquired all of the outstanding voting common stock of Dodd Company on 2010 January 2, for $ 4,320,000. On the date of acquisition, the balance sheets for the two companies were as follows:

| | Maple Company | Dodd Company |
|---|---|---|
| **Assets** | | |
| Cash | $ 900,000 | $270,000 |
| Accounts receivable, net | 432,000 | 360,000 |
| Notes receivable | 180,000 | 108,000 |
| Merchandise inventory | 1,368,000 | 864,000 |
| Investment in Dodd Company | 4,320,000 | |
| Equipment, net | 1,224,000 | 738,000 |
| Building, net | 3,330,000 | 1,656,000 |
| Land | 1,404,000 | 450,000 |
| Total assets | $13,158,000 | $4,446,000 |
| **Liabilities and stockholders' equity** | | |

| | | |
|---|---|---|
| Accounts payable | $792,000 | $360,000 |
| Notes payable | 216,000 | 252,000 |
| Common stock – $120 par value | 9,540,000 | 3,564,000 |
| Retained earnings | 2,610,000 | 270,000 |
| Total liabilities and stockholders' equity | $12,158,000 | $4,446,000 |

The management of Maple Company thinks that the Dodd Company's land is undervalued by $ 162,000. The remainder of the excess of cost over book value is due to superior earnings potential.

On the date of acquisition, Dodd Company borrowed $ 180,000 from Maple Company by giving a note.

1. Prepare a work sheet for a consolidated balance sheet as of the date of acquisition.
2. Prepare a consolidated balance sheet for 2010 January 2.

**Alternate problem F** Refer back to the previous problem. Maple Company uses the equity method. Assume the following amounts are taken from the adjusted trial balances of Maple Company and Dodd Company on 2010 December 31:

| | Maple Company | Dodd Company |
|---|---|---|
| Debit balance accounts | | |
| Cash | $ 864,000 | $ 364,295 |
| Accounts receivable, net | 553,536 | 414,000 |
| Notes receivable | 342,000 | 90,000 |
| Merchandise inventory, December 31 | 1,530,000 | 1,008,000 |
| Investment in Dodd Company | 4,519,356 | |
| Equipment, net | 1,147,500 | 691,860 |
| Building, net | 3,136,500 | 1,573,200 |
| Land | 1,404,000 | 450,000 |
| Cost of goods sold | 8,064,000 | 2,160,000 |
| Expense (excluding depreciation and taxes) | 2,160,000 | 810,000 |
| Depreciation expense | 243,000 | 128,940 |
| Income tax expense | 569,664 | 123,504 |
| Dividends | 477,000 | 178,200 |
| Total of the accounts with debit balances | $25,037,556 | $7,992,000 |

| Credit balance accounts | | |
|---|---|---|
| Accounts payable | $ 720,000 | $ 378,000 |
| Notes payable | 270,000 | 180,000 |
| Common stock – $90 par value | 9,540,000 | 3,564,000 |
| Retained earnings | 2,610,000 | 270,000 |
| Revenue from sales | 11,520,000 | 3,600,000 |
| Income from Dodd Company | 377,556 | |
| Total of the accounts with credit balances | $25,037,556 | $7,992,000 |

There is no intercompany debt at the end of the year.

Prepare a work sheet for consolidated financial statements on 2010 December 31.

**Alternate problem G** Using the work sheet from the previous problem, prepare the following items:

1. Consolidated income statement for the year ended 2010 December 31.
2. Consolidated statement of retained earnings for the year ended 2010 December 31.
3. Consolidated balance sheet for 2010 December 31.

**Beyond the numbers—Critical thinking**

**Business decision case A** You are the CPA engaged to audit the records of Quigley Company. You find that your client has a portfolio of marketable equity securities that has a total market value of $ 300,000 less than the total cost of the portfolio. You ask the vice president for finance if the client expects to sell these securities in the coming year. He answers that he does not know. The securities will be sold if additional cash is needed to finance operations. When you ask for a cash forecast, you are told that a forecast has been prepared that covers the next year. It indicates no need to sell the marketable securities.

Write a brief statement in which you explain how you would classify the client's portfolio of marketable securities in the balance sheet. Does it really make any difference whether the securities are classified as trading securities or available-for-sale securities? Explain.

**Business decision case B** On 2010 January 2, Brown Company acquired 60 per cent of the voting common stock of Cobb Company for $ 720,000 cash. The excess of cost over book value was due to above-average earnings prospects. Brown has hired you to help it prepare consolidated financial statements and has already collected the following information for both companies as of 2010 January 2:

| | Brown<br>Company | Cobb<br>Company |
|---|---|---|
| Assets | | |
| Cash | $ 72,000 | $ 54,000 |
| Accounts receivable, net | 108,000 | 126,000 |
| Merchandise inventory | 288,000 | 216,000 |
| Investment in Cobb Company | 720,000 | |

| | | |
|---|---|---|
| Plant and equipment, net | 936,000 | 738,000 |
| Total assets | $2,124,000 | $1,134,000 |
| **Liabilities and stockholders' equity** | | |
| Accounts payable | $ 144,000 | $ 54,000 |
| Common stock | 1,440,000 | 720,000 |
| Retained earnings | 540,000 | 360,000 |
| Total liabilities and stockholders' equity | $2,124,000 | $1,134,000 |

1. Brown believes that consolidated financial statements can be prepared simply by adding together the amounts in the two individual columns. Is this correct? If not, why not?
2. Prepare a consolidated balance sheet for the date of acquisition without preparing a consolidated statement work sheet.

**Business decision case C** International Flavors & Fragrances, Inc., is the leading creator and manufacturer of flavors and fragrances used by others to impart or improve flavor or fragrance in a wide variety of consumer products.

Use the following excerpt from International Flavors & Fragrances Inc.'s 2000 annual report to calculate the dividend yield on common stock and the payout ratios. Then comment on the results.

| | **2000** | **1999** | **1998** |
|---|---|---|---|
| Earnings per share | $1.22 | $1.53 | $1.90 |
| Dividends per share ($) | 1.29 | 1.52 | 1.48 |
| Stock price per common share ($) | 20.31 | 37.63 | 44.19 |

**Group project D** In teams of two or three students, select three companies you believe may be profitable short-term investments. Determine the current market prices for those companies' stocks from today's newspaper and the market prices six months ago. Calculate the gain or loss that your team would have recorded if it had purchased 500 shares of each company's stock six months ago and sold all of the shares today. Write a short memo to your instructor describing why you selected those companies and why you believe the market prices of their stocks increased or decreased. Also, be prepared to describe your analysis to the class.

**Group project E** With one or two other students, go to the library and locate *Statement of Financial Standards No. 94*, "Consolidation of All Majority-Owned Subsidiaries", published by the Financial Accounting Standard Board. In a report to your instructor answer questions such as: What does the standard require? Why did the FASB act on this topic? Why are "nonhomogeneous" subsidiaries included in the consolidated group? Why did one of the Board members dissent from the statement? Describe some of the important background on this topic as given in the statement.

**Group project F** In a small group of students, locate the annual reports of three companies with investments in other companies. Compare the accounting and reporting for the investments by the three companies. For instance, by reading the notes to the financial statements, try to determine whether they account for the investments using the cost or equity methods. Is there goodwill on the balance sheets? What else can you determine about the investments? Write a report to your instructor summarizing your findings.

**Using the Internet—A view of the real world**

Visit the following website for General Electric Company:

http://www.ge.com

Pursue choices on the screen until you locate the consolidated statement of financial position. You will probably go down some “false paths” to get to this financial statement, but you can get there. This experience is all part of learning to use the Internet. Check to see if there is a minority interest listed on the consolidated statement of financial position. Check out the notes to the financial statements for further information. Browse around the site for any other interesting information concerning the company. Write a memo to your instructor summarizing your findings.

1. [1]FASB, *Statement of Financial Accounting Standards No. 115*, “Accounting for Certain Marketable Securities” (Stamford, Conn., 1993). Copyright © by the Financial Accounting Standards Board, Stamford, Connecticut 06856, U.S.A. Quoted (or excerpted) with permission. Copies of the complete document are available from the FASB.
2. FASB, *Statement of Financial Accounting Standards No. 159*, “The Fair Value Option for Financial Assets and Financial Liabilities” (Norwalk, Conn., 2007). Copyright © by theFinancial Accounting Standards Board, Norwalk, Connecticut 06856, U.S.A.
3. [2]FASB, *Statement of Financial Accounting Standards No. 94*, “Consolidation of All Majority-Owned Subsidiaries” (Stamford, Conn., 1987), p. 5. Copyright © by the Financial Accounting Standards Board, High Ridge Park, Stamford, Connecticut 06905, U.S.A.

# UNIT 17: STATEMENT OF CASH FLOWS

## THE STATEMENT OF CASH FLOWS

Purposes of the statement of cash flows

The main purpose of the statement of cash flows is to report on the cash receipts and cash disbursements of an entity during an accounting period. Broadly defined, cash includes both cash and cash equivalents, such as short-term investments in Treasury bills, commercial paper, and money market funds. Another purpose of this statement is to report on the entity's investing and financing activities for the period. As shown in Exhibit 1, the statement of cash flows reports the effects on cash during a period of a company's operating, investing, and financing activities. Firms show the effects of significant investing and financing activities that do not affect cash in a schedule separate from the statement of cash flows.

Watch this video online: https://youtu.be/QlwZNMdUgAo

### Uses of the statement of cash flows

The **statement of cash flows** summarizes the effects on cash of the operating, investing, and financing activities of a company during an accounting period; it reports on past management decisions on such matters as issuance of capital stock or the sale of long-term bonds. This information is available only in bits and pieces from the other financial statements. Since cash flows are vital to a company's financial health, the statement of cash flows provides useful information to management, investors, creditors, and other interested parties.

The statement of cash flows presents the effects on cash of all significant operating, investing, and financing activities. By reviewing the statement, management can see the effects of its past major policy decisions in quantitative form. The statement may show a flow of cash from operating activities large enough to finance all projected capital needs internally rather than having to incur long-term debt or issue additional stock. Alternatively, if the company has been experiencing cash shortages, management can use the statement to determine why such shortages are occurring. Using the statement of cash flows, management may also recommend to the board of directors a reduction in dividends to conserve cash.

### Information in the statement of cash flows

The statement of cash flows classifies cash receipts and disbursements as operating, investing, and financing cash flows. Both inflows and outflows are included within each category. Look at Exhibit 2 to see how activities can be classified to prepare a statement of cash flows.

**Operating activities** generally include the cash effects (inflows and outflows) of transactions and other events that enter into the determination of net income. Cash inflows from operating activities affect items that appear on the income statement and include: (1) cash receipts from sales of goods or services; (2) interest received from making loans; (3) dividends received from investments in equity securities; (4) cash received from the sale of trading securities; and (5) other cash receipts that do not arise from transactions defined as investing or financing activities, such as amounts received to settle lawsuits, proceeds of certain insurance settlements, and cash refunds from suppliers.

Cash outflows for operating activities affect items that appear on the income statement and include payments: (1) to acquire inventory; (2) to other suppliers and employees for other goods or services; (3) to lenders and other creditors for interest; (4) for purchases of trading securities; and (5) all other cash payments that do not arise from transactions defined as investing or financing activities, such as taxes and payments to settle lawsuits, cash contributions to charities, and cash refunds to customers.

**Investing activities** generally include transactions involving the acquisition or disposal of noncurrent assets. Thus, cash inflows from investing activities include cash received from: (1) the sale of property, plant, and equipment; (2) the sale of available-for-sale and held-to-maturity securities; and (3) the collection of long-term loans made to others. Cash outflows for investing activities include cash paid: (1) to purchase property, plant, and equipment; (2) to purchase available-for-sale and held-to-maturity securities; and (3) to make long-term loans to others.

**Financing activities** generally include the cash effects (inflows and outflows) of transactions and other events involving creditors and owners. Cash inflows from financing activities include cash received from issuing capital stock and bonds, mortgages, and notes, and from other short- or long-term borrowing. Cash outflows for financing activities include payments of cash dividends or other distributions to owners (including cash paid to purchase treasury stock) and repayments of amounts borrowed. Payment of interest is not included because interest expense appears on the income statement and is, therefore, included in operating activities. Cash payments to settle accounts payable, wages payable, and income taxes payable are not financing activities. These payments are included in the operating activities section.

Information about all material investing and financing activities of an enterprise that do not result in cash receipts or disbursements during the period appear in a separate schedule, rather than in the statement of cash flows. The disclosure may be in narrative form. For instance, assume a company issued a mortgage note to acquire land and buildings.

### Steps in preparing statement of cash flows

Accountants follow specific procedures when preparing a statement of cash flows. After determining the change in cash, the first step in preparing the statement of cash flows is to calculate the cash flows from operating activities, using either the direct or indirect method. The second step is to analyze all of the noncurrent accounts and additional data for changes resulting from investing and financing activities. The third step is to arrange the information gathered in steps 1 and 2 into the proper format for the statement of cash flows.

The direct method converts the income statement from the accrual basis to the cash basis. Accountants must consider changes in balance sheet accounts that are related to items on the income statement. The accounts involved are all current assets or current liabilities.  We will examine each step in the following sections.



# DIRECT AND INDIRECT METHODS FOR PREPARING A STATEMENT OF CASH FLOWS

### Cash flows from operating activities

**Cash flows from operating activities** show the net amount of cash received or disbursed during a given period for items that normally appear on the income statement. You can calculate these cash flows using either the direct or indirect method. The **direct method** deducts from cash sales only those operating expenses that consumed cash. This method converts each item on the income statement directly to a cash basis. Alternatively, the **indirect method** starts with accrual basis net income and indirectly adjusts net income for items that affected reported net income but did not involve cash.

The *Statement of Financial Accounting Standards No. 95* encourages use of the direct method but permits use of the indirect method. Whenever given a choice between the indirect and direct methods in similar situations, accountants choose the indirect method almost exclusively. The American Institute of Certified Public Accountants reports that approximately 98% of all companies choose the indirect method of cash flows.

The direct method converts each item on the income statement to a cash basis. For instance, assume that sales are stated at $100,000 on an accrual basis. If accounts receivable increased by $5,000, cash collections from customers would be $95,000, calculated as $100,000 – $5,000. The direct method also converts all remaining items on the income statement to a cash basis.

The indirect method adjusts net income (rather than adjusting individual items in the income statement) for (1) changes in current assets (other than cash) and current liabilities, and (2) items that were included in net income but did not affect cash.

The most common example of an operating expense that does not affect cash is depreciation expense. The journal entry to record depreciation debits an expense account and credits an accumulated depreciation account. This transaction has no effect on cash and, therefore, should not be included when measuring cash from operations. Because accountants deduct depreciation in computing net income, net income understates cash from operations. Under the indirect method, since net income is a starting point in measuring cash flows from operating activities, depreciation expense must be added back to net income.

Consider the following example. Company A had net income for the year of $20,000 after deducting depreciation of $10,000, yielding $30,000 of positive cash flows. Thus, Company A had $30,000 of positive cash flows from operating activities. Company B had a net loss for the year of $4,000 but after deducting $10,000 of depreciation, it had $6,000 of positive cash flows from operating activities, as shown here:

| | Company A | Company B |
|---|---|---|
| Net income (loss) | $20,000 | $(4,000) |
| Add depreciation expense (which did not require use of cash) | 10,000 | 10,000 |
| Positive cash flows from operating activities | $30,000 | $ 6,000 |

Companies may add other expenses and losses back to net income because they do not actually use company cash in addition to depreciation. The items added back include amounts of depletion that were expensed, amortization of intangible assets such as patents and goodwill, and losses from disposals of long term assets or retirement of debt.

To illustrate the add back of losses from disposals of noncurrent assets, assume that Quick Company sold a piece of equipment for $6,000. The equipment had cost $10,000 and had accumulated depreciation of $3,000. The book value of the equipment is $7,000 and we received $6,000 cash for the equipment. The cash would be reported in the investing section since equipment is a long term asset. The difference between our book value $7,000 and the cash received $6,000 is the loss of $1,000 which represents receiving less than it is worth but does not equal cash. The journal entry to record the sale is:

| | Debit | Credit |
|---|---|---|
| Cash | 6,000 | |
| Accumulated depreciation | 3,000 | |
| Loss on sale of equipment | 1,000 | |
| Equipment | | 10,000 |
| To record disposal of equipment at a loss. | | |

Although Quick deducted the loss of $1,000 in calculating net income, it recognized the total $ 6,000 effect on cash (which reflects the $1,000 loss) as resulting from an investing activity. Thus, Quick must add the loss back to net income in converting net income to cash flows from operating activities to avoid double-counting the loss.

The same process would apply to gains on sales of long term assets or retirement of debt since the cash will be accounted for in later cash flow sections we want to remove the effect from net income so any gains will be subtracted from net income.

To illustrate why we deduct the gain on the disposal of a noncurrent asset from net income, assume that Quick sold the equipment just mentioned for $9,000. The journal entry to record the sale is:

| | | |
|---|---|---|
| Cash | 9,000 | |
| Accumulated depreciation | 3,000 | |
| Equipment | | 10,000 |
| Gain on sale of equipment (9,000cash – 7,000 book value) | | 2,000 |
| To record disposal of equipment at a gain. | | |

Quick shows the $9,000 inflow from the sale of the equipment on its statement of cash flows as a cash inflow from investing activities. Thus, it has already recognized the total $9,000 effect on cash (including the $2,000 gain) as resulting from an investing activity. Since the $2,000 gain is also included in calculating net income, Quick must deduct the gain in converting net income to cash flows from operating activities to avoid double-counting the gain.

As a general rule, an increase in a current asset (other than cash) decreases cash inflow or increases cash outflow. Thus, when accounts receivable increases, sales revenue on a cash basis decreases (some customers who bought merchandise have not yet paid for it). When inventory increases, cost of goods sold on a cash basis increases (increasing cash outflow). When a prepaid expense increases, the related operating expense on a cash basis increases. (For example, a company not only paid for insurance expense but also paid cash to increase prepaid insurance.) The effect on cash flows is just the opposite for decreases in these other current assets. Why do we not include cash? The purpose of our cash flow is to reconcile cash so we will use the figure later.

An increase in a current liability increases cash inflow or decreases cash outflow. Thus, when accounts payable increases, cost of goods sold on a cash basis decreases (instead of paying cash, the purchase was made on credit). When an accrued liability (such as salaries payable) increases, the related operating expense (salaries expense) on a cash basis decreases. (For example, the company incurred more salaries than it paid.) Decreases in current liabilities have just the opposite effect on cash flows. A short term notes payable from a bank would be treated as a financing activity and not an operating activity.

Watch the following video example:

Watch this video online: https://youtu.be/Kh1dLLKn4fU

To summarize, the indirect method for calculating the operating activities of a statement of cash flows includes:

| |
|---|
| Cash Flows from Operating Activities:<br>Net Income |
| + Depreciation Expense (from income statement) |
| + Losses (from income statement) |
| – Gains (from income statement) |

| |
|---|
| + Amortization, depletion (from income statement) |
| + DECREASE in Current Assets (other than cash) |
| – INCREASE in Current Assets (other than cash) |
| + Increase in Current Liabilities |
| – Decrease in Current Liabilities |
| Net cash provided by Operating Activities |



# CASH FLOWS FROM INVESTING AND FINANCING

Cash flows from investing and financing are prepared the same way under the direct and indirect methods for the statement of cash flows. To put it simply, if we RECEIVE CASH in the transaction we ADD the cash amount received and if we PAY CASH in the transaction we SUTRACT the cash amount paid.

## Investing Activities

Investing activities would include any changes to long term assets including fixed assets (also called property, plant and equipment), long term investments in notes receivable, or stocks or bonds of other companies, and intangible assets (patents, trademarks, etc.). Where would we find this information? We would look on the balance sheet. If there was a change in any long term asset (increase or decrease during the year), we need to account for that item in the Investing section. For our purposes, we will use the balance sheet and any additional information provided to us.

When analyzing the investing section, a negative cash flow is not necessarily a bad thing — you would need to look into the individual items of the investing section. We could have a negative cash flow if we purchased a new building for cash but this would be a good thing for our company and should not been determined to be bad since the cash flow from investing could be negative. Same if the reverse were true, what if we sold all of our long term assets and did not purchase any new assets — would this be a good thing for our company since we have a positive cash flow or a signal that something is going very wrong?

Here is a video to explain both investing and financing and then we will look at financing:

Watch this video online: https://youtu.be/VUbMq50rZGo

## Financing Activities

Financing activities would include any changes to long term liabilities (and short term notes payable from the bank) and equity accounts (common stock, paid in capital accounts, treasury stock, etc.). We would get most of the information from the balance sheet, but it may be necessary to use the Statement of Retained Earnings as well for any information on dividends.  As with investing, if there has been a change in a long term liability or equity (increase or decrease during the year), we must account for the item in the Financing section of the statement of cash flows.

When analyzing the financing section, just like with investing, a negative cash flow is not necessarily a bad thing and a positive cash flow is not always a good thing.  Once again, you need to look at the transactions themselves to help you decide how the positive or negative cash flow would affect the company.

To summarize our investing and financing sections, review this chart (remember, use the wording “provided” if positive cash flow and “used” if negative cash flow):

| |
|---|
| Cash flows from Investing activities: |
| + cash received from sale of long term assets |
| – cash paid for purchase of new long term assets |
| Net cash provided (used) by Investing Activities |
| |
| Cash flows from Financing activities: |
| + cash received from long term liabilities |
| – cash paid on long term liabilities |
| + cash received from issuing stock |
| – cash paid for dividends |
| – cash paid to purchase treasury stock |
| Net cash provided (used) by Financing Activities |

# Non-cash investing and financing activities

What happens if we purchase a building by signing a mortgage with no cash down payment?  Or if we convert bonds payable to common stock, how would we account for these transactions?  These transactions do not involve cash but they are significant enough for investors to need to know.  We will report them in a separate section at the bottom of the statement of cash flows.  For example, assume a company did purchase a $100,000 building by paying $20,000 down in cash and signed a note for the balance of $80,000.  This would be reported as follows (note, the $20,000 down payment would be including in the investing section of the statement of cash flows):

| | |
|---|---|
| Noncash investing and financing activities: | |
| Purchased building for $100,000 by signing a note and a downpayment of $20,000 | $80,000 |

We will prepare a complete statement of cash flows in the next section.

# PREPARING A STATEMENT OF CASH FLOW

We will look at each section of the statement of cash flows and put them all together at the end. The Dells Company is preparing their annual financial statements for the year ended June 30, 2015. They have prepared the income statement, statement of retained earnings, and balance sheet. Now, we need to prepare the statement of cash flows.

## 1. Operating Section

For the operating section, we need the income statement. Dells Company income statement is below.

| Dells Company | | |
|---|---|---|
| Income Statement | | |
| For Year Ended June 30, 2015 | | |
| Sales | | $ 1,000,000.00 |
| Cost of goods sold | $ 600,000.00 | |
| Salaries and wages expense | 200,000.00 | |
| Rent expense | 40,000.00 | |
| Depreciation expense | 20,000.00 | |
| Interest expense | 3,000.00 | |
| Loss on sale of equipment | 7,000.00 | |
| Total Expenses | | $ 870,000.00 |
| Income before federal taxes | | $ 130,000.00 |
| Less: Federal income taxes | | (60,000.00) |
| Net Income | | $ 70,000.00 |

To start the operating section, what do we need? We need net income, depreciation expense and any gains or losses (do not make this harder than it is — you must see the words "gain" or "loss" or do not consider it a gain or loss):

- Net Income is $70,000
- Add depreciation expense $20,000
- Add loss on sale of equipment $7,000

Our statement of cash flows looks like this:

| Dells Company |
|---|

| Statement of Cash Flows | | |
|---|---|---|
| For Year Ended June 30, 2015 | | |
| Cash flows from operating activities: | | |
| Net Income | | $ 70,000.00 |
| *Adjustments to reconcile net income to net cash:* | | |
| Depreciation expense | $ 20,000.00 | |
| Loss on sale of equipment | 7,000.00 | |

Now we move on to the balance sheet for the CURRENT assets and liabilities. Notice the increase (or decrease) has already been calculated for you but if not you would take the current year amount – previous year amount. If the current year is more, there is an increase and if the current year is less that is a decrease.

| Dells Company | | | | |
|---|---|---|---|---|
| Comparative Balance Sheet | | | | |
| June 30 2015 and 2014 | | | | |
| | 2015 | 2014 | Increase (Decrease) | |
| Assets | | | | |
| Current Assets: | | | | |
| Cash | $ 30,000.00 | $ 80,000.00 | $ (50,000.00) | |
| Accounts Receivable, Net | 160,000.00 | 100,000.00 | 60,000.00 | |
| Merchandise Inventory | 100,000.00 | 70,000.00 | 30,000.00 | |
| Prepaid Rent | 20,000.00 | 10,000.00 | 10,000.00 | |
| Total Current Assets | $ 310,000.00 | $ 260,000.00 | | |
| Property, plant, and equipment: | | | | |
| Equipment | $ 400,000.00 | $ 200,000.00 | $ 200,000.00 | |
| Accumulated Depreciation – Equipment | (60,000.00) | (50,000.00) | (10,000.00) | |
| Total Property, plant, and equipment | $ 340,000.00 | $ 150,000.00 | | |
| TOTAL ASSETS | $ 650,000.00 | $ 410,000.00 | | |
| | | | | |
| Liabilities and Equity | | | | |
| Current Liabilities: | | | | |

| | | | | |
|---|---|---|---|---|
| Accounts Payable | $ 50,000.00 | $ 40,000.00 | $ 10,000.00 | |
| Notes Payable – bank | 0 | 50,000.00 | (50,000.00) | |
| Salaries Payable | 10,000.00 | 20,000.00 | (10,000.00) | |
| Federal Income Taxes Payable | 30,000.00 | 20,000.00 | 10,000.00 | |
| Total Current Liabilities | $ 90,000.00 | $ 130,000.00 | | |
| Stockholder's Equity: | | | | |
| Common stock, $10 par | $ 300,000.00 | $ 100,000.00 | $ 200,000.00 | |
| Paid in capital in excess of par, Common | 50,000.00 | 0 | 50,000.00 | |
| Retained earnings | 210,000.00 | 180,000.00 | 30,000.00 | |
| Total Stockholder' s Equity | $ 560,000.00 | $ 280,000.00 | | |
| TOTAL LIABILITIES AND EQUITY | $ 650,000.00 | $ 410,000.00 | | |

We will use the current assets (other than cash) and the current liabilities (other than the notes payable – bank which we will report in financing). Remember, we ADD decreases and SUBTRACT increases in current assets but in current liabilities we will ADD increases and SUBTRACT decreases.

- Accounts Receivable increased $60,000 so we will SUBTRACT $60,000 since this is a current asset
- Merchandise inventory increased $30,000 so we will subtract $30,000
- Prepaid Rent increased $10,000 so we will subtract $10,000
- Accounts Payable increased $10,000 but we will ADD $10,000 since this is a current liability
- Salaries Payable decreased $10,000 so we will subtract $10,000
- Federal Income Taxes payable increased $10,000 so we will add $10,000

With this information, we can finish the operating section as follows:

| | | | |
|---|---|---|---|
| Dells Company | | | |
| Statement of Cash Flows | | | |
| For Year Ended June 30, 2015 | | | |
| Cash flows from operating activities: | | | |
| Net Income | | $ 70,000.00 | |
| *Adjustments to reconcile net income to net cash:* | | | |
| Depreciation expense | $ 20,000.00 | | |
| Loss on sale of equipment | 7,000.00 | | |
| Increase in Accounts Receivable | (60,000.00) | | |
| Increase in Merchandise inventory | (30,000.00) | | |
| Increase in Prepaid rent | (10,000.00) | | |

| | | | |
|---|---|---|---|
| Increase in Accounts Payable | 10,000.00 | | |
| Decrease in Salaries Payable | (10,000.00) | | |
| Increase in Federal income Taxes Payable | 10,000.00 | | |
| Total adjustments | | $(63,000.00) | |
| Net cash provided by operating activities | | | $ 7,000.00 |
| [$70,000 net income + (-63,000) in adjustments] | | | |

What does this tell us about the company? It tell us the company was able to generate $7,000 of cash from its day to day business operations. This could cause a concern since the company owes $90,000 in the next year (see current liabilities on the balance sheet). But let's look at the other sections to see what else we can learn.

## 2. Investing Section

For the investing section, we will use the balance sheet and any additional information provided. On the balance sheet, the only long term asset we have comes from property, plant and equipment and is the Equipment account. During 2015, equipment was sold for $3,000 cash with an original cost of $20,000 and $10,000 of accumulated depreciation. Additional equipment was purchased for $220,000 cash. Let's look at these transactions:

- Equipment was sold for $3,000 cash (we do not need to know the rest of the information as the important part is the amount of cash). *Notice how the $10,000 book value of the equipment ($20,000 cost – $10,000 accumulated depreciation) less the $3,000 cash received is the loss reported on the balance sheet of $7,000.* If we sold equipment, we receive cash so we will add the $3,000 cash.
- Dells purchased additional equipment for $220,000 cash so they paid cash. We will subtract the $220,000 cash paid.

The investing section would look like this:

| | | | |
|---|---|---|---|
| Cash flows from investing activities: | | | |
| Cash received from sale of equipment | $ 3,000.00 | | |
| Cash paid for new equipment | (220,000.00) | | |
| Net cash used by investing activities | | $ (217,000) | |

Notice how the net cash heading changed from provided in by the operating section to "used" by investing since the number is negative. We have a negative cash flow for investing, is that good or bad? Dells Company sold old equipment and purchased new equipment with CASH not with a loan! This is a good thing. When analyzing this section, you really want to see the asset sold because you are purchasing new ones — it is not a good sign to sell assets without replacing them. Since Dells was able to pay cash for the equipment and not take out a loan, how did they pay for it? We know it was not from the day to day business because the operating activities cash was pretty low. So, we will look to the financing section for answers.

## 3. Financing Section

For the financing section, we will use the balance sheet and the statement of retained earnings. On the balance sheet, we are looking at the notes payable – bank from the current liability section and any other long term liabilities. If these balances increased, we can assume we received cash and if the balances decreased, we can assume we paid on the debt unless we are given additional information on the subject. Notes Payable is the only liability we haven't already accounted for on the balance sheet. Next we look at the Equity section of the balance sheet. We have common stock, paid in capital and retained earnings. Common stock and paid in capital both increased — why does this account increase? It increases when we issue shares of common stock. We will assume Dells issued the stock for cash unless we are given additional information to the contrary. In our case, we are given no additional information so we will assume all increases or decreases involve cash. Lastly, we have retained earnings. What is involved in retained earnings? Let's look at the statement of retained earnings to find out.

| Dells Company | |
|---|---|
| Statement of Retained Earnings | |
| For Year Ended June 30, 2015 | |
| Retained Earnings, June 30 2014 | $ 180,000.00 |
| Add: 2015 Net Income | 70,000.00 |
| | $ 250,000.00 |
| Deduct: Cash Dividends | (40,000.00) |
| Retained Earnings, June 30 2015 | $ 210,000.00 |

Retained earnings includes the beginning retained earnings + net income – dividends to get the ending retained earnings balance. What do we need for the statement of cash flows? We already accounted for net income in the operating section but we need to know dividends. We will assume cash dividends unless the information given tells us otherwise. In this case, it shows we paid cash dividends.

- Notes Payable – Bank decreased by $50,000, we assume we paid cash of $50,000 in 2015 and we will subtract cash
- Common stock increased $200,000 and paid in capital increased $50,000 so the total cash received was $250,000 ($200,000 + $50,000) which will be added
- Cash dividends of $40,000 were paid and we will subtract cash

The financing section will look like this:

| Cash flows from financing activities: | | |
|---|---|---|
| Cash paid for notes payable | $ (50,000.00) | |
| Cash received from issuing stock | 250,000.00 | |
| Cash paid for dividends | (40,000.00) | |
| Net cash provided by financing activities | | $ 160,000.00 |

Now we know how Dells was able to purchase new equipment with cash, by issuing stock. This helped Dells in the current year but what about next year when they owe $90,000? We need to put all 3 sections together to finish the picture.

## 4. Net Increase (Decrease) in Cash

The final part of the statement of cash flows is to calculate a Net Increase (or Decrease if negative) in Cash by adding the net cash from operating, investing and financing. Cash flows from Operating is $7,000 + Investing $(217,000) + Financing $160,000 which gives a net **decrease** in cash of $(50,000). We then take this increase (or decrease) and add it to the beginning cash balance (which is the previous year cash balance from the balance sheet) to get a calculate Ending Cash Balance which should agree to the cash balance reported on the balance sheet for the current year. We can always check our work with a built in check figure of ending cash! This last section would look like this:

| | | |
|---|---|---|
| Net Increase (or Decrease) in Cash | | $ (50,000.00) |
| | | |
| Cash Balance, 2014 | | $ 80,000.00 |
| Cash Balance, 2015 | | $ 30,000.00 |
| [ $80,000 2014 cash balance + (50,000 decrease) ] | | |

To see the full statement of cash flows, click Dells Cash Flow



# ACCOUNTING IN THE HEADLINES

## What information can be gathered from Barnes & Noble's statement of cash flows?

32 Barnes & Noble, Inc.

CONSOLIDATED STATEMENTS OF CASH FLOWS

| FISCAL YEAR (In thousands) | Fiscal 2012 | Fiscal 2011 | Fiscal 2010 |
|---|---|---|---|
| **CASH FLOWS FROM OPERATING ACTIVITIES:** | | | |
| **Net earnings (loss)** | $ (68,867) | (73,957) | 36,644 |
| **Adjustments to reconcile net earnings (loss) to net cash flows provided by (used in) operating activities:** | | | |
| Depreciation and amortization (including amortization of deferred financing fees) | 238,048 | 244,734 | 214,464 |
| Stock-based compensation expense | 30,775 | 20,978 | 15,723 |
| Property and equipment impairment charge | 11,747 | 3,857 | 12,102 |
| Deferred taxes | (27,570) | 1,014 | (57,170) |
| Loss on disposal of property and equipment | 2,590 | 893 | 2,388 |
| Decrease in other long-term liabilities | (43,583) | (57,256) | (35,222) |
| Changes in operating assets and liabilities, net | (147,253) | 59,209 | (60,528) |
| **Net cash flows provided by (used in) operating activities** | (24,113) | 199,072 | 128,401 |
| **CASH FLOWS FROM INVESTING ACTIVITIES:** | | | |
| Proceeds from sale of distribution center | 10,000 | — | — |
| Purchases of property and equipment | (163,552) | (110,503) | (127,779) |
| Net increase in other noncurrent assets | (13,336) | (1,460) | (3,500) |
| Purchase of Borders Group, Inc. intellectual property | (14,528) | — | — |
| Fictionwise earn-out payments | — | (1,500) | (2,612) |
| Purchase of non-controlling interest | — | (300) | — |
| Acquisition of Barnes & Noble College Booksellers, Inc. (net of cash acquired) | — | — | (185,928) |
| Acquisition of Tikatok Inc. (net of cash acquired) | — | — | (2,281) |
| **Net cash flows used in investing activities** | (173,408) | (113,763) | (322,148) |
| **CASH FLOWS FROM FINANCING ACTIVITIES:** | | | |
| Net proceeds from issuance of Redeemable Preferred Shares | 191,379 | — | — |
| Net increase in credit facility | 11,100 | 52,700 | 260,400 |
| Cash dividends paid to shareholders | (7,881) | (44,783) | (57,403) |
| Proceeds from exercise of common stock options | 1,897 | 17,233 | 4,363 |
| Purchase of treasury stock | (4,090) | (1,830) | (3,039) |
| Excess tax benefit from stock-based compensation | 193 | 34 | 855 |
| Financing fees paid | (378) | (10,180) | (37,069) |
| Payment of short term note payable | — | (100,000) | — |
| Payment received for Calendar Club note receivable | — | 6,000 | — |
| **Net cash flows provided by (used in) financing activities** | 192,220 | (80,832) | 168,118 |

Barnes & Noble is a retailer of content, digital media, and educational products. It has nearly 700 bookstores in 50 states and also has a large e-commerce presence on the Web. In the past few years, there has been speculation that Barnes & Noble will not survive in the long-term. Among other news stories, the Wall Street Journal reported on November 26, 2013, that B & N sales are eroding for both print books and e-books. U.S. News & World Report reported that sales of the Barnes & Noble Nook plunged.

Let's see what the statement of cash flows can tell us about Barnes & Noble's operations.

The 2012 Annual Report for Barnes & Noble can be found here. See pages 32 – 33 of the annual report for the Statement of Cash Flows.

2012 Annual Report 33

CONSOLIDATED STATEMENTS OF CASH FLOWS

| FISCAL YEAR (In thousands) | Fiscal 2012 | Fiscal 2011 | Fiscal 2010 |
|---|---|---|---|
| Decrease in cash and cash equivalents | (5,298) | (1,536) | (25,629) |
| Cash and cash equivalents at beginning of year | 59,429 | 60,965 | 86,594 |
| **Cash and cash equivalents at end of year** | $ 54,131 | 59,429 | 60,965 |
| **CHANGES IN OPERATING ASSETS AND LIABILITIES, NET** | | | |
| Receivables, net | $ (10,203) | (43,716) | 119,258 |
| Merchandise inventories | (188,479) | (5,251) | 228,022 |
| Prepaid expenses and other current assets | (59,388) | 19,889 | (56,675) |
| Accounts payable and accrued liabilities | 108,817 | 88,289 | (352,033) |
| **Changes in operating assets and liabilities, net** | $ (147,253) | 59,209 | (60,528) |
| **SUPPLEMENTAL CASH FLOW INFORMATION:** | | | |
| **Cash paid (received) during the period for:** | | | |
| Interest paid | $ 28,298 | 45,884 | 12,305 |
| Income taxes (net of refunds) | $ 1,615 | (41,681) | 31,461 |
| **Supplemental disclosure of subsidiaries acquired:** | | | |
| Assets acquired (net of cash acquired) | $ — | 1,513 | 1,418,134 |
| Liabilities assumed | $ — | 1,213 | 1,227,945 |
| **Cash paid** | $ — | 300 | 190,189 |
| **NONCASH FINANCING ACTIVITY** | | | |
| Notes payable on Acquisition of B&N College | — | — | 250,000 |
| Accrued dividend on redeemable preferred shares | $ 3,963 | — | — |

Using the 2012 Fiscal Statement of Cash Flows for Barnes & Noble, answer the questions to follow.

Questions:

1) Did Barnes & Noble use the indirect method or the direct method to prepare its statement of cash flows? How do you know?

2) For fiscal 2012, did Barnes & Noble's operating activities provide cash or use cash? How much?

3) For fiscal 2012, did Barnes & Noble's investing activities provide cash or use cash? How much? What investing activities used cash? What investing activities provided cash?

4) For fiscal 2012, did Barnes & Noble's financing activities provide cash or use cash? How much? What financing activities used cash? What financing activities provided cash?

5) What conclusion(s) can you draw solely from Barnes & Noble's statement of cash flows for fiscal 2012?

# EXERCISES: UNIT 17

## SHORT ANSWER QUESTIONS, EXERCISES AND PROBLEMS

Questions

➢ What are the purposes of the statement of cash flows?

➢ What are some of the uses of the statement of cash flows?

➢ What information is contained in the statement of cash flows?

➢ Which activities are generally included in operating activities?

➢ Which activities are included in investing activities?

➢ Which activities are included in financing activities?

➢ Where should significant investing and financing activities that do not involve cash flows be reported?

➢ Explain the difference between the direct and indirect methods for computing cash flows from operating activities.

➢ What are noncash expenses? How are they treated in computing cash flows from operating activities?

➢ Describe the treatment of a gain on the sale of equipment in preparing a statement of cash flows under the indirect method.

➢ Depreciation is sometimes referred to as a source of cash. Is it a source of cash? Explain.

➢ Why is it unlikely that cash flows from operating activities will be equal to net income for the sameperiod?

➢ If the net income for a given period is $ 25,000, does this mean there is an increase in cash of the same amount? Why or why not?

➢ Why might a company have positive cash flows from operating activities even though operating at a net loss?

➢ Indicate the type of activity each of the following transactions represents (operating, investing, or financing) and whether it is an inflow or an outflow.

- Sold goods.
- Purchased building.
- Issued capital stock.
- Received cash dividends.
- Paid cash dividends.
- Purchased treasury stock.
- Sold available-for-sale securities.
- Made a loan.
- Paid interest on loan.
- Paid bond principal.
- Received proceeds of insurance settlement.
- Made contribution to charity.

Exercises

**Exercise A** Indicate how the following data should be reported in a statement of cash flows. A company paid $ 500,000 cash for land. A building was acquired for $ 2,500,000 by assuming a mortgage on the building.

**Exercise B** Cost of goods sold in the income statement for the year ended 2010 was $ 260,000. The balances in Merchandise Inventory and Accounts Payable were:

| | 2010 January 1 | 2010 December 31 |
|---|---|---|
| Merchandise inventory | $160,000 | $180,000 |
| Accounts payable | 44,000 | 36,000 |

Calculate the amount of cash paid for merchandise for 2010.

**Exercise C** Fill in the following chart, showing how increases and decreases in these accounts affect the conversion of accrual basis income to cash basis income:

| | Add | Deduct |
|---|---|---|
| Accounts receivable | | |
| Merchandise inventory | | |
| Prepaid expenses | | |
| Accounts payable | | |
| Accrued liabilities payable | | |

**Exercise D** The income statement of a company shows net income of $ 200,000; merchandise inventory on January 1 was $ 76,500 and on December 31 was $ 94,500; accounts payable for merchandise purchases were $ 57,000 on January 1 and $ 68,000 on December 31. Compute the cash flows from operating activities under the indirect method.

**Exercise E** The operating expenses and taxes (including $ 80,000 of depreciation) of a company for a given year were $ 600,000. Net income was $ 350,000. Prepaid insurance decreased from $ 18,000 to $ 14,000 during the year, while wages payable increased from $ 22,000 to $ 36,000 during the year. Compute the cash flows from operating activities under the indirect method.

**Exercise F** Dividends payable increased by $ 20,000 during a year in which total dividends declared were $ 120,000. What amount appears for dividends paid in the statement of cash flows?

**Exercise G** Following are balance sheet data for Quality Merchandise, Inc.:

| | December 31 | |
|---|---|---|
| | 2011 | 2010 |
| Cash | $ 47,000 | $ 26,000 |
| Accounts receivable, net | 141,000 | 134,000 |
| Merchandise inventory | 83,000 | 102,000 |
| Prepaid expenses | 9,000 | 11,000 |

| | | |
|---|---|---|
| Plant assets (net of accumulated depreciation) | 235,000 | 230,000 |
| Accounts payable | 122,000 | 127,000 |
| Accrued liabilities payable | 40,000 | 41,000 |
| Capital stock | 300,000 | 300,000 |
| Retained earnings | 53,000 | 35,000 |

Assume that the depreciation recorded in 2011 was $ 15,000. Compute the cash spent to purchase plant assets, assuming no assets were sold or scrapped in 2011.

**Exercise H** Use the data in the previous exercise. Assume the net income for 2011 was $ 24,000, depreciation was $ 15,000, and dividends declared and paid were $ 6,000. The company paid interest of $ 2,000 and income taxes of $ 14,000. Prepare a statement of cash flows—indirect method. Also prepare any necessary supplemental schedule(s).

**Exercise I** The following data are from a company's Automobile and the Accumulated Depreciation—Automobile accounts:

| Date | **Automobile** | **Debit** | **Credit** | **Balance** |
|---|---|---|---|---|
| Jan. 1 | Balance brought forward | | | 16,000 |
| July 1 | Traded for new auto | | 16,000 | -0- |
| | New auto | 31,000 | | |
| | **Accumulated depreciation –** | **Automobile** | | |
| Jan. 1 | Balance brought forward | | | 12,000 |
| July 1 | One-half year's depreciation | | 2,000 | 14,000 |
| | Auto traded | 14,000 | | -0- |
| Dec. 31 | One-half year's depreciation | | 4,000 | 4,000 |

The old auto was traded for a new one, with the difference in values paid in cash. The income statement for the year shows a loss on the exchange of autos of $ 1,200.

Indicate the dollar amounts, the descriptions of these amounts, and their exact locations in a statement of cash flows—indirect method.

**Problems**

**Problem A** The income statement and other data of Dunbar Carpet Outlet, Inc., follow:

**Dunbar Carpet Outlet, Inc.**

**Income statement**

**For the Year Ended 2010 December 31**

| | | |
|---|---|---|
| Sales | | $920,000 |

| | | |
|---|---|---|
| Cost of goods sold | | 380,000 |
| Gross margin | | $540,000 |
| Operating expenses (other than depreciation) | $140,000 | |
| Depreciation expense | 40,000 | 180,000 |
| Net income | | $360,000 |

Changes in current assets (other than cash) and current liabilities during the year were:

| | Increase | Decrease |
|---|---|---|
| Accounts receivable | | $20,000 |
| Merchandise inventory | $16,000 | |
| Prepaid insurance | 8,000 | |
| Accounts payable | 28,000 | |
| Accrued liabilities payable | 4,000 | |

Depreciation was the only noncash item affecting net income.

1. Prepare a working paper to calculate cash flows from operating activities under the direct method.
2. Prepare the cash flows from operating activities section of the statement of cash flows under the direct method.
3. Prove that the same cash flows amount will be obtained under the indirect method by preparing the cash flows from operating activities section of the statement of cash flows under the indirect method. You need not prepare a working paper.

Problem B The following comparative balance sheets and other data are for Cellular Telephone Sales, Inc.:

Cellular Telephone Sales, Inc.

Comparative balance sheets

2011 December 31 and 2010

| | 2011 | 2010 |
|---|---|---|
| Assets | | |
| Cash | $76,105 | $51,000 |
| Accounts receivable, net | 26,075 | 24,250 |
| Merchandise inventory | 30,000 | 35,000 |
| Supplies on hand | 1,750 | 2,550 |
| Prepaid expenses | 1,400 | 1,200 |
| Land | 180,000 | 142,500 |

| | | |
|---|---|---|
| Equipment | 270,000 | 300,000 |
| Accumulated depreciation – equipment | (75,000) | (67,500) |
| Total assets | $510,330 | $489,000 |
| Liabilities and stockholders' equity | | |
| Accounts payable | $ 45,330 | $ 76,300 |
| Salaries payable | 4,000 | 2,000 |
| Accrued liabilities payable | 2,000 | 8,250 |
| Long-term note payable | 150,000 | 150,000 |
| Common stock ($5 par) | 185,000 | 165,000 |
| Paid-in capital in excess of par | 32,500 | -0- |
| Retained earnings | 91,500 | 87,450 |
| Total liabilities and stockholders' equity | $510,330 | $489,000 |

Land was bought for $ 37,500 cash. The company intends to build a building on the land. Currently the company leases a building for its operations.

Equipment costing $ 50,000 with accumulated depreciation of $ 30,000 was sold for $ 23,500 (a gain of $ 3,500), and equipment costing $ 20,000 was purchased for cash.

Depreciation expense for the year was $ 37,500.

Common stock was issued for $ 52,500 cash.

Dividends declared and paid in 2011 totaled $ 32,950.

Net income was $ 37,000.

The company paid interest of $ 3,000 and income taxes of $ 17,000.

Prepare a statement of cash flows under the indirect method. Also prepare any necessary supplemental schedule(s).

**Problem C** Computer Associates International, Inc., is leading business software company. The company was founded in 1977 with four employees and has grown to 18,200 employees and about 4.2 billion in revenues.

The company's statements of cash flows for the years 2002 through 2004 follow. Then the relevant portion of Management's Discussion and Analysis of the statement of cash flows is provided.

Consolidated statements of cash flows

| | Year Ended | March 31 | |
|---|---|---|---|
| Operating activities: | 2004 | 2003 | 2002 |
| | | (In millions) | |

| | | | |
|---|---|---|---|
| Net (loss) income | $ (591) | $ 696 | $ 626 |
| Adjustments to reconcile net (loss) income to net cash provided by operating activities: | | | |
| Depreciation and amortization | 1,110 | 594 | 325 |
| Provision for deferred income taxes (benefit) | (350) | 412 | 107 |
| Charge for purchased research and development | — | 795 | — |
| Compensation (gain) expense related to stock pension plants | (146) | 30 | 778 |
| Decrease (increase) in noncurrent installment accounts receivable, net | 956 | (1,039) | (422) |
| Decrease (increase) in deferred maintenance revenue | (3) | 113 | 43 |
| Foreign currency transaction loss – before taxes | 14 | 5 | 11 |
| Charge for investment write-off | — | 50 | — |
| Gain on sale of property and equipment | — | (5) | (14) |
| Changes in other operating assets and liabilities, net of effects of acquisitions: | | | |
| Decrease (increase) in trade and installment receivables | 418 | 83 | (169) |
| Other changes in operating assets and liabilities | (25) | (168) | (18) |
| Net cash provided by operating activities | $ 1,383 | $ 1,566 | $ 1,267 |
| Investing activities: | | | |
| Acquisitions, primarily purchased software, marketing rights and intangibles, net of cash acquired | $ (174) | $ (3,049) | $ (610) |
| Settlements of purchases accounting liabilities | (367) | (429) | (57) |
| Purchases of property and equipment | (89) | (198) | (222) |
| Proceeds from sale of property and equipment | 5 | 12 | 38 |
| Disposition of businesses | 158 | — | — |
| Purchases of marketable securities | (48) | (95) | (2,703) |
| Sales of marketable securities | 40 | 189 | 2,639 |
| Increase in capitalized development costs and other | (49) | (36) | (29) |
| Net cash used in investing activities | $ (524) | $ (3,606) | $ (944) |

| | | | |
|---|---|---|---|
| Financing activities: | | | |
| Dividends | $ (47) | $ (43) | $ (44) |
| Purchases of treasury stock | (449) | — | (1,090) |
| Proceeds from borrowings | 1,049 | 3,672 | 2,141 |
| Repayment of borrowings | (1,981) | (776) | (1,216) |
| Exercise of common stock options and other | 50 | 96 | 38 |
| Net cash provided by (used in) financing activities | $ (1,378) | $ 2,949 | $ (171) |
| (Decrease) Increase in cash and cash equivalents before effect of exchange rate changes on cash | $ (519) | $ 909 | $ 152 |
| Effect of exchange rate changes on cash | (25) | (1) | (4) |
| (Decrease) Increase in cash and cash equivalents | $ (544) | $ 908 | $ 148 |
| Cash and cash equivalents – Beginning of year | 1,307 | 399 | 251 |
| Cash and cash equivalents – End of the year | $ 763 | $ 1,307 | $ 399 |

Management's discussion and analysis

## Liquidity and capital resources

Cash, cash equivalents and marketable securities totaled $ 850 million at 2004 March 31, a decrease of $ 537 million from the 2003 March 31 balance of $ 1,387 million. During fiscal year 2004, the Company used cash on hand to repay over $ 900 million in debt and repurchase approximately $ 450 million in treasury stock. Cash generated from operations for fiscal year 2001 was $ 1,383 million, a decrease of $ 183 million from the prior year's cash from operations of $ 1,566 million. Cash from operations was unfavorably impacted this current fiscal year due to higher costs associated with increased headcount and other expenses related to the Sterling acquisition.

The Company's bank credit facilities consist of a $ 1 billion four-year revolving credit facility, a $ 2 billion four-year term loan, and a 75 million British Pound Sterling denominated 364-day term loan. During the year, the Company repaid all outstanding amounts under both its $ 1.3 billion 364-day and four-year revolving credit agreements. As a reflection of its continued reduced need for bank borrowings, emphasis on debt reduction, and overall expected ability to generate cash from operations, the Company did not renew its $ 1.3 billion 364-day revolving credit facility when it expired in May 2004.

As of 2004 March 31, $ 2 billion remained outstanding under the four-year term loan and approximately $ 124 million was outstanding under the pound sterling term loan at various interest rates. There are no drawings under the Company's $ 1 billion four-year revolving credit facility. The interest rates on such debt are determined based on a ratings grid, which applies a margin to the prevailing London InterBank Offered Rate ("LIBOR"). In addition, the Company established a $ 1 billion US Commercial Paper ("CP") program in the first quarter of this year to refinance some of its debt at more attractive interest levels. As of 2004 March 31, $ 340 million was outstanding under the CP program.

The Company also utilizes other financial markets in order to maintain its broad sources of liquidity. In fiscal 2002, $ 1.75 billion of unsecured Senior Notes were issued in a transaction governed by Rule 144A of the Securities Act of 1933. Amounts borrowed, rates and maturities for each issue were $ 575 million at 6.25 per cent due 2006 April 15, $ 825 million at 6.375 per cent due 2008 April 15 and $ 350 million at 6.5 per cent due 2011 April 15. As of 2004 March 31, $ 192 million was outstanding under the Company's 6.77 per cent Senior Notes. These Notes call for annual repayment of $ 64 million each April until final maturity in 2006.

Unsecured and uncommitted multicurrency lines of credit are available to meet any short-term working capital needs for subsidiaries operating outside the US. These lines total $ 56 million, of which $ 14 million was drawn as of 2004 March 31.

Debt ratings for the Company's senior unsecured notes and its bank credit facilities are BBB+ and Baa1 from Standard & Poor's and Moody's Investor Services, respectively. The Company's Commercial Paper program is rated A-2 from Standard & Poor's and P-2 from Moody's. Peak borrowings under all debt facilities during fiscal year 2004 totaled approximately $ 5.4 billion with a weighted-average interest rate of 7.2 per cent.

As of 2004 March 31, the cumulative number of shares purchased under the Company's various open market Common Stock repurchase programs, including almost 16 million shares purchased in the current fiscal year, was 166 million. The remaining number of shares authorized for repurchase is approximately 34 million.

Capital resource requirements as of 2004 March 31 consisted of lease obligations for office space, computer equipment, mortgage or loan obligations and amounts due as a result of product and company acquisitions. It is expected that existing cash, cash equivalents, marketable securities, the availability of borrowings under credit lines and cash provided from operations will be sufficient to meet ongoing cash requirements.

The Company expects its long-standing history of providing extended payment terms to customers to continue under the new business model and thus does not expect a change to its future cash flow, since customers are expected to continue to finance their purchases over the contract period.

1. Explain how the company could have a net loss in 2004 and yet have a positive net cash provided by operating activities.
2. What was the reason given by management for repaying all outstanding amounts under revolving credit agreements.
3. What is the interest rate on borrowings?
4. What information would normally appear immediately below the statement of cash flows that seems to be missing?
5. Does the amount of cash provided by operating activities seem large enough to continue the present dividend payments?
6. Given the following data, calculate the cash flow per share of common stock ratio, the cash flow margin ratio, and cash flow liquidity ratio.

| | (in millions) |
|---|---|
| Average number of shares of common stock outstanding | 583 |
| Net sales | 4,198 |
| Cash and marketable securities | 850 |
| Current liabilities | 2,286 |

**Problem D** Mechan Company develops, manufactures, markets, installs and supports a wide range of standards-based LAN and WAN connectivity hardware and software products. The company's statements of cash flow for the years 2008-2010 follow. Then the relevant portion of Management's Discussion and Analysis of the statement of cash flows is provided.

**Consolidated statements of cash flows**

**Years ended 2010 February 29, and 2009 February 28 and 2008**

**(In thousands)**

| | 2010 | 2009 | 2008 |
|---|---|---|---|
| Cash flows from operating activities: | | | |

| | | | |
|---|---|---|---|
| Net income | $ 164,418 | $ 161,974 | $ 119,218 |
| Adjustments to reconcile net income to net cash provided by operating activities: | | | |
| Depreciation and amortization | 32,061 | 26,832 | 17,335 |
| Provision for losses on accounts receivable | 356 | 72 | 1,734 |
| Loss on disposals of property, plant and equipment | 93 | 174 | 113 |
| Deferred taxes | (38,766) | (4,434) | (6,151) |
| Changes in assets and liabilities: | | | |
| Accounts receivables | (55,101) | (27,698) | (17,707) |
| Inventories | (50,483) | (23,080) | (8,758) |
| Prepaid expenses and other assets | (18,844) | (3,123) | 1,211 |
| Accounts payable and accrued expenses | 62,908 | 11,336 | 22,003 |
| Income taxes payable | 3,705 | 10,476 | (3,924) |
| Net cash provided by operating activities | $100,347 | $152,529 | $125,074 |
| Cash flows from investing activities: | | | |
| Capital expenditures | $ (65,035) | $ (63,091) | $ (39,399) |
| Purchase of available-for-sale securities | (79,427) | (71,598) | (30,097) |
| Purchase of held-to-maturity securities | (205,852) | (282,712) | (258,517) |
| Materials of marketable securities | 208,922 | 323,682 | 197,406 |
| Net cash used in investing activities | $(141,392) | $ (93,719) | $(130,607) |
| Cash flows from financing activities: | | | |
| Repayment of notes receivable from stockholders | $ 174 | $ 131 | $ 66 |
| Repurchase of common stock | (1,173) | (13,070) | — |
| Tax benefit of options exercised | 7,215 | 5,712 | 6,980 |
| Common stock issued to employee stock purchase plan | 3,323 | 2,287 | 1,637 |
| Proceeds from stock option exercise | 16,021 | 4,887 | 7,185 |
| Net cash provided by (used for) financing activities | $ 25,560 | $ (53) | $ 15,868 |

| | | | |
|---|---|---|---|
| Effect of exchange rate changes on cash | $ 166 | $ 712 | $ 161 |
| Net increase (decrease) in cash and cash equivalents | $ (15,319) | $ 59,469 | $ 10,469 |
| Cash and cash equivalents, beginning of year | 114,032 | 54,563 | 44,067 |
| Cash and cash equivalents, end of year | $ 98,713 | $ 114,032 | $ 54,563 |
| Cash paid during the year for: | | | |
| Income taxes | $ 105,233 | $ 68,420 | $ 67,263 |

Management's discussion and analysis

Net cash provided by operating activities was $ 100.3 million in fiscal 2010, compared to $ 152.5 million in fiscal 2009 and $ 125.1 million in fiscal 2008.

Capital investment for fiscal 2010 of $ 65.0 million included $ 9.8 million for building costs of which $ 3.4 was for the purchase of an engineering building, $ 21.4 million for engineering computer and computer related software and equipment, $ 5.5 million for manufacturing and related equipment and $ 19.0 million for expanding global sales operations. During fiscal 2009, capital expenditures of $ 63.1 million included approximately $ 8.2 million for building costs related to expanding manufacturing and distribution capacities and enlarging worldwide sales operations, $ 12.5 million for manufacturing and manufacturing support equipment and $ 15.0 million for engineering computer and computer related equipment. Another $ 15.0 million was spent in support of expanded global sales activities. During fiscal 2008, capital expenditures of $ 39.4 million included $ 3.9 million on buildings, $ 10.1 million on engineering equipment, $ 7.8 million on manufacturing capacity expansions and $ 2.0 million to equip new sales offices.

Cash, cash equivalents and marketable securities increased during fiscal 2010 to $ 407.0 million, from $ 345.9 million in the prior fiscal year. State and local municipal bonds of approximately $ 264.2 million, maturing in approximately 1.5 years, were being held by the Company at 2010 February 29.

At 2010 February 29, the Company did not have any short or long term borrowing or any significant financial commitments outstanding, other than those required in the normal course of business.

In the opinion of management, internally generated funds from operations and existing cash, cash equivalents and marketable securities will be adequate to support the Company's working capital and capital expenditures requirements for both short and long term needs.

1. Which method did the company use in arriving at net cash flows from operating activities?
2. Did current assets other than cash increase or decrease during the year ended 2010 February 29?
3. Did current liabilities increase or decrease during the year ended 2010 February 29?
4. What were the main investing activities during this three-year period?
5. What was the main source of cash from financing activities during the three-year period?
6. Did the company pay any interest expense during the year ended 2010 February 19?
7. Given the following data, calculate the cash flow per share of common stock ratio, the cash flow margin ratio, and the cash flow liquidity ratio. How do these ratios compare with the ratios shown for other companies in the chapter?

| (in thousands) | |
|---|---|
| Average number of shares of common stock outstanding | 71,839 |
| Net sales | $ 1,069,715 |
| Cash and marketable securities | 253,540 |

| | |
|---|---|
| Current liabilities | 164,352 |

**Problem E** The following comparative balance sheets and other data are for Dayton Tent & Awning Sales, Inc.:

**Dayton Tent & Awning Sales, Inc.**

**Comparative Balance Sheets**

**2011 June 30 and 2010**

| | 2011 | 2010 |
|---|---|---|
| Assets | | |
| Cash | $ 441,800 | $ 332,600 |
| Accounts receivable, net | 750,750 | 432,900 |
| Merchandise inventory | 819,000 | 850,200 |
| Prepaid insurance | 3,900 | 5,850 |
| Land | 312,000 | 351,000 |
| Buildings | 2,184,000 | 1,209,000 |
| Machinery and tools | 858,000 | 468,000 |
| Accumulated depreciation – machinery and tools | (809,250) | (510,900) |
| Total assets | $ 4,560,200 | $ 3,138,650 |
| Liabilities and stockholders' equity | | |
| Accounts payable | $ 226,750 | $ 275,500 |
| Accrued liabilities payable | 185,800 | 111,700 |
| Bank loans (due in 2009) | 56,550 | 66,300 |
| Mortgage bonds payable | 382,200 | 185,250 |
| Common stock – $100 par | 1,755,000 | 585,000 |
| Paid-in capital in excess of par | 58,500 | -0- |
| Retained earnings | 1,895,400 | 1,914,900 |
| Total liabilities and stockholders' equity | $ 4,560,200 | $ 3,138,650 |

Net income for the year was $ 128,000.

Depreciation for the year was $ 356,850.

There was a gain of $ 7,800 on the sale of land. The land was sold for $ 46,800.

The additional mortgage bonds were issued at face value as partial payment for a building valued at $ 975,000. The amount of cash paid was $ 778,050.

Machinery and tools were purchased for $ 448,500 cash.

Fully depreciated machinery with a cost of $ 58,500 was scrapped and written off.

Additional common stock was issued at $ 105 per share. The total proceeds were $ 1,228,500.

Dividends declared and paid were $ 147,500.

A payment was made on the bank loan, $ 9,750.

The company paid interest of $ 9,000 and income taxes of $ 75,000.

1. Prepare a working paper for a statement of cash flows.
2. Prepare a statement of cash flows under the indirect method. Also prepare any necessary supplemental schedule(s).

**Alternate problem A** The following income statement and other data are for Kennesaw Auto Glass Specialists, Inc..

**Kennesaw auto glass specialists, Inc.**

**Income Statement**

**For the year ended 2010 December 31**

| | | |
|---|---|---|
| Sales | | $450,000 |
| Cost of goods sold | | 125,000 |
| Gross margin | | $325,000 |
| Operating expenses (other than depreciation) | $60,000 | |
| Depreciation expense | 20,000 | 80,000 |
| Net income | | $245,000 |

Changes in current assets (other than cash) and current liabilities during the year were:

| | **Increase** | **Decrease** |
|---|---|---|
| Accounts receivable | $15,000 | |
| Merchandise inventory | | $25,000 |
| Prepaid insurance | 8,000 | |
| Accounts payable | | 15,000 |
| Accrued liabilities payable | 4,000 | |

Depreciation was the only noncash item affecting net income.

1. Prepare a working paper to calculate cash flows from operating activities under the direct method.
2. Prepare the cash flows from operating activities section of the statement of cash flows under the direct method.

3. Prove that the same cash flows amount is obtained under the indirect method by preparing the cash flows from operating activities section of the statement of cash flows under the indirect method. You need not prepare a working paper.

Alternate problem B The following information relates to Dunwoody Nursery & Garden Center, Inc. The company leases a building adjacent to its land.

Dunwoody Nursery & Garden Center, Inc.

Comparative Balance Sheets

2011 December 31 and 2010

| | 2011 | 2010 |
|---|---|---|
| Assets | | |
| Cash | $44,500 | $ 52,000 |
| Accounts receivable, net | 59,000 | 60,000 |
| Merchandise inventory | 175,000 | 120,000 |
| Equipment | 412,500 | 315,000 |
| Accumulated depreciation – equipment | (120,000) | (105,000) |
| Land | 75,000 | 15,000 |
| Total assets | $646,000 | $457,000 |
| Liabilities and stockholders' equity | | |
| Accounts payable | $ 43,750 | $40,750 |
| Accrued liabilities payable | 2,250 | 3,750 |
| Capital stock – common – $10 par | 375,000 | 300,000 |
| Paid-in capital in excess of par | 150,000 | 75,000 |
| Retained earnings | 75,000 | 37,500 |
| Total liabilities and stockholders' equity | $646,000 | $457,000 |

Net income was $ 97,500 for the year.

Fully depreciated equipment costing $ 15,000 was sold for $ 3,750 (a gain of $ 3,750), and equipment costing $ 112,500 was purchased for cash.

Depreciation expense for the year was $ 30,000.

Land was purchased, $ 60,000.

An additional 7,500 shares of common stock were issued for cash at $ 20 per share (total proceeds, $ 150,000).

Cash dividends of $ 60,000 were declared and paid.

The company paid interest of $ 6,000 and income taxes of $ 65,000. Prepare a statement of cash flows under the indirect method. Also prepare any necessary supplemental schedule(s).

**Alternate problem C** Drexler, Inc., is an independent service organization that markets and services electronic credit card authorization and payment systems to small retail, wholesale, and professional businesses located throughout the United States. Prior to installing the company's electronic system, most of these businesses have used manual, paper-based systems to process credit card transactions or have not accepted credit cards at all. As the use of credit cards has significantly expanded, electronic processing has proven more convenient by accelerating customer purchases, lowering processing expenses, and reducing losses from fraudulent cards.

The company's account portfolio has grown through the purchase of account portfolios as well as through the internal development of accounts using telemarketing and field sales. With approximately 90,000 accounts at 2010 July 31, the company is one of the largest independent service organizations in the country.

The company's statements of cash flows for the years 2008-2010 follow. Then the relevant portion of Management's Discussion and Analysis of the statement of cash flows is provided.

| Consolidated statement of cash flows | | | |
|---|---|---|---|
| | Year ended July 31, | | |
| | 2008 | 2009 | 2010 |
| Cash flows from operating activities: | | | |
| Net cash received from merchants | $ 19,657,697 | $ 34,353,326 | $ 67,313,124 |
| Cash paid to vendors and employees | (14,758,040) | (28,467,472) | (49,128,150) |
| Interest received | 22,262 | 310,136 | 1,672,714 |
| Interest paid | (268,586) | (198,485) | (505,856) |
| Income taxes paid | (994,969) | (1,600,405) | (5,630,881) |
| Net cash provided by operating activities | $ 3,658,354 | $ 4,397,100 | $ 13,720,951 |
| Cash flows from investing activities: | | | |
| Purchase of merchant portfolios | $ (8,415,055) | $(24,576,426) | $(31,787,725) |
| Purchase of property and equipment | (1,465,984) | (1,917,395) | (1,777,955) |
| Net cash used in investing activities | $(9,881,039) | $(26,493,821) | $(33,565,680) |
| Cash flows from financing activities: | | | |
| Proceeds from issuance of long-term debt | $ 7,650,000 | $ 16,450,000 | $ 305,000 |
| Payments on long-term debt | (1,163,170) | (12,828,503) | (16,545,500) |
| Proceeds from issuance of common stock | — | 17,098,894 | 140,963,115 |
| Payments to repurchase treasury stock | (45,000) | (32,500) | (12,000) |
| Proceeds from minority shareholder contribution | — | — | 120,000 |

| | | | |
|---|---|---|---|
| Net cash provided by financing activities | $6,441,830 | $ 20,687,891 | $124,830,615 |
| Net increase (decrease) in cash and cash equivalents | $ 219,145 | $ (1,408,830) | $(104,985,886) |
| Cash and cash equivalents at beginning of year | 1,664,830 | 1,883,975 | 475,145 |
| Cash and cash equivalents at end of year | $ 1,883,975 | $ 475,145 | $105,461,031 |

Supplemental schedule of noncash activities:

In connection with the purchase of merchant portfolios in fiscal years 2008 and 2009, the Company issued promissory notes totaling $ 5,061,804 and $ 80,500, respectively.

The company recognized a tax benefit of $ 318,517 for the year ended 2010 July 31, for the excess of the fair market value at the exercise date over that at the award date for stock options exercised.

In connection with the purchase of merchant portfolio in March 2008, the Company issued 312,500 shares of common stock.

In connection with an agreement between the Company and a processing back entered into simultaneously with the purchase of a merchant portfolio in March 2008, the Company issued warrants to purchase 120,000 shares of common stock.

| | | | |
|---|---|---|---|
| Reconciliation of net income to net cash provided by operating activities: | | | |
| Net income | $2,592,444 | $3,640,155 | $ 8,625,376 |
| Martin Howe fiscal year converstion | — | — | (356,914) |
| Adjustments: | | | |
| Depreciation and amortization expense | 1,648,023 | 3,517,852 | 7,509,630 |
| Provision for merchant losses | 484,993 | 483,245 | 654,705 |
| Stock award compensation and other | 239,659 | 241,477 | 120,395 |
| Deferred income taxes | (453,658) | 35,982 | (761,705) |
| Changes in assets and liabilities: | | | |
| Accounts receivable | (1,562,961) | (1,459,799) | (2,125,510) |
| Inventory | (50,235) | (157,087) | (186,289) |
| Other assets | (1,716,464) | (1,895,097) | (501,353) |
| Accounts payable | 1,557,611 | 44,106 | 587,784 |
| Accrued liabilities | 975,065 | (223,411) | 210,064 |
| Deferred revenues | (56,123) | 169,677 | (55,232) |
| Net cash provided by operating activities | $ 3,658,354 | $ 4,397,100 | $ 13,720,951 |

## Capital expenditures and investing activities

Capital expenditures were approximately $ 1.8 million for fiscal year 2010 as compared to $ 1.9 million for fiscal year 2009 and $ 1.5 million for fiscal year 2008. The increase in capital expenditures was primarily the result of additional expenditures related to the Company's management information system, the purchase of additional credit card terminals, the Company's relocation of its office facilities and the purchase of peripheral equipment for lease to merchants. In addition to the increase in capital expenditures, the Company used $ 8.4 million, $ 24.6 million and $ 31.8 million for the purchase of merchant portfolios in fiscal years 2008, 2009 and 2010, respectively. The Company purchased five merchant portfolios in fiscal 2008, nine merchant portfolios in fiscal year 2009 and five in fiscal year 2010.

## Financing activities

The significant increase in cash provided by financing activities for fiscal year 2009 resulted from the consummation of the Company's initial public offering in August 2008. Cash provided by financing activities for fiscal year 2009 was $ 20.7 million which reflects the net proceeds of the initial public offering after retirement of the Company's outstanding indebtedness. Additionally, the Company issued $ 15.3 million of long-term debt in connection with three of the nine merchant portfolios purchased in fiscal year 2009.

The cash provided by financing activities for fiscal 2010 reflects the Company's consummation of its second and third public offerings in October 2009 and April 2010, respectively. Net cash provided by financing activities was $ 124.8 million in fiscal 2010 which reflects the net proceeds from the offerings after retirement of the Company's outstanding bank indebtedness.

## Future capital needs

Management believes that significant expenditures for the purchase of additional merchant portfolios may be required for the Company to sustain its growth in the future. Management expects to fund such purchases primarily through cash generated from operations and additional bank borrowings. Management believes the combination of these sources will be sufficient to meet the Company's anticipated liquidity needs and its growth plans through fiscal year 2008. The Company, however, may pursue additional expansion opportunities, including purchases of additional merchant portfolios, which may require additional capital, and the Company may incur, from time to time, additional short-term and long-term indebtedness or issue, in public or private transactions, equity or debt securities, the availability and terms of which will depend upon then prevailing market and other conditions.

The Company's revolving credit facility was amended and restated during fiscal year 2009 to increase the line of credit to $ 17.5 million. The Company repaid all outstanding debt related to this credit facility with the proceeds from its second public offering during fiscal year 2010. The amended agreement expires 2010 November 1, with all amounts then outstanding under the agreement due on 2010 November 1, unless the agreement is extended or the outstanding amounts have been converted to a term loan requiring equal monthly payments for 48 months.

Borrowings under the amended revolving credit facility are used to finance purchases of merchant portfolios and equipment and for working capital purposes. Borrowings are secured by substantially all the Company's assets and life insurance policies on the lives of two of the Company's executive officers.

1. Which method is the company using to determine net cash provided by operating activities?
2. Why does the company show the indirect method below the statement of cash flows?
3. What is the trend of net cash provided by operating activities over the three years?
4. How has the company increased its merchant portfolios?
5. What items of property and equipment were acquired during the three-year period?
6. What was the major source of the huge increase in cash and cash equivalents over the three-year period? How were the proceeds used?
7. How does the company expect to finance future expenditures to acquire additional merchant portfolios?
8. How are amounts secured that are borrowed under the line of credit?
9. Given the following data, calculate the cash flow per share of common stock ratio, the cash flow margin ratio, and the cash flow liquidity ratio. (Round the net cash provided from operating activities to the nearest thousand before you calculate the ratios.) How do the ratios compare with the ones for companies illustrated in the chapter?

| | (in thousands) |
|---|---|
| Average number of shares of common stock outstanding | 28,539 |
| Net sales | $149,840 |
| Cash and marketable securities | 105,461 |
| Current liabilities | 6,862 |

**Alternate problem D** Founded in 1901, The Gillette Company is the world leader in male grooming products, a category that includes blades and razors, shaving preparations and electric shavers. Gillette also holds the number one position worldwide in selected female grooming products, such as wet shaving products and hair epilation devices. The Company is the world's top seller of writing instruments and correction products, toothbrushes and oral care appliances. In addition, the Company is the world leader in alkaline batteries.

Gillette manufacturing operations are conducted at 38 facilities in 19 countries, and products are distributed through wholesalers, retailers, and agents in over 200 countries and territories.

The company's statements of cash flows for the years 2001-2003 follow. Then the relevant portion of Management's Discussion and Analysis of the statement of cash flows is provided.

**Consolidated statement of cash flows (millions of dollars)**

| Years ended 2003,2002, 2001 December 31 | 2003 | 2002 | 2001 |
|---|---|---|---|
| Operating activities | | | |
| Income from continuing operations | $ 832 | $1,248 | $1,073 |
| Adjustments to reconcile net income to net cash provided by operating activities: | | | |
| Provision of restructuring and asset impairment | 572 | — | 440 |
| Depreciation and amortization | 535 | 464 | 421 |
| Other | 5 | (7) | (46) |
| Changes in assets and liabilities, excluding effects from acquisition and divestitures: | | | |
| Accounts receivable | (100) | (48) | (442) |
| Inventories | 149 | (140) | (62) |
| Accounts payable and accrued liabilities | (45) | 65 | 72 |
| Other working capital items | (136) | 97 | (104) |
| Other noncurrent assets and liabilities | (197) | (252) | (142) |
| Funding German pension plans | — | — | (252) |
| Net cash provided by operating activities | $ 1,604 | $1,427 | $ 958 |

| | | | |
|---|---|---|---|
| Investing activities | | | |
| Additions to property, plant and equipment | $ (793) | $ (889) | $ (952) |
| Disposals of property, plant and equipment | 41 | 124 | 65 |
| Acquisitions of businesses, less cash acquired | — | — | (91) |
| Sale of businesses | 539 | — | 200 |
| Other | (1) | 2 | 5 |
| Net cash used in investing act | $(214) | $ (763) | $ (773) |
| Financing activities | | | |
| Purchase of treasury stock | $ (944) | $(2,021) | $(1,066) |
| Proceeds from sale of put options | 23 | 72 | 56 |
| Proceeds from exercise of stock options and purchase plans | 36 | 149 | 126 |
| Proceeds from long-term debt | 494 | 1,105 | 500 |
| Repayment of long-term debt | (365) | — | (12) |
| Increase (decrease) in loans payable | (385) | 484 | 708 |
| Dividends paid | (671) | (626) | (552) |
| Settlements of debt-related derivative contracts | 279 | 42 | 9 |
| Net cash used in financing activities | $ (1,553) | $ (795) | $ (231) |
| Effect of exchange rate changes on cash | $ (5) | $ (2) | $ (2) |
| Net cash provided by discontinued operations | 130 | 111 | 45 |
| Decrease in cash and cash equivalents | $ (18) | $ (22) | $ (3) |
| Cash and cash equivalents at beginning of year | 80 | 102 | 105 |
| Cash and cash equivalents at end of year | $ 62 | $ 80 | $ 102 |
| Supplemental disclosure of cash paid for: | | | |
| Interest | $ 243 | $ 126 | $ 120 |
| Income taxes | $ 480 | $ 457 | $ 473 |
| Noncash investing and financing activities: | | | |
| Acquisition of businesses | | | |
| Fair value of assets acquired | $— | $— | $ 100 |

| | | | |
|---|---|---|---|
| Cash paid | — | — | 91 |
| Liabilities assumed | $ — | $ —- | $ 9 |

Management's discussion and analysis*

### Financial condition

The Company's financial condition continued to be strong in 2003. Net debt (total debt net of associated swaps, less cash and cash equivalents) decreased $ 82 million during 2003, despite additional spending under the Company's share repurchase program, due to improved cash flow from operations, proceeds from the sale of the Stationery Products business and the favorable exchange impact on foreign currency debt. Net debt at 2003 December 31, amounted to $ 4.45 billion, compared with $ 4.53 billion and $ 3.18 billion at 2002 December 31 and 2001, respectively. The market value of Gillette equity was $ 38 billion at the end of 2003, compared with $ 43 billion at the end of 2002. The Company's book equity position amounted to $ 1.92 billion at the end of 2003, compared with $ 3.06 billion at the end of 2002 and $ 4.54 billion at the end of 2001. The decreases in book equity in 2003 and 2002 were due primarily to the Gillette share repurchase program, as well as to the effect of foreign currency translation.

Net cash provided by operating activities in 2003 was $ 1.60 billion, compared with $ 1.43 billion in 2002 and USD .96 billion in 2001. The current ratio of the Company was .86 for 2003, compared with ratios of 1.39 for 2002 and 1.40 for 2001. The decrease in the 2003 current ratio was primarily attributable to the Company's reclassification of all commercial paper borrowings to short-term debt, due to the Company's credit facility agreements expiring within 2001. Capital spending in 2003 amounted to $ 793 million, compared with $ 889 million in 2002 and $ 952 million in 2001. Spending in all three years reflected substantial investments in the blade and razor, Duracell and Braun Products segments.

In 2003, the Company sold the Stationery Products business for $ 528 million. In 2001, the Company made acquisitions in the Duracell Products segment for $ 100 million and sold the Jafra business for $ 200 million.

Share repurchase funding in 2003, net of proceeds received from the sale of put options on Company stock, amounted to $ 921 million, compared with $ 1,949 million in 2002 and $ 1,010 million in 2001.

Strong cash inflows from operations, proceeds from the sale of the Stationery Products business and alternate financing sources enabled the Company to reduce its $ 2.0 billion revolving credit facility in 2003 to $ 1.4 billion, expiring October 2004, and its $ 1.1 billion credit facility, expiring December 2004, to $ 550 million in January 2004. Both facilities are used by the Company to complement its commercial paper program.

In order to increase flexibility in sourcing short-term borrowing, the Company launched a $ 1 billion Euro commercial paper program in 2003. At year-end 2003, there was $ 586 million outstanding under this program and $ 1.45 billion outstanding under the US program, compared with $ 2.41 billion at the end of 2002 and $ 1.66 billion at the end of 2001.

During 2003, the Company issued Euro-denominated notes for $ 228 million, due December 2005, and entered into a $ 264 million Euro-denominated debt obligation, with redemption rights in December 2004. During 2002, the Company issued Euro-denominated notes for $ 343 million, due February 2007, and entered into a $ 325 million Euro-denominated debt obligation, with redemption rights in March 2005, and a $ 437 million Euro-denominated debt obligation, with redemption rights in January 2007. The net proceeds were used to refinance existing short-term debt associated with the Company's share repurchase program.

During 2003, both Standard & Poor's and Moody's maintained the Company's current credit ratings. Standard & Poor's rates the Company's long-term debt at AA, while Moody's rating is Aa3. The commercial paper rating is A1+ by Standard & Poor's and P1 by Moody's.

Gillette will continue to have capital available for growth through both internally generated funds and significant credit resources. The Company has substantial unused lines of credit and access to worldwide financial market sources for funds.

Source: The Gillette Company's 2000 annual report, p. 22.

1. Does the company use the direct or indirect method of calculating net cash provided by operating activities?
2. Determine whether each of the current assets (other than cash) and current liabilities increased or decreased during 2003.
3. How is the company expanding its asset base?
4. How much greater is the total market value of the company's outstanding shares of common stock than the book equity (stockholders; equity)?
5. What is the likelihood that the company will be able to pay at least the current level of dividends in the future?
6. Do you expect to see purchases of treasury stock increase or decrease in the future?
7. Given the following data, calculate the cash flow per share of common stock ratio, the cash flow margin ratio, and the cash flow liquidity ratio. (Round the net cash provided by operating activities to the nearest million before you calculate the ratios.) How do the ratios compare with the ones for companies illustrated in the chapter?

| | (in millions) |
|---|---|
| Average number of shares of common stock outstanding | 1,059 |
| Net sales | 9,295 |
| Cash and marketable securities | 62 |
| Current liabilities | 5,471 |

**Alternate problem E** The following information is from the accounting records of Wescott Office Supplies, Inc., for the fiscal years 2011 and 2010:

| | 2011 | 2010 |
|---|---|---|
| **Assets** | | |
| Cash | $ 66,250 | $ 61,000 |
| Accounts receivable, net | 84,000 | 42,000 |
| Merchandise inventory | 42,000 | 48,250 |
| Prepaid expenses | 7,875 | 12,125 |
| Land | 94,500 | 78,750 |
| Buildings | 199,500 | 147,000 |
| Accumulated depreciation – buildings | (31,500) | (26,250) |
| Equipment | 257,250 | 210,000 |
| Accumulated depreciation- equipment | (78,750) | (63,000) |
| Total assets | $641,125 | $509,875 |
| **Liabilities and stockholders' equity** | | |
| Accounts payable | $73,500 | $ 47,250 |

| | | |
|---|---|---|
| Accrued liabilities payable | 50,500 | 55,750 |
| Five-year note payable | 52,500 | -0- |
| Capital stock -$50 par | 420,000 | 367,500 |
| Retained earnings | | 39,375 |
| Total liabilities and stockholders' equity | $641,125 | $509,875 |

Net income for year ended 2011 June 30, was $ 56,250.

Additional land was acquired for cash, $ 15,750.

No equipment or building retirements occurred during the year.

Equipment was purchased for cash, $ 47,250.

The five-year note for $ 52,500 was issued to pay for a building erected on land leased by the company.

Stock was issued at par for cash, $ 52,500.

Dividends declared and paid were $ 51,000.

The company paid interest of $ 10,000 and income taxes of $ 40,000.

1. Prepare a working paper for a statement of cash flows.
2. Prepare a statement of cash flows under the indirect method. Also prepare any necessary supplemental schedule(s).

Beyond the numbers—Critical thinking

Business decision A National Sports, Inc., is a sports equipment sales company. During 2011, the company replaced $ 18,000 of its fully depreciated equipment with new equipment costing $ 23,000. Although a midyear dividend of $ 5,000 was paid, the company found it necessary to borrow $ 5,000 from its bank on a two-year note. Further borrowing may be needed since the Cash account is dangerously low at year-end.

Following are the income statement and "cash flow statement", as the company's accountant calls it, for 2011.

National sports, Inc.

Income Statements

For the year ended 2011 December 31

| | | |
|---|---|---|
| Sales | | $195,000 |
| Cost of goods sold | $140,000 | |
| Operating expense and taxes | 49,700 | 189,700 |
| Net income | | $5,300 |

National Sports, Inc.

Cash flow Statement

For the Year ended 2011 December 31

| | | |
|---|---|---|
| Cash received: | | |
| From operations: | | |
| Net income | | $5,300 |
| Depreciation | | 5,000 |
| Total cash from operations | | $10,300 |
| Note issued to back | | 5,000 |
| Mortgage note issued | | 16,000 |
| Total funds provided | | $31,300 |
| Cash paid: | | |
| New equipment | $23,000 | |
| Dividends | 5,000 | 28,000 |
| Increase in cash | | $ 3,300 |

The company's president is very concerned about what he sees in these statements and how it relates to what he knows has actually happened. He turns to you for help. Specifically, he wants to know why the cash flow statement shows an increase in cash of $ 3,300 when he knows the cash balance decreased from $ 15,000 to $ 500 during the year. Also, why is depreciation shown as providing cash?

You believe you can answer the president's questions after receiving the following condensed balance sheet data:

National Sports, Inc.

Comparative Balance Sheets

2011 December 31, and 2010

| | | |
|---|---|---|
| | December 31 | |
| | 2011 | 2010 |
| Assets | | |
| Current assets: | | |
| Cash | $ 500 | $ 15,000 |
| Accounts receivable, net | 17,800 | 13,200 |
| Merchandise inventory | 28,500 | 17,500 |
| Prepaid expenses | 700 | 300 |
| Total current assets | $ 47,500 | $ 46,000 |

| | | |
|---|---|---|
| Property, plant, and equipment: | | |
| Equipment | $40,000 | $35,000 |
| Accumulated depreciation – equipment | (11,000) | (24,000) |
| Total property, plant, and equipment | $ 29,000 | $ 11,000 |
| Liabilities and stockholders' equity | | |
| Current liabilities: | | |
| Accounts payable | $ 8,700 | $ 10,000 |
| Accrued liabilities payable | 600 | 1,100 |
| Total current liabilities | $ 9,300 | $ 11,100 |
| Long-term liabilities: | | |
| Notes payable | 5,000 | -0- |
| Mortgage note payable | 16,000 | -0- |
| Total liabilities | $ 30,300 | $ 11,100 |
| Stockholders' equity: | | |
| Common stock | $ 40,000 | $ 40,000 |
| Retained earnings | 6,200 | 5,900 |
| Total stockholders' equity | $ 46,200 | $ 45,900 |
| Total liabilities and stockholders' equity | $ 76,500 | $ 57,000 |

Prepare a correct statement of cash flows using the indirect method that shows why National Sports, Inc., is having such a difficult time keeping sufficient cash on hand. Also, answer the president's questions. The company paid interest of $ 400 and income taxes of $ 3,000.

Business decision case B Following are comparative balance sheets for Hardiplank Siding, Inc.:

Hardiplank Siding, Inc.

Comparative Balance Sheets

2011 December 31, and 2010

| | 2011 | 2010 |
|---|---|---|
| Assets | | |
| Cash | $ 80,000 | $ 57,500 |
| Accounts receivable, net | 60,000 | 45,000 |

| | | |
|---|---|---|
| Merchandise inventory | 90,000 | 52,500 |
| Land | 67,500 | 60,000 |
| Buildings | 90,000 | 90,000 |
| Accumulated depreciation- buildings | (30,000) | (27,000) |
| Equipment | 285,000 | 225,000 |
| Accumulated depreciation – equipment | (52,500) | (48,000) |
| Goodwill | 120,000 | 150,000 |
| Total assets | $710,000 | $605,000 |
| Liabilities and stockholders' equity | | |
| Accounts payable | $ 95,000 | $ 65,000 |
| Accrued liabilities payable | 30,000 | 22,500 |
| Capital stock | 315,000 | 300,000 |
| Paid-in capital – stock dividends | 75,000 | 67,500 |
| Paid-in capital – land donations | 15,000 | -0- |
| Retained earnings | 180,000 | 150,000 |
| Total liabilities and stockholders' equity | $710,000 | $605,000 |

An analysis of the Retained Earnings account for the year reveals the following:

| | | |
|---|---|---|
| Balance, 2011 January 1 | | $150,000 |
| Add: Net income for the year | | 107,500 |
| | | $257,500 |
| Less: cash dividends | $55,000 | |
| Stock dividends | 22,500 | 77,500 |
| Balance, 2011 December 31 | | $180,000 |

1. Equipment with a cost of $ 30,000 on which $ 27,000 of depreciation had been accumulated was sold during the year at a loss of $ 1,500. Included in net income is a gain on the sale of land of $ 9,000.
2. The president of the company has set two goals for 2012: (1) increase cash by $ 40,000 and (2) increase cash dividends by $ 35,000. The company's activities in 2012 are expected to be quite similar to those of 2011, and no new fixed assets will be acquired.

Prepare a schedule showing cash flows from operating activities under the indirect method for 2011. Can the company meet its president's goals for 2012? Explain.

**Annual report analysis C** Refer to the Annual report appendix. Evaluate the ease with which The Limited will be able to maintain its dividend payments in the future at 2006 amounts. (Hint: Compare current dividend amount with net cash provided by operating activities.)

**Annual report analysis D** Refer to "A broader perspective: Johnson & Johnson" and answer the following questions:

1. Over the last three years from which major activities (operations, investing, financing) has Johnson & Johnson received net cash inflows and on which major activities have they spent the funds?
2. What relationship do you see between "Depreciation and amortization of property and intangibles" and "Additions of property, plant, and equipment"?
3. What were the two major sources of cash outflows to stockholders and which was larger?
4. By how much did the investments in marketable securities grow or shrink over the three-year period?
5. By how much did long-term debt grow or shrink over the three-year period?
6. If you were a stockholder, would you feel uncertain or confident that this company will be able to pay future dividends at the same rate as in the past?
7. For what reason or reasons might the company be buying back its own stock?
8. For the latest year, did the current assets (other than cash) and current liabilities go up or down?
9. From the information that is available, does it appear that the company is performing well or poorly?

**Group project E** In groups of two or three students write a two-page, double-spaced paper on one of the following topics:

Which Is Better, the Direct or Indirect Method (of calculating net cash provided by operating activities)?

Analysis of the Johnson & Johnson Cash Flow Statement (shown in "A broader perspective" in this chapter)

Analysis of Cash Flow Statement for The Limited (shown in the Annual Report Appendix)

Your analysis should be convincing and have no spelling or grammatical errors. Your paper should be neat and the result of several drafts. The paper should have a cover page with the title and the authors' names. Use a word processing program if possible.

**Group project F** In a group of one or two other students, go to the library and locate *Statement of Financial Accounting Standards No. 95*, "Statement of Cash Flows", published by the Financial Accounting Standards Board. Write a report to your instructor answering the following questions:

Why did the Board settle on cash flows instead of working capital flows?

Why did the Board strongly recommend use of the direct method?

Why did some members of the Board dissent from the final statement?

**Group project G** In a group of one or two other students, go to the library and locate *Statement of Financial Accounting Standards No. 95*, "Statement of Cash Flows", published by the Financial Accounting Standards Board. Write a report to your instructor covering the following points:

Describe the controversy over how to treat interest and dividends received.

What is the Board's position on reporting cash flow per share? Why did they take that position?

What is the Board's position on noncash transactions? Why did they take that position?

**Using the Internet—A view of the real world**

Visit the following website for the Eastman Kodak Company:

http://www.kodak.com

By following the instructions on the screen, locate the latest statement of cash flows and then print it. Analyze the statement and write a report to your instructor summarizing your analysis.

Visit the following website for Verizon:

http://www.verizon.com

By following the information on the screen, locate the latest statement of cash flows and then print it. Analyze the statement and then write a report to your instructor summarizing your analysis.

1. [1]FASB, *Statement of Financial Accounting Standards No. 95,* "Statement of Cash Flows" (Stamford, Conn., 1987). Copyright by the Financial Accounting Standards Board, High Ridge Park, Stamford, Connecticut 06905. U.S.A. Quoted (or excerpted) with permission. Copies of the complete document are available from the FASB.

# UNIT 18: FINANCIAL STATEMENT ANALYSIS

## ANALYZING COMPARATIVE FINANCIAL STATEMENTS

This chapter discusses several common methods of analyzing and relating the data in financial statements and, as a result, gaining a clear picture of the solvency and profitability of a company. Internally, management analyzes a company's financial statements as do external investors, creditors, and regulatory agencies. Although these users have different immediate goals, their overall objective in financial statement analysis is the same—to make predictions about an organization as an aid in decision making.

Watch this video online: https://youtu.be/8DmChanpSmw

### Objectives of financial statement analysis

Management's analysis of financial statements primarily relates to parts of the company. Using this approach, management can plan, evaluate, and control operations within the company. Management obtains any information it wants about the company's operations by requesting special-purpose reports. It uses this information to make difficult decisions, such as which employees to lay off and when to expand operations. Our primary focus in this chapter, however, is not on the special reports accountants prepare for management. Rather, it is on the information needs of persons outside the firm.

Investors, creditors, and regulatory agencies generally focus their analysis of financial statements on the company as a whole. Since they cannot request special-purpose reports, external users must rely on the general-purpose financial statements that companies publish. These statements include a balance sheet, an income statement, a statement of stockholders' equity, a statement of cash flows, and the explanatory notes that accompany the financial statements.

Financial statement analysis consists of applying analytical tools and techniques to financial statements and other relevant data to obtain useful information. This information reveals significant relationships between data and trends in those data that assess the company's past performance and current financial position. The information shows the results or consequences of prior management decisions. In addition, analysts use the information to make predictions that may have a direct effect on decisions made by users of financial statements.

Comparative financial statements present the same company's financial statements for one or two successive periods in side-by-side columns. The calculation of dollar changes or percentage changes in the statement items or totals is horizontal analysis. This analysis detects changes in a company's performance and highlights trends.

The good news is you have already been performing the first part of horizontal analysis without realizing it when you were preparing the statement of cash flows. Horizontal analysis consists of 2 things:

- Dollar amount of change (calculated as Current Year amount – Previous Year amount)
- Percentage of change (calculated as Dollar amount of change / previous year amount)

Horizontal analysis is called horizontal because we look at one account at a time across time. We can perform this type of analysis on the balance sheet or the income statement. Let's look at this video followed by another example.

Watch this video online: https://youtu.be/x_ltrzpz4Ew

The comparative financial statements of Synotech, Inc., will serve as a basis for an example of horizontal analysis and vertical analysis of a balance sheet and a statement of income and retained earnings. Recall that horizontal analysis calculates changes in comparative statement items or totals. Here is an example of Synotech, Inc. current asset section (in millions) of the balance sheet with horizontal analysis performed:

| | 2015 | 2014 | Increase (or Decrease) | Percent of Change |
|---|---|---|---|---|
| Current assets: | | | | |
| Cash | $ 298.00 | $ 250.50 | $ 47.50 | 19.0% |
| Marketable securities | 71.30 | 57.50 | $ 13.80 | 24.0% |
| Receivables, net | 1,277.30 | 1,340.30 | $ (63.00) | -4.7% |
| Inventories | 924.80 | 929.80 | $ (5.00) | -0.5% |
| Other current assets | 275.30 | 254.30 | $ 21.00 | 8.3% |
| Total current assets | $ 2,846.70 | $ 2,832.40 | $ 14.30 | 0.5% |

What does this tell us? Notice total current assets have increased $ 14.3 million, consisting largely of increases in cash, marketable securities, and other current assets despite a $63.0 million decrease in net receivables.

Next, study Column (4), which expresses as a percentage the dollar change in Column (3). Frequently, these percentage increases are more informative than absolute amounts, as illustrated by the current asset changes. The percentages reveal that current assets increased .5% which if we compared this to current liabilities would give us an idea if the company could pay their debt in the future.

Studying the percentages on the balance sheet could lead to several other observations. For instance, if there was a 6.9% decrease in long-term debt indicates that interest charges will be lower in the future, having a positive effect on future net income. An increase in retained earnings could be a sign of increased dividends in the future; in addition, the increase in cash of 19% could support this conclusion.



# CALCULATING TREND PERCENTAGES

**Trend percentages** are similar to horizontal analysis except that comparisons are made to a selected base year or period. Trend percentages are useful for comparing financial statements over several years because they disclose changes and trends occurring through time.

Watch this video online: https://youtu.be/SUr-ZzFBGcQ

Trend percentages, also referred to as index numbers, help you to compare financial information over time to a base year or period. You can calculate trend percentages by:

- Selecting a base year or period.
- Assigning a weight of 100% to the amounts appearing on the base-year financial statements.
- Expressing the corresponding amounts on the other years' financial statements as a percentage of base-year or period amounts. Compute the percentages by **Analysis year amount / base year amount** and then multiplying the result by 100 to get a percentage.

The following information for Synotech illustrates the calculation of trend percentages:

| (USD millions) | 20Y3 | 20Y4 | 20Y5 |
|---|---|---|---|
| Net sales | $9,105.50 | $10,029.80 | $10,498.80 |
| Cost of goods sold | 4,696.00 | 5,223.70 | 5,341.30 |
| Gross profit | $4,409.50 | $4,806.10 | $5,157.50 |
| Operating expenses | 3,353.60 | 4,369.90 | 4,012.00 |
| Income before income taxes | $1,055.90 | $436.20 | $1,145.50 |

We will calculate the trend percentages using 2ox3 as the base year and everything in 20Y3 will be 100%. For Net Sales in 20×4, take $10,029.80 from 20Y4 / 9,105.50 from base year 20Y3 and multiply by 100 to get 119.6%. For Net Sales in 20Y5, take $10,498.80 from 20Y5 / 9,105.50 from base year 20Y3 and multiply by 100 to get 115.3%. The same process continues for each account using the amount for each account in the base year 20Y3. The trend analysis would look like this (calculations added beside each column):

<table>
<tr><th></th><th>20Y3</th><th>20Y4</th><th></th><th>20Y5</th><th></th></tr>
<tr><td rowspan="2">Net sales</td><td rowspan="2">100.00%</td><td rowspan="2">119.20%</td><td>($10,029.80</td><td rowspan="2">115.30%</td><td>($10,498.80</td></tr>
<tr><td>$9,105.50)</td><td>$9,105.50)</td></tr>
<tr><td rowspan="2">Cost of goods sold</td><td rowspan="2">100</td><td rowspan="2">111.2</td><td>(5,223.70</td><td rowspan="2">113.7</td><td>(5,341.30</td></tr>
<tr><td>4,696.00)</td><td>4,696.00)</td></tr>
<tr><td rowspan="2">Gross profit</td><td rowspan="2">100</td><td rowspan="2">109</td><td>($4,806.10</td><td rowspan="2">117</td><td>($5,157.50</td></tr>
<tr><td>$4,409.50)</td><td>$4,409.50)</td></tr>
<tr><td rowspan="2">Operating expenses</td><td rowspan="2">100</td><td rowspan="2">130.3</td><td>(4,369.90</td><td rowspan="2">119.6</td><td>(4,012.00</td></tr>
<tr><td>3,353.60)</td><td>3,353.60)</td></tr>
<tr><td rowspan="2">Income before income taxes</td><td rowspan="2">100</td><td rowspan="2">41.3</td><td>($436.20</td><td rowspan="2">108.5</td><td>($1,145.50</td></tr>
<tr><td>$1,055.90)</td><td>$1,055.90)</td></tr>
</table>

These trend percentages indicate the changes taking place in the organization and highlight the direction of these changes. For instance, the percentage of sales is increasing each year compared to the base year. Cost of goods sold increased at a lower rate than net sales in 20Y3 and 20Y5, causing gross profit to increase at a higher rate than net sales. Operating expenses in 20Y4 increased due to the provision for restructured operations, causing a significant decrease in income before income taxes. Percentages provide clues to an analyst about which items need further investigation or analysis. In reviewing trend percentages, a financial statement user should pay close attention to the trends in related items, such as the cost of goods sold in relation to sales. Trend analysis that shows a constantly declining gross margin (profit) rate may be a signal that future net income will decrease.

As useful as trend percentages are, they have one drawback. Expressing changes as percentages is usually straightforward as long as the amount in the base year or period is positive—that is, not zero or negative. Analysts cannot express a $30,000 increase in notes receivable as a percentage if the increase is from zero last year to $30,000 this year (remember, you cannot divide by zero). Nor can they express an increase from a loss last year of – $10,000 to income this year of $20,000 in a realistic percentage term.

Proper analysis does not stop with the calculation of increases and decreases in amounts or percentages over several years. Such changes generally indicate areas worthy of further investigation and are merely clues that may lead to significant findings. Accurate predictions depend on many factors, including economic and political conditions; management's plans regarding new products, plant expansion, and promotional outlays; and the expected activities of competitors. Considering these factors along with horizontal analysis, vertical analysis, and trend analysis should provide a reasonable basis for predicting future performance.



# COMMON-SIZE FINANCIAL STATEMENTS

Analysts also use vertical analysis of a single financial statement, such as an income statement. **Vertical analysis** consists of the study of a single financial statement in which each item is expressed as a percentage of a significant total. Vertical analysis is especially helpful in analyzing income statement data such as the percentage of cost of goods sold to sales. Where horizontal analysis looked at one account at a time, vertical analysis will look at one YEAR at a time.

Financial statements that show only percentages and no absolute dollar amounts are **common-size statements.** All percentage figures in a **common-size balance sheet are percentages of total assets** while all the items in a **common-size income statement are percentages of net sales.** The use of common-size statements facilitates vertical analysis of a company's financial statements.

Watch this video online: https://youtu.be/OT1BVZPNfks

The calculation for common-size percentages is: (Amount / Base amount) and multiply by 100 to get a percentage. Remember, on the balance sheet the base is total assets and on the income statement the base is net sales. The video showed an example using the balance sheet so we will look at Synotech, Inc.'s income statement with common-size percentages (calculations provided in last column).

| | | | |
|---|---|---|---|
| Synotech, Inc. | | | |
| Income Statement | | | |
| For year ended December 31 | | | |
| Net Sales | $10,498.8 | 100.0% | ( 10,498.8<br>10,498.8 ) |
| Cost of goods sold | 5,341.3 | 50.9% | ( 5,341.3 |

| | | | |
|---|---|---|---|
| | | | 10,498.8 ) |
| Gross profit | 5,157.5 | 49.1% | ( 5,157.5<br>10,498.8 ) |
| Selling, general and admin expenses | 3,662.5 | 34.9% | ( 3,662.5<br>10,498.8 ) |
| Other expense, net | 112.6 | 1.1% | ( 112.6<br>10,498.8 ) |
| Interest expense | 236.9 | 2.3% | ( 236.9<br>10,498.8 ) |
| Income before taxes | 1145.5 | 10.9% | ( 1,145.5<br>10,498.8 ) |
| Income tax expense | 383.5 | 3.7% | ( 383.5<br>10,498.8 ) |
| Net Income | 762 | 7.3% | ( 762<br>10,498.8 ) |

What does this common-size percentage tell you about the company? Since we use net sales as the base on the income statement, it tells us how every dollar of net sales is spent by the company. For Synotech, Inc., approximately 51 cents of every sales dollar is used by cost of goods sold and 49 cents of every sales dollar is left in gross profit to cover remaining expenses. Of the 49 cents remaining, almost 35 cents is used by operating expenses (selling, general and administrative), 1 cent by other and 2 cents in interest. We earn almost 11 cents of net income before taxes and over 7 cents in net income after taxes on every sales dollar. This is a little easier to understand than the larger numbers showing Synotech earned $762 million dollars.

The same process would apply on the balance sheet but the base is total assets. The common-size percentages on the balance sheet explain how our assets are allocated OR how much of every dollar in assets we owe to others (liabilities) and to owners (equity). Many computerized accounting systems automatically calculate common-size percentages on financial statements.

# CALCULATE RATIOS THAT ANALYZE A COMPANY'S SHORT-TERM DEBT-PAYING ABILITY

Ratios are expressions of logical relationships between items in the financial statements of a single period. Analysts can compute many ratios from the same set of financial statements. A ratio can show a relationship between two items on the same financial statement or between two items on different financial statements (e.g. balance sheet and income statement). The only limiting factor in choosing ratios is the requirement that the items used to construct a ratio have a logical relationship to one another.

## Ratio analysis

Logical relationships exist between certain accounts or items in a company's financial statements. These accounts may appear on the same statement or on two different statements. We set up the dollar amounts of the related accounts or items in fraction form called ratios. These ratios include: (1) liquidity ratios; (2) equity, or long-term solvency, ratios; (3) profitability tests; and (4) market tests.

Liquidity ratios indicate a company's short-term debt-paying ability. Thus, these ratios show interested parties the company's capacity to meet maturing current liabilities.

Watch this video online: https://youtu.be/AD2VPUacKTM

**Current (or working capital) ratio** Working capital is the excess of current assets over current liabilities. The ratio that relates current assets to current liabilities is the **current (or working capital) ratio**. The current ratio indicates the ability of a company to pay its current liabilities from current assets and, thus, shows the strength of the company's working capital position.  You calculate the current ratio by:

| |
|---|
| Current Assets |
| Current Liabilities |

The ratio is usually stated as a number of dollars of current assets available to pay every dollar of current liabilities (although the dollar signs usually are omitted). Thus, for Synotech, when current assets totaled $2,846.7 million and current liabilities totaled $2,285.2 million, the ratio is 1.25:1 (or 1.25 to 1), meaning that the company has $1.25 of current assets available to pay every $1.00 of current liabilities.

Short-term creditors are particularly interested in the current ratio since the conversion of inventories and accounts receivable into cash is the primary source from which the company obtains the cash to pay short-term creditors. Long-term creditors are also interested in the current ratio because a company that is unable to pay short-term debts may be forced into bankruptcy. For this reason, many bond indentures, or contracts, contain a provision requiring that the borrower maintain at least a certain minimum current ratio. A company can increase its current ratio by issuing long-term debt or capital stock or by selling noncurrent assets.

A company must guard against a current ratio that is too high, especially if caused by idle cash, slow-paying customers, and/or slow-moving inventory. Decreased net income can result when too much capital that could be used profitably elsewhere is tied up in current assets.

**Acid-test (quick) ratio** The current ratio is not the only measure of a company's short-term debt-paying ability. Another measure, called the **acid-test (quick) ratio**, is the ratio of quick assets (cash, marketable securities, and net receivables) to current liabilities. Analysts exclude inventories and prepaid expenses from current assets to compute quick assets because they might not be readily convertible into cash. The formula for the acid-test ratio is:

| |
|---|
| Cash + Short-term investments + net current receivables |
| Current Liabilities |

Short-term creditors are particularly interested in this ratio, which relates the pool of cash and immediate cash inflows to immediate cash outflows. In deciding whether the acid-test ratio is satisfactory, investors consider the quality of the marketable securities and receivables. An accumulation of poor-quality marketable securities or receivables, or both, could cause an acid-test ratio to appear deceptively favorable. When referring to marketable securities, poor quality means securities likely to generate losses when sold. Poor-quality receivables may be uncollectible or not collectible until long past due.

Since inventory and accounts receivable are a large part of a company's current assets, it is important to understand the company's ability to collect from their customers and the company's efficiency in buying and selling inventory.

Watch this video online: https://youtu.be/g432Yyb8-aw

**Accounts receivable turnover** Turnover is the relationship between the amount of an asset and some measure of its use. **Accounts receivable turnover** is the number of times per year that the average amount of receivables is collected. To calculate this ratio:

| |
|---|
| Net Sales |
| AVERAGE Accounts receivable, net |

Net accounts receivable is accounts receivable after deducting the allowance for uncollectible accounts. Calculate average accounts receivable by taking the **beginning balance in accounts receivable** (or ending amount from the previous year) **+ the ending balance of the current year and divide by 2.**

The accounts receivable turnover ratio provides an indication of how quickly the company collects receivables. For Synotech, Inc., we have the following information:

| | |
|---|---|
| Net Sales | $ 10,498.80 |
| | |
| Accounts Receivable, Net | |
| January 1 | $ 1,340.30 |
| December 31 | 1,277.30 |

We first need to calculate average accounts receivable. Jan 1 accounts receivable $1,340.30 + Dec 31 Accounts receivable $1,277.30 = $2,617.60 / 2 gives us average accounts receivable of $1,308.80. We calculate the AR Turnover of 8.02 times:

| | |
|---|---|
| Net Sales | $10,498.80 |
| Avg. Accts Receivable = | $1,308.80 |

The accounts receivable turnover ratio indicates Synotech collected, or turned over, its accounts receivable slightly more than eight times. The ratio is better understood and more easily compared with a company's credit terms if we convert it into a number of days, as is illustrated in the next ratio.

**Number of days' sales in accounts receivable** The **number of days' sales in accounts receivable** ratio is also called the average collection period for accounts receivable. Calculate it as follows:

| | |
|---|---|
| Avg Accounts Receivable | x 365 days |
| Net Sales | |

We use a 365 days in a year for this calculation. Notice we are using Average accounts receivable here as well, but it can also be calculated with ending accounts receivable instead. Still using Synotech, Inc.'s information from above, we calculate 45.5 or 46 days from:

| | | |
|---|---|---|
| Avg. Accts Receivable = | $1,308.80 | x 365 Days |
| Net Sales | $10,498.80 | |

It can also be calculated as (365 days / AR Turnover). This ratio tells us it takes 46 days to collect on accounts receivable. Standard credit terms are 30 days but 46 days is not too bad.

What about how a company handles inventory? We can prepare similar ratios for inventory turnover and number of days' sales in inventory.

**Inventory turnover** A company's inventory turnover ratio shows the number of times its average inventory is sold during a period. You can calculate**inventory turnover** as follows:

| |
|---|
| Cost of Goods Sold |
| Average Inventory |

When comparing an income statement item and a balance sheet item, measure both in comparable dollars. Notice that we measure the numerator and denominator in cost rather than sales dollars. (Earlier, when calculating accounts receivable turnover, we measured both numerator and denominator in sales dollars.) We will calculate average inventory by taking the beginning inventory + ending inventory and divide by 2. Let's look at the following information for Synotech, Inc.:

| | |
|---|---|
| Cost of goods sold | $ 5,341.30 |
| | |
| Inventory | |
| January 1 | $ 929.80 |
| December 31 | 924.80 |

We first calculate average inventory as Jan 1 inventory $929.80 + Dec 31 inventory $924.80 = total inventory of $1,854.60 and divide by 2 for average inventory of $927.30. Next, we calculate inventory turnover:

| | |
|---|---|
| Cost of Goods Sold = | $5,341.30 |
| Average Inventory | $927.30 |

Synotech was able to sell average inventory 5.76 times during the year.  This ratio can better be understood by looking at the number of days' sales in inventory. Calculated as 365 days / inventory turnover or by this formula:

| | |
|---|---|
| Average Inventory | x 365 days |
| Cost of goods sold | |

We will calculate Synotech's number of days in inventory using average inventory (but can also be calculated using ending inventory) of 63.4 or just 63 days as follows:

| | | |
|---|---|---|
| Average Inventory | $1,854.60 | x 365 Days |
| Cost of Goods Sold | $5,341.30 | |

This means it takes 63 days to sell our inventory.  This is a very useful ratio to determine how quickly a company's inventory moves through the company.

Other things being equal, a manager who maintains the highest inventory turnover ratio (and lowest number of days) is the most efficient. Yet, other things are not always equal. For example, a company that achieves a high inventory turnover ratio by keeping extremely small inventories on hand may incur larger ordering costs, lose quantity discounts, and lose sales due to lack of adequate inventory. In attempting to earn satisfactory income, management must balance the costs of inventory storage and obsolescence and the cost of tying up funds in inventory against possible losses of sales and other costs associated with keeping too little inventory on hand.



# RATIOS THAT ANALYZE A COMPANY'S LONG-TERM DEBT PAYING ABILITY

Creditors are interested to know if a company can pay its long-term debts.  There are several ratios we use for this as demonstrated in the video:

Watch this video online: https://youtu.be/OZEK8uPQuqI

Debt ratio The debt ratio measures how much we owe in total liabilities for every dollar in total assets we have. This is a good overall ratio to tell creditors or investors if we have enough assets to cover our debt.  The ratio is calculated as:

| |
|---|
| Total Liabilities |
| Total Assets |

| | |
|---|---|
| Total Liabilities | $7,041.00 |
| Total Assets | $9,481.80 |

**Times interest earned ratio** Creditors, especially long-term creditors, want to know whether a borrower can meet its required interest payments when these payments come due. The **times interest earned ratio**, or interest coverage ratio, is an indication of such an ability. It is computed as follows:

| |
|---|
| Income from operations (IBIT) |
| Interest expense |

The ratio is a rough comparison of cash inflows from operations with cash outflows for interest expense. Income before interest and taxes (IBIT) is the numerator because there would be no income taxes if interest expense is equal to or greater than IBIT. (To find income before interest and taxes, take net income from continuing operations and add back the net interest expense and taxes.) Analysts disagree on whether the denominator should be (1) only interest expense on long-term debt, (2) total interest expense, or (3) net interest expense. We will use net interest expense in the Synotech illustration.

For Synotech, the net interest expense is $236.9 million. With an IBIT of  $1,382.4 million, the times interest earned ratio is 5.84, calculated as:

| | |
|---|---|
| Income from operations | $1,382.40 |
| Interest expense | $236.90 |

The company earned enough during the period to pay its interest expense almost 6 times over.

Low or negative interest coverage ratios suggest that the borrower could default on required interest payments. A company is not likely to continue interest payments over many periods if it fails to earn enough income to cover them. On the other hand, interest coverage of 5 to 10 times or more suggests that the company is not likely to default on interest payments.



# RATIOS THAT ANALYZE A COMPANY'S EARNINGS PERFORMANCE

Equity, or long-term solvency, ratios show the relationship between debt and equity financing in a company.

**Equity (stockholders' equity) ratio** The two basic sources of assets in a business are owners (stockholders) and creditors; the combined interests of the two groups are total equities. In ratio analysis, however, the term equity generally refers only to stockholders' equity. Thus, the **equity (stockholders' equity) ratio** indicates the proportion of total assets (or total liabilities and equity) provided by stockholders (owners) on any given date. The formula for the equity ratio is:

| |
|---|
| Total Stockholder's Equity |
| Total Assets (or Total Liabilities & Equity) |

Notice how we can use either Total Assests or Total Liabilities and Equity as the denominator, why? Because of the accounting equation — Assets = Liabilities + Equity. This calculation should look familiar as this is the same calculation we would have done in a vertical analysis (common-size percentages). Synotech's liabilities and stockholders' equity follow. The company's equity ratio increased from 22.0% in 20Y4 to 25.7% in 20Y5. The information below shows that stockholders increased their proportionate equity in the company's assets due largely to the retention of earnings (which increases retained earnings).

| | 20Y5 December 31 | | 20Y4 December 31 | |
|---|---|---|---|---|
| (USD millions) | Amount | % | Amount | % |
| Current liabilities | $2,285.2 | 24.1% | $2,103.8 | 22.9% |
| Long-term liabilities | 4,755.8 | 50.2 | 5,051.3 | 55.1 |
| Total liabilities | $7,041.0 | 74.3 | $7,155.1 | 78.0 |
| Total stockholders' equity | 2,440.8 | **25.7** | 2,015.7 | **22.0** |
| Total liabilities & equity (equal to total assets) | $9,481.8 | 100% | $9,170.8 | 100.0% |

The equity ratio must be interpreted carefully. From a creditor's point of view, a high proportion of stockholders' equity is desirable. A high equity ratio indicates the existence of a large protective buffer for creditors in the event a company suffers a loss. However, from an owner's point of view, a high proportion of stockholders' equity may or may not be desirable. If the business can use borrowed funds to generate income in excess of the net after-tax cost of the interest on such funds, a lower percentage of stockholders' equity may be desirable.

We should point out, however, that too low a percentage of stockholders' equity (too much debt) has its dangers. Financial leverage magnifies losses per share as well as Earnings Per Share (EPS) since there are fewer shares of stock over which to spread the losses. A period of business recession may result in operating losses and shrinkage in the value of assets, such as receivables and inventory, which in turn may lead to an inability to meet fixed payments for interest and principal on the debt. As a result, the company may be forced into liquidation, and the stockholders could lose their entire investments.

**Stockholders' equity to debt (debt to equity) ratio** Analysts express the relative equities of owners and creditors in several ways. To say that creditors held a 74.3% interest in the assets of Synotech (remember the debt ratio from the previous section?) on 20Y5 December 31, is equivalent to saying stockholders held a 25.7% interest. Another way of expressing this relationship is the **stockholders' equity to debt ratio**:

| |
|---|
| Total Stockholder's Equity |
| Total Liabilities |

Such a ratio for Synotech would be 0.28:1 (or $2,015.7 million/$7,155.1 million) on 20Y4 December 31, and 0.35:1 (or $2,440.8 million/$7,041.0 million) on 20Y5 December 31. This ratio is often inverted and called the **debt to equity ratio**. Some analysts use only long-term debt rather than total debt in calculating these ratios. These analysts do not consider short-term debt to be part of the capital structure since it is paid within one year.

Profitability is an important measure of a company's operating success. Generally, we are concerned with two areas when judging profitability: (1) relationships on the income statement that indicate a company's ability to recover costs and expenses, and (2) relationships of income to various balance sheet measures that indicate the company's relative ability to earn income on assets employed. Each of the following ratios utilizes one of these relationships.

Watch this video online: https://youtu.be/aEZWbQznr_U

**Return on average common stockholders' equity** From the stockholders' point of view, an important measure of the income-producing ability of a company is the relationship of return on average common stockholders' equity, also called rate of **return on average common stockholders' equity**, or simply the **return on equity (ROE)**. Although stockholders are interested in the ratio of operating income to operating assets as a measure of management's efficient use of assets, they are even more interested in the return the company earns on each dollar of stockholders' equity. The formula for return on average common stockholders' equity if no preferred stock is outstanding is:

| |
|---|
| Net Income – preferred dividends |
| AVERAGE common stockholder's equity |

When a company has preferred stock outstanding, the numerator of this ratio becomes net income minus the annual preferred dividends. Synotech has preferred stock outstanding. The ratios for the company follow. Total common stockholders' equity on January 1 was $ 1,531.5 million and on December 31 $1,969.6. Net income for the year was $762 million and preferred dividends were $25.7 million. *NOTE: Common stockholder's equity is Total stockholder's equity – par value of preferred stock.* We calculate average common stockholders equity by taking Jan 1 $1,531.50 + Dec 31 $1,969.60 and dividing by 2 to get $1,750.55 million. The return on average stockholder's equity calculation would be:

| | |
|---|---|
| Net Income – preferred dividends = | $ 762 – $25.7 |
| AVERAGE common stockholder's equity | $1,750.55 |

The ratio would be 42.06% which indicates that for each dollar of capital invested by a common stockholder, the company earned approximately 42 cents.
**Earnings per share of common stock** Probably the measure used most widely to appraise a company's operations is **earnings per share (EPS)** of common stock. The formula for EPS is:

| |
|---|
| Earnings available to common stockholders |
| weighted average common shares outstanding |

The financial press regularly publishes actual and forecasted EPS amounts for publicly traded corporations, together with period-to-period comparisons. The Accounting Principles Board noted the significance attached to EPS by requiring that such amounts be reported on the face of the income statement.[2] (Unit 14 illustrated how earnings per share should be presented on the income statement.)

The calculation of EPS may be fairly simple or highly complex depending on a corporation's capital structure. A company has a simple capital structure if it has no outstanding securities (e.g. convertible bonds, convertible preferred stocks, warrants, or options) that can be exchanged for common stock. If a company has such securities outstanding, it has a complex capital structure. Discussion of EPS for a corporation with a complex capital structure is beyond the scope of this text.

The amount of earnings available to common stockholders is equal to net income minus the current year's preferred dividends, whether such dividends have been declared or not.

**Determining the weighted-average number of common shares** The denominator in the EPS fraction is the weighted-average number of common shares outstanding for the period. If the number of common shares outstanding did not change during the period, the weighted-average number of common shares outstanding would, of course, be the number of common shares outstanding at the end of the period.

To illustrate, the balance in the Common Stock account of Synotech is $219.9 million on December 31. The common stock had a $1.20 par value. Assuming no common shares were issued or redeemed during the year, the weighted-average number of common shares outstanding would be 183.2 million (or $219.9 million common stock account balance /$1.20 par value per share). (Normally, common treasury stock reacquired and reissued are also included in the calculation of the weighted-average number of common shares outstanding. We ignore treasury stock transactions to simplify the illustrations.) The EPS in this example would be $4.02 per share calculated as:

| | | | |
|---|---|---|---|
| Earnings available to common stockholders = | Net Income – preferred dividends = | $762 – $25.7 = | 736.3 |
| weighted average common shares outstanding | Common stock account balance / par value | $219.9 / $1.20 | 183.25 shares |

If the number of common shares changed during the period, such a change increases or decreases the capital invested in the company and should affect earnings available to stockholders. To compute the weighted-average number of common shares outstanding, we weight the change in the number of common shares by the portion of the year that those shares were outstanding. Shares are outstanding only during those periods that the related capital investment is available to produce income.

To illustrate, assume that during Synotech's began the year with 171.5 million shares outstanding. Assume that the company issued 9.5 million shares on April 1, and 2.2 million shares on October 1. The computation of the weighted-average number of common shares outstanding would be:

| | |
|---|---|
| 171.5 million shares x 1 year | 171.500 million |
| 9.5 million shares x ¾ year (April – December or 9/12) | 7.125 million |
| 2.2 million shares x ¼ year (October – December or 3/12) | 0.550 |
| Weighted-average number of common shares outstanding | 179.175 million |

The EPS in this example would be $4.11 per share calculated as:

| | | | |
|---|---|---|---|
| Earnings available to common stockholders = | Net Income – preferred dividends = | $ 762 – $25.7 = | 736.3 |
| weighted average common shares outstanding | 171.5 + 7.125 + 0.55 | 179.175 shares | 179.18 |

**EPS and stock dividends or splits** Increases in shares outstanding as a result of a stock dividend or stock split do not require weighting for fractional periods. Such shares do not increase the capital invested in the business and, therefore, do not affect income. All that is required is to restate all prior calculations of EPS using the increased number of shares. For example, assume a company reported EPS for the year as $1.20 (or $120,000/100,000 shares) and earned $120,000 of net income during the year. The only change in common stock was a two-for-one stock split on December 1, which doubled the shares outstanding to 200,000. The firm would restate EPS as $0.60 (or $120,000/200,000 shares).

Watch this video online: https://youtu.be/hDR7fRKwXu8

**Price-earnings ratio** The **price-earnings ratio** measures the value of the stock in relation to its selling or market price typically on the New York Stock Exchange. The formula to compute the price-earnings ratio is:

| |
|---|
| Market price per common share |
| Earnings per share |

Assume Synotech has common stock with an EPS of $5.03 and that the quoted market price of the stock on the New York Stock Exchange is $110.70. Investors would say that this stock is selling at 22 times earnings, or at a multiple of 22 calculated as:

| | |
|---|---|
| Market price per common share = | $110.70 |

| | |
|---|---|
| Earnings per share | $5.03 |

These investors might have a specific multiple in mind that indicates whether the stock is underpriced or overpriced. Different investors have different estimates of the proper price-earnings ratio for a given stock and also different estimates of the future earnings prospects of the company. These different estimates may cause one investor to sell stock at a particular price and another investor to buy at that price.

**Dividend yield on common stock** The dividend paid per share of common stock is also of much interest to common stockholders. The **dividend yield on common stock** is calculated as:

| |
|---|
| Annual cash dividend per share |
| Market price per share |

For example, Synotech's December 31 common stock market price was $110.70 per share. Synotech paid cash dividends per share of $1.80. The company's dividend yield on common stock is 1.6% calculated as:

| | |
|---|---|
| Annual cash dividend per share = | $1.80 |
| Market price per share | $110.70 |

The dividend yield tells investors the company pays 1.6% of the market price in cash dividends. Through the use of dividend yield rates, we can compare different stocks having different annual dividends and different market prices.

**Final considerations in financial statement analysis**

Standing alone, a single financial ratio may not be informative. Investors gain greater insight by computing and analyzing several related ratios for a company. Financial analysis relies heavily on informed judgment. As guides to aid comparison, percentages and ratios are useful in uncovering potential strengths and weaknesses. However, the financial analyst should seek the basic causes behind changes and established trends.

Analysts must be sure that their comparisons are valid—especially when the comparisons are of items for different periods or different companies. They must follow consistent accounting practices if valid interperiod comparisons are to be made. Comparable intercompany comparisons are more difficult to secure. Accountants cannot do much more than disclose the fact that one company is using FIFO and another is using LIFO for inventory and cost of goods sold computations. Such a disclosure alerts analysts that intercompany comparisons of inventory turnover ratios, for example, may not be comparable.

Also, when comparing a company's ratios to industry averages provided by an external source such as Dun & Bradstreet, the analyst should calculate the company's ratios in the same manner as the reporting service. Thus, if Dun & Bradstreet uses net sales (rather than cost of goods sold) to compute inventory turnover, so should the analyst. Net sales is sometimes preferable because all companies do not compute and report cost of goods sold amounts in the same manner.

Facts and conditions not disclosed by the financial statements may, however, affect their interpretation. A single important event may have been largely responsible for a given relationship. For example, competitors may put a new product on the market, making it necessary for the company under study to reduce the selling price of a product suddenly rendered obsolete. Such an event would severely affect the percentage of gross margin to net sales. Yet there may be little chance that such an event will happen again.

Analysts must consider general business conditions within the industry of the company under study. A corporation's downward trend in earnings, for example, is less alarming if the industry trend or the general economic trend is also downward.

Investors also need to consider the seasonal nature of some businesses. If the balance sheet date represents the seasonal peak in the volume of business, for example, the ratio of current assets to current liabilities may be much lower than if the balance sheet date is in a season of low activity.

Potential investors should consider the market risk associated with the prospective investment. They can determine market risk by comparing the changes in the price of a stock in relation to the changes in the average price of all stocks.

Potential investors should realize that acquiring the ability to make informed judgments is a long process and does not occur overnight. Using ratios and percentages without considering the underlying causes may lead to incorrect conclusions.

Relationships between financial statement items also become more meaningful when standards are available for comparison. Comparisons with standards provide a starting point for the analyst's thinking and lead to further investigation and, ultimately, to conclusions and business decisions. Such standards consist of (1) those in the analyst's own mind as a result of experience and observations, (2) those provided by the records of past performance and financial position of the business under study, and (3) those provided about other enterprises. Examples of the third standard are data available through trade associations, universities, research organizations (such as Dun & Bradstreet and Robert Morris Associates), and governmental units (such as the Federal Trade Commission).

In financial statement analysis, remember that standards for comparison vary by industry, and financial analysis must be carried out with knowledge of specific industry characteristics. For example, a wholesale grocery company would have large inventories available to be shipped to retailers and a relatively small investment in property, plant, and equipment, while an electric utility company would have no merchandise inventory (except for repair parts) and a large investment in property, plant, and equipment.

Even within an industry, variations may exist. Acceptable current ratios, gross margin percentages, debt to equity ratios, and other relationships vary widely depending on unique conditions within an industry. Therefore, it is important to know the industry to make comparisons that have real meaning.



# RATIO SUMMARY

| Type | Ratio | Formula | Significance |
|---|---|---|---|
| **Liquidity Ratios** | | | |
| Working Capital | | Current Assets – Current Liabilities | Amount of current assets left over after paying liabilities |
| | Current ratio | <u>Current Assets</u><br>Current Liabilities | Test of debt-paying ability – how much do we have available for every $1 of liabilities. |
| | Acid-test (quick) Ratio | <u>Quick Assets (Cash + Marketable Securities + net receivables)</u> | Test of immediate debt-paying ability – how much cash do we have available immediately to pay debt |

| | | |
|---|---|---|
| | Current Liabilities | |
| Cash flow liquidity ratio | (Cash + Marketable securities + Cash flow from operating activities)<br><br>Current Liabilities | Test of short-term, debt paying ability |
| Accounts Receivable Turnover | Net credit sales (or net sales)<br><br>Average Accounts Receivable<br><br>**Avg Accounts Receivable is calculated as (beg. or last year's accounts receivable + current year end Accounts receivable) / 2 | Test of quality of accounts receivable – how many times have we collected avg accts receivable |
| Days Sales Uncollected | Accts Receivable, Net x 365 days<br><br>Net Sales<br><br>**Accts Receivable, Net means Accounts Receivable – Allowance for doubtful or uncollectible accounts. | How many days it takes to collect on accounts receivable |
| Inventory Turnover | Cost of Goods Sold<br><br>Average Inventory<br><br>**Avg Inventory is calculated as (beg. or last year's inventory + current year end inventory) / 2 | Test of management efficiency – how many times we have sold avg. inventory |
| Days Sales in Inventory | Ending Inventory x 365 days<br><br>Cost of Goods Sold | How many days it takes to sell inventory |
| Total Asset Turnover | Net Sales<br><br>Average Total Assets<br><br>**Avg Total Assets is calculated as (beg. or last year's total assets + current year end total assets) / 2 | How many times we have been able to sell the amount equal to avg total assets. Tests whether the volume of business is adequate. |
| Equity (or Solvency) Ratios | | |
| Debt Ratio | Total Liabilities<br><br>Total Assets | How much we owe in liabilities for every $1 in assets. |

| | | |
|---|---|---|
| Equity (or Stockholder's Equity) Ratio | Total Equity<br><br>Total Assets | How much equity we have for every $1 in assets. |
| Debt to Equity Ratio | Total Liabilities<br><br>Total Equity | How much we owe in liabilities for every $1 of equity. |
| Stockholder's Equity to Debt Ratio | Total Equity<br><br>Total Liabilities | How much equity we have to cover $1 in liabilities. |
| Profitability Ratios | | |
| Profit Margin Ratio | Net Income<br><br>Net Sales | How much NET income we generate from every dollar of sales. |
| Gross Margin Ratio | Net sales – Cost of goods sold<br><br>Net Sales | How much gross profit is earned on every dollar of sales (also known as markup) |
| Return on total assets | Net Income<br><br>Average Total Assets<br><br>**Avg Total Assets is calculated as (beg. or last year's total assets + current year end total assets) / 2 | How many times we have earned back average total assets from net income. |
| Return on common stockholder's equity | Net Income – Preferred dividends<br><br>Average common stockholder's equity | How much net income was generated from every dollar of common stock invested. |
| Basic Earnings per Share (EPS) | Net Income – Preferred Dividends<br><br>Weighted Avg common shares outstanding | How much net income generate on every share of common stock |
| Market Prospects | | |
| Price-earnings ratio | Market price per common share<br><br>Earnings per share | How much the market price is for every dollar of earnings per share |
| Dividend yield | Annual cash dividends per share<br><br>Market price per share | How much dividends you receive based on every dollar of market price per share. |

Click ratio summary for a printable copy.



# EXERCISES: UNIT 18

QUESTIONS, EXERCISES AND PROBLEMS

**Questions**

➢ What are the major sources of financial information for publicly owned corporations?

➢ The higher the accounts receivable turnover rate, the better off the company is. Do you agree? Why?

➢ Can you think of a situation where the current ratio is very misleading as an indicator of short-term, debt-paying ability? Does the acid-test ratio offer a remedy to the situation you have described? Describe a situation where the acid-test ratio does not suffice either.

➢ Before the Marvin Company issued $ 20,000 of long-term notes (due more than a year from the date of issue) in exchange for a like amount of accounts payable, its current ratio was 2:1 and its acid-test ratio was 1:1. Will this transaction increase, decrease, or have no effect on the current ratio and acid-test ratio? What would be the effect on the equity ratio?

➢ Through the use of turnover rates, explain why a firm might seek to increase the volume of its sales even though such an increase can be secured only at reduced prices.

➢ Indicate which of the relationships illustrated in the chapter would be best to judge:

- The short-term debt-paying ability of the firm.
- The overall efficiency of the firm without regard to the sources of assets.
- The return to owners (stockholders) of a corporation.
- The safety of long-term creditors’ interest.
- The safety of preferred stockholders’ dividends.

➢ Indicate how each of the following ratios or measures is calculated:

- Payout ratio.
- Earnings per share of common stock.
- Price-earnings ratio.
- Earnings yield on common stock.
- Dividend yield on preferred stock.
- Times interest earned.
- Times preferred dividends earned.
- Return on average common stockholders’ equity.
- Cash flow margin.

➢ How is the rate of return on operating assets determined? Is it possible for two companies with operating margins of 5 per cent and 1 per cent, respectively, to both have a rate of return of 20 per cent on operating assets? How?

➢ Cite some of the possible deficiencies in accounting information, especially regarding its use in analyzing a particular company over a 10-year period.

**Exercises**

**Exercise A** Income statement data for Boston Company for 2009 and 2010 follow:

| | 2009 | 2010 |
|---|---|---|
| Net sales | $2,610,000 | $1,936,000 |
| Cost of goods sold | 1,829,600 | 1,256,400 |
| Selling expenses | 396,800 | 350,000 |
| Administrative expenses | 234,800 | 198,400 |
| Federal income taxes | 57,600 | 54,000 |

Prepare a horizontal and vertical analysis of the income data in a form similar to Exhibit 2. Comment on the results of this analysis.

Exercise B A company engaged in the following three independent transactions:

- Merchandise purchased on account, $ 2,400,000.
- Machinery purchased for cash, $ 2,400,000.
- Capital stock issued for cash, $ 2,400,000.

1. Compute the current ratio after each of these transactions assuming current assets were $ 3,200,000 and the current ratio was 1:1 before the transactions occurred.
2. Repeat part (a) assuming the current ratio was 2:1.
3. Repeat part (a) assuming the current ratio was 1:2.

Exercise C A company has sales of $ 3,680,000 per year. Its average net accounts receivable balance is $ 920,000.

1. What is the average number of days accounts receivable are outstanding?
2. By how much would the capital invested in accounts receivable be reduced if the turnover could be increased to 6 without a loss of sales?

Exercise D Columbia Corporation had the following selected financial data for 2009 December 31: Net cash provided by operating activities

| | |
|---|---|
| Net sales | $1,800,000 |
| Cost of goods sold | 1,080,000 |
| Operating expenses | 315,000 |
| Net income | 195,000 |
| Total assets | 1,000,000 |
| Net cash provided by operating activities | 25,000 |

Compute the cash flow margin.

Exercise E From the following partial income statement, calculate the inventory turnover for the period.

| | | |
|---|---|---|
| Net sales | | $2,028,000 |
| Cost of goods sold: | | |

| | | |
|---|---|---|
| Beginning inventory | $ 234,000 | |
| Purchases | 1,236,000 | |
| Cost of goods available for sale | $1,560,000 | |
| Less: Ending inventory | 265,200 | |
| Cost of goods sold | | 1,294,800 |
| Gross margin | | $ 733,200 |
| Operating expenses | | 327,600 |
| Net operating income | | $ 405,600 |

**Exercise F** Eastern, Inc., had net sales of $ 3,520,000, gross margin of $ 1,496,000, and operating expenses of $ 904,000. Total assets (all operating) were $ 3,080,000. Compute Eastern's rate of return on operating assets.

**Exercise G** Nelson Company began the year 2010 with total stockholders' equity of $ 2,400,000. Its net income for 2010 was $ 640,000, and $ 106,800 of dividends were declared. Compute the rate of return on average stockholders' equity for 2010. No preferred stock was outstanding.

**Exercise H** Rogers Company had 60,000 shares of common stock outstanding on 2010 January 1. On 2010 April 1, it issued 20,000 additional shares for cash. The amount of earnings available for common stockholders for 2010 was $ 600,000. What amount of EPS of common stock should the company report?

**Exercise I** Smith Company started 2011 with 800,000 shares of common stock outstanding. On March 31, it issued 96,000 shares for cash, and on September 30, it purchased 80,000 shares of its own stock for cash. Compute the weighted-average number of common shares outstanding for the year.

**Exercise J** A company reported EPS of $ 2 (or ) for 2009, ending the year with 1,200,000 shares outstanding. In 2010, the company earned net income of $ 7,680,000, issued 320,000 shares of common stock for cash on September 30, and distributed a 100 per cent stock dividend on 2010 December 31. Compute EPS for 2010, and compute the adjusted earnings per share for 2009 that would be shown in the 2010 annual report.

**Exercise K** A company paid interest of $ 32,000, incurred federal income taxes of $ 88,000, and had net income (after taxes) of $ 112,000. How many times was interest earned?

**Exercise L** John Company had 20,000 shares of $ 600 par value, 8 per cent preferred stock outstanding. Net income after taxes was $ 5,760,000. The market price per share was $ 720.

1. How many times were the preferred dividends earned?
2. What was the dividend yield on the preferred stock assuming the regular preferred dividends were declared and paid?

**Exercise M** A company had 80,000 weighted-average number of shares of $ 320 par value common stock outstanding. The amount of earnings available to common stockholders was $ 800,000. Current market price per share is $ 720. Compute the EPS and the price-earnings ratio.

Problems

**Problem A** Loom's comparative statements of income and retained earnings for 2010 and 2009 are given below.

Loom

Consolidated statement of earnings

For the years ended 2010 December 31, and 2009

(USD thousands, except per data share)

| | December 31 | |
|---|---|---|
| | (1) | (2) |
| | 2010 | 2009 |
| Net sales | $ 2,403,100 | $ 2,297,800 |
| Cost of sales | 1,885,700 | 1,651,300 |
| Gross earnings | $ 517,400 | $ 646,500 |
| Selling, general and administrative expenses | 429,700 | 376,300 |
| Goodwill amortization | 37,300 | 35,200 |
| Impairment write down of goodwill | 158,500 | 0 |
| Operating earnings (loss) | $ (108,100) | $235,000 |
| Interest expense | (116,900) | (95,400) |
| Other expense-net | (21,700) | (6,100) |
| Earnings (loss) before income tax (benefit) expense, extraordinary item and cumulative effect of change in accounting principles | $ (246,700) | $133,500 |
| Income tax (benefit) expense | (19,400) | 73,200 |
| Earnings (loss) before cumulative effect of change in account principles | $ (227,300) | $60,300 |
| Cumulative effect of change in accounting principles: | | |
| Pre-operating costs | (5,200) | 0 |
| Net earnings (loss) | $ (232,500) | $60,300 |
| Retained earnings, January 1 | 680,600 | 620,300 |
| | $ 448,100 | $680,600 |
| Dividends | 0 | 0 |
| Retained earnings, December 31 | $ 448,100 | $680,600 |

Loom

consolidated balance sheet

As of 2010 December 31, and 2009

(USD thousands)

| | | |
|---|---|---|
| | December 31 | |
| | (1) | (2) |
| | 2010 | 2009 |
| Assets | | |
| Current assets | | |
| Cash and cash equivalents | $ 26,500 | $ 49,400 |
| Notes and accounts receivable (less allowance for possible losses of $26,600,000 and $20,700,000, respectively) | 261,000 | 295,600 |
| Inventories | | |
| Finished goods | 522,300 | 496,200 |
| Work in process | 132,400 | 141,500 |
| Materials and supplies | 44,800 | 39,100 |
| Other | 72,800 | 54,800 |
| Total current assets | $ 1,059,800 | $ 1,076,600 |
| Property, plant, and equipment | | |
| Land | $ 20,100 | $ 19,300 |
| Buildings, structures and improvements | 486,400 | 435,600 |
| Machinery and equipment | 1,076,600 | 1,041,300 |
| Construction in progress | 24,200 | 35,200 |
| Total property, plant and equipment | $ 1,607,300 | $ 1,531,400 |
| Less accumulated depreciation | 578,900 | 473,200 |
| Net property, plant and equipment | $ 1,028,400 | $ 1,058,200 |

| | | |
|---|---|---|
| Other assets | | |
| Goodwill (less accumulated amortization of $257,800,000 and $242,400,000, respectively). | $ 771,100 | $ 965,800 |
| Other | 60,200 | 62,900 |
| Total other assets | $831,300 | $ 1,028,700 |
| Total assets | $ 2,919,500 | $ 3,163,500 |
| Liabilities and stockholders' equity | | |
| Current liabilities | | |
| Current maturities of long-term debt | $ 14,600 | $ 23,100 |
| Trade accounts payable | 60,100 | 113,300 |
| Accrued insurance obligations | 38,800 | 23,600 |
| Accrued advertising and promotion | 23,800 | 23,400 |
| Interest payable | 16,000 | 18,300 |
| Accrued payroll and vacation pay | 15,300 | 33,100 |
| Accrued pension | 11,300 | 19,800 |
| Other accounts payable and accrued expenses | 123,900 | 77,200 |
| Total current liabilities | $ 303,800 | $ 331,800 |
| Noncurrent liabilities | | |
| Long-term debt | 1,427,200 | 1,440,200 |
| Net deferred income taxes | 0 | 43,400 |
| Other | 292,900 | 222,300 |
| Total noncurrent liabilities | $ 1,720,000 | $ 1,705,900 |
| Total liabilities | $ 2,023,900 | $ 2,037,700 |
| Common stockholders' equity | | |
| Common stock and capital in excess of par value, $.01 par value; authorized, Class A, 200,000,000 shares, Class B, 30,000,000 shares; issued and outstanding: | | |

| | | |
|---|---|---|
| Class A Common Stock, 69,268,701 and 69,160,349 shares, respectively | $ 465,600 | $ 463,700 |
| Class B Common Stock, 6,690,976 shares | 4,400 | 4,400 |
| Retained earnings | 448,100 | 680,600 |
| Currency translation and minimum pension liability adjustments | (22,500) | (22,900) |
| Total common stockholders' equity | $ 895,600 | $ 1,125,800 |
| Total liabilities and stockholders' equity | $ 2,919,500 | $ 3,163,500 |

Perform a horizontal and vertical analysis of Loom's financial statements in a manner similar to those illustrated in this chapter. Comment on the results of the analysis in (a).

**Problem B** Deere & Company manufactures, distributes, and finances a full range of agricultural equipment; a broad range of industrial equipment for construction, forestry, and public works; and a variety of lawn and grounds care equipment. The company also provides credit, health care, and insurance products for businesses and the general public. Consider the following information from the Deere & Company 2000 Annual Report:

| (in millions) | 1997 | 1998 | 1999 | 2000 |
|---|---|---|---|---|
| Sales | $12,791 | $13,822 | $11,751 | $13,137 |
| Cost of goods sold | 8,481 | 9,234 | 8,178 | 8,936 |
| Gross margin | 4,310 | 4,588 | 3,573 | 4,201 |
| Operating expenses | 2,694 | 2,841 | 3,021 | 3,236 |
| Net operating income | $ 1,616 | $ 1,747 | $ 552 | $ 965 |

1. Prepare a statement showing the trend percentages for each item using 1997 as the base year.
2. Comment on the trends noted in part (a).

**Problem C** The following data are for Toy Company:

| | December 31 | |
|---|---|---|
| | 2011 | 2010 |
| Allowance for uncollectible accounts | $72,000 | $57,000 |
| Prepaid expenses | 34,500 | 45,000 |
| Accrued liabilities | 210,000 | 186,000 |
| Cash in Bank A | 1,095,000 | 975,000 |
| Wages payable | -0- | 37,500 |

| | | |
|---|---|---|
| Accounts payable | 714,000 | 585,000 |
| Merchandise inventory | 1,342,500 | 1,437,000 |
| Bonds payable, due in 2005 | 615,000 | 594,000 |
| Marketable securities | 217,500 | 147,000 |
| Notes payable (due in six months) | 300,000 | 195,000 |
| Accounts receivable | 907,500 | 870,000 |
| Cash flow from operating activities | 192,000 | 180,000 |

1. Compute the amount of working capital at both year-end dates.
2. Compute the current ratio at both year-end dates.
3. Compute the acid-test ratio at both year-end dates.
4. Compute the cash flow liquidity ratio at both year-end dates.
5. Comment briefly on the company's short-term financial position.

Problem D On 2011 December 31, Energy Company's current ratio was 3:1 before the following transactions were completed:

- Purchased merchandise on account.
- Paid a cash dividend declared on 2011 November 15.
- Sold equipment for cash.
- Temporarily invested cash in trading securities.
- Sold obsolete merchandise for cash (at a loss).
- Issued 10-year bonds for cash.
- Wrote off goodwill to retained earnings.
- Paid cash for inventory.
- Purchased land for cash.
- Returned merchandise that had not been paid for.
- Wrote off an account receivable as uncollectible. Uncollectible amount is less than the balance in the Allowance for Uncollectible Accounts.
- Accepted a 90-day note from a customer in settlement of customer's account receivable.
- Declared a stock dividend on common stock.

Consider each transaction independently of all the others.

1. Indicate whether the amount of working capital will increase, decrease, or be unaffected by each of the transactions.
2. Indicate whether the current ratio will increase, decrease, or be unaffected by each of the transactions.

Problem E Digital Company has net operating income of $ 500,000 and operating assets of $ 2,000,000.

Its net sales are $ 4,000,000.

The accountant for the company computes the rate of return on operating assets after computing the operating margin and the turnover of operating assets.

1. Show the computations the accountant made.
2. Indicate whether the operating margin and turnover increase or decrease after each of the following changes. Then determine what the actual rate of return on operating assets would be. The events are not interrelated; consider each separately, starting from the original earning power position. No other changes occurred.

(a)Sales increased by $ 160,000. There was no change in the amount of operating income and no change in operating assets.

(b)Management found some cost savings in the manufacturing process. The amount of reduction in operating expenses was $ 40,000. The savings resulted from the use of less materials to manufacture the same quantity of goods. As a result, average inventory was $ 16,000 lower than it otherwise would have been. Operating income was not affected by the reduction in inventory.

(c) The company invested $ 80,000 of cash (received on accounts receivable) in a plot of land it plans to use in the future (a nonoperating asset); income was not affected.

(d)The federal income tax rate increased and caused income tax expense to increase by $ 20,000. The taxes have not yet been paid.

(e)The company issued bonds and used the proceeds to buy $ 400,000 of machinery to be used in the business. Interest payments are $ 20,000 per year. Net operating income increased by $ 100,000 (net sales did not change).

**Problem F** Polaroid Corporation designs, manufactures, and markets worldwide instant photographic cameras and films, electronic imaging recording devices, conventional films, and light polarizing filters and lenses. The following information is for Polaroid:

| (in millions) | **2000** | **1999** |
|---|---|---|
| Net sales | $13,994 | $14,089 |
| Income before interest and taxes | 2,310 | 2,251 |
| Net income | 1,407 | 1,392 |
| Interest expense | 178 | 142 |
| Stockholders' equity (on 1998 December 31, $3,988) | 3,428 | 3,912 |
| Common stock, par value $1, December 31 | 978 | 978 |

Compute the following for both 2000 and 1999. Then compare and comment.

1. EPS of common stock.
2. Net income to net sales.
3. Net income to average common stockholders' equity.
4. Times interest earned ratio.

**Problem G** The Walt Disney Company operates several ranges of products from theme parks and resorts to broadcasting and other creative content. The following balance sheet and supplementary data are for The Walt Disney Company for 2000.

**The Walt Disney Company**

**Consolidated balance sheet**

**For 2000 September 30**

**(USD millions)**

| Assets | | |
|---|---|---|

| | | |
|---|---|---|
| Cash and cash equivalents | | $ 842 |
| Receivables | | 3,599 |
| Inventories | | 702 |
| Film and television costs | | 1,162 |
| Other | | 1,258 |
| Total current costs | | $7,563 |
| Film and television costs | | 5,339 |
| Investments | | 2,270 |
| Theme parks, resorts, and other property, at cost | | |
| Attractions, buildings, and equipment | $16,160 | |
| Accumulated depreciation | (6,892) | |
| | | 9,718 |
| Project in process | | 1,995 |
| Land | | 597 |
| Intangibles assets, net | | 16,117 |
| Other assets | | 1,428 |
| Total assets | | $25,027 |
| Liabilities and stockholders' equity | | |
| Accounts payable and accrued liabilities | | $ 5,161 |
| Current portion of borrowing | | 2,502 |
| Unearned royalties | | 739 |
| Total current liabilities | | $ 8,402 |
| Borrowings | | 6,959 |
| Deferred income taxes | | 2,833 |
| Other long-term liabilities | | 2,377 |
| Minority interest | | 356 |
| Common shareholders' equity | | |

| | | |
|---|---|---|
| Common shares ($.01 par value) | $12,101 | |
| Retained earnings | 12,767 | |
| Cumulative translation and other adjustments | (28) | |
| Treasury shares | (740) | 24,100 |
| Total liabilities and stockholders' equity | | $45,027 |

- Net income, $ 920.
- Income before interest and taxes, $ 3,231.
- Cost of goods sold, $ 21,321.
- Net sales, $ 25,402.
- Inventory on 1999 September 30, $ 796.
- Total interest expense for the year, $ 598.

Calculate the following ratios and show your computations. For calculations normally involving averages, such as average stockholders' equity, use year-end amounts unless the necessary information is provided.

1. Current ratio.
2. Net income to average common stockholders' equity.
3. Inventory turnover.
4. Number of days' sales in accounts receivable (assume 365 days in 2000).
5. EPS of common stock (ignore treasury stock).
6. Times interest earned ratio.
7. Equity ratio.
8. Net income to net sales.
9. Total assets turnover.
10. Acid-test ratio.

**Problem H** Cooper Company currently uses the FIFO method to account for its inventory but is considering a switch to LIFO before the books are closed for the year. Selected data for the year are:

| | |
|---|---|
| Merchandise inventory, January 1 | $1,430,000 |
| Current assets | 3,603,600 |
| Total assets (operating) | 5,720,000 |
| Cost of goods sold (FIFO) | 2,230,800 |
| Merchandise inventory, December 31 (LIFO) | 1,544,400 |
| Merchandise inventory, December 31 (FIFO) | 1,887,600 |
| Current liabilities | 1,144,000 |
| Net sales | 3,832,400 |
| Operating expenses | 915,200 |

1. Compute the current ratio, inventory turnover ratio, and rate of return on operating assets assuming the company continues using FIFO.
2. Repeat part (a) assuming the company adjusts its accounts to the LIFO inventory method.

Alternate problems

**Alternate problem A** Steel Corporation's comparative statements of income and retained earnings and consolidated balance sheet for 2010 and 2009 follow:

Steel Corporation

Consolidated statement of Earnings

For the years ended 2010 December 31, 2009

(USD thousands)

| | December | 31 |
|---|---|---|
| | (1) | (2) |
| | 2010 | 2009 |
| Net sales | $4,876.5 | $4,819.4 |
| Costs and expenses: | | |
| Cost of sales | $4,202.8 | $4,287.3 |
| Depreciation | 284.0 | 261.1 |
| Estimated restructuring losses | 111.8 | 137.4 |
| Total costs | $4,598.6 | $4,685.8 |
| Income from operations | $268.9 | $ 133.6 |
| Financing income (expense): | | |
| Interest and other income | 7.7 | 7.1 |
| Interest and other financing costs | (60.0) | (46.2) |
| Loss before income taxes and cumulative effect of changes in accounting | $ 216.6 | $ 94.5 |
| Benefit (provision) for income taxes | (37.0) | (14.0) |
| Net earning (loss) | $ 179.6 | $ 80.5 |
| Retained earnings, January 1 | (859.4) | (939.9) |
| | $ (679.8) | $ (859.4) |
| Dividends | 0.0 | 0.0 |
| Retained earnings, December 31 | $ (679.8) | (859.4) |

Steel Corporation

Consolidated balance sheet

As of 2010 December 31, and 2009

| | December | 31 |
|---|---|---|
| | (1) | (2) |
| | 2010 | 2009 |
| Assets | | |
| Current Assets | | |
| Cash and cash equivalents | $ 180.0 | $ 159.5 |
| Receivables | 374.6 | 519.5 |
| Total | $ 554.6 | $ 679.0 |
| Inventories | | |
| Raw materials and supplies | $ 335.5 | $ 331.9 |
| Finished and semifinished products | 604.9 | 534.9 |
| Contract work in process less billings of $10.9 and $2.3 | 17.8 | 16.1 |
| Total inventories | $ 958.2 | $ 882.9 |
| Other current assets | $ 13.0 | $ 7.2 |
| Total current assets | $ 1,525.8 | $ 1,569.1 |
| Property, plant and equipment less accumulated depreciation of $4329.5 and $4167.8 | $ 2,714.2 | $ 2,759.3 |
| Investments and miscellaneous assets | 112.3 | 124.2 |
| Deferred income tax asset – net | 885.0 | 903.2 |
| Intangible asset – Pensions | 463.0 | 426.6 |
| Total assets | $ 5,700.3 | $ 5,782.4 |
| Liabilities and stockholders' equity | | |
| Current liabilities | | |
| Accounts payable | $ 381.4 | $ 387.0 |
| Accrued employment costs | 208.0 | 165.8 |

| | | |
|---|---|---|
| Postretirement benefits other than pensions | 150.0 | 138.0 |
| Accrued taxes | 72.4 | 67.6 |
| Debt and capital lease obligations | 91.5 | 88.9 |
| Other current liabilities | 146.3 | 163.9 |
| Total current liabilities | $ 1,049.6 | $ 1,011.2 |
| Pension liability | $ 1,115.0 | $ 1,117.1 |
| Postretirement benefits other than pensions | 1,415.0 | 1,441.4 |
| Long-term debt and capital lease obligations | 546.8 | 668.4 |
| Other | 335.6 | 388.5 |
| Total noncurrent liabilities | $ 3,412.4 | # 3,615.4 |
| Total liabilities | $ 4,462.0 | $ 4,626.6 |
| Common stockholders' equity | | |
| Preferred stock – at $1 per share par value (aggregate liquidation preference of $481.2); Authorized 20,000,000 shares | $ 11.6 | $ 11.6 |
| Preference stock – at $1 per share par value (aggregate liquidation preference of $88.2); Authorized 20,000,000 shares | 2.6 | 2.6 |
| Common stock – at $1 per share par value/Authorized 250,000,000 and 150,000,000 shares; Issued 112,699,869 and 111,882,276 shares | 112.7 | 111.9 |
| Held in treasury, 1,992,189 and 1,996,715 shares at cost | (59.4) | (59.5) |
| Additional paid-in capital | 1,850.6 | 1,948.6 |
| Accumulated deficit | (679.8) | (859.4) |
| Total common stockholders' equity | $ 1,238.3 | $ 1,155.8 |
| Total liabilities and stockholders' equity | $ 5,700.3 | $ 5,782.4 |

2. Perform a horizontal and vertical analysis of Steel's financial statements in a manner similar to Exhibit 1 and Exhibit 2.
3. Comment on the results obtained in part (a).

**Alternate problem B** Ford Motor Company is the world's second-largest producer of cars and trucks and ranks among the largest providers of financial services in the United States. The following information pertains to Ford: (in millions)

| (in millions) | 1998 | 1999 | 2000 |
|---|---|---|---|
| Sales | $118.017 | $135,073 | $141,230 |
| Cost of goods sold | 104,616 | 118,985 | 126,120 |
| Gross margin | $ 13,401 | $ 16,088 | $ 15,110 |
| Operating expenses | 7,834 | 8,874 | 9,884 |
| Net operating income | $ 5,567 | $ 7,214 | $ 5,226 |

1. Prepare a statement showing the trend percentages for each item, using 1998 as the base year.
2. Comment on the trends noted in part (a).

**Alternate problem C** The following data are for Clock Company: Allowance for uncollectible accounts

| | December | 31 |
|---|---|---|
| | 2011 | 2010 |
| Notes payable (due in 90 days) | $75,200 | $60,000 |
| Merchandise inventory | 240,000 | 208,000 |
| Cash | 100,000 | 128,000 |
| Marketable securities | 49,600 | 30,000 |
| Accrued liabilities | 19,200 | 22,000 |
| Accounts receivable | 188,000 | 184,000 |
| Accounts payable | 112,000 | 72,000 |
| Allowance for uncollectible accounts | 24,000 | 15,200 |
| Bonds payable, due 2008 | 156,000 | 160,000 |
| Prepaid expenses | 6,400 | 7,360 |
| Cash flow from operating activities | 60,000 | 40,000 |

1. Compute the amount of working capital at both year-end dates.
2. Compute the current ratio at both year-end dates.
3. Compute the acid-test ratio at both year-end dates.
4. Compute the cash flow liquidity ratio at both year-end dates.
5. Comment briefly on the company's short-term financial position.

**Alternate problem D** Tulip Products, Inc., has a current ratio on 2010 December 31, of 2:1 before the following transactions were completed:

- Sold a building for cash.
- Exchanged old equipment for new equipment. (No cash was involved.)
- Declared a cash dividend on preferred stock.
- Sold merchandise on account (at a profit).
- Retired mortgage notes that would have matured in 2011.
- Issued a stock dividend to common stockholders.
- Paid cash for a patent.
- Temporarily invested cash in government bonds.
- Purchased inventory for cash.
- Wrote off an account receivable as uncollectible. Uncollectible amount is less than the balance of the Allowance for Uncollectible Accounts.
- Paid the cash dividend on preferred stock that was declared earlier.
- Purchased a computer and gave a two-year promissory note.
- Collected accounts receivable.
- Borrowed from the bank on a 120-day promissory note.
- Discounted a customer's note. Interest expense was involved.

Consider each transaction independently of all the others.

1. Indicate whether the amount of working capital will increase, decrease, or be unaffected by each of the transactions.
2. Indicate whether the current ratio will increase, decrease, or be unaffected by each of the transactions.

**Alternate problem E** The following selected data are for three companies:

| | Operating Assets | Net Operating Income | Net Sales |
|---|---|---|---|
| Company 1 | $ 1,404,000 | $ 187,200 | $ 2,059,200 |
| Company 2 | 8,424,000 | 608,400 | 18,720,000 |
| Company 3 | 37,440,000 | 4,914,000 | 35,100,000 |

1. Determine the operating margin, turnover of operating assets, and rate of return on operating assets for each company.
2. In the subsequent year, the following changes took place (no other changes occurred):

Company 1 bought some new machinery at a cost of $ 156,000. Net operating income increased by $ 12,480 as a result of an increase in sales of $ 249,600.

Company 2 sold some equipment it was using that was relatively unproductive. The book value of the equipment sold was $ 624,000. As a result of the sale of the equipment, sales declined by $ 312,000, and operating income declined by $ 6,240.

Company 3 purchased some new retail outlets at a cost of $ 6,240,000. As a result, sales increased by $ 9,360,000, and operating income increased by $ 499,200.

- Which company has the largest absolute change in:

1. Operating margin ratio?
2. Turnover of operating assets?
3. Rate of return on operating assets?

- Which one realized the largest dollar change in operating income? Explain this change in relation to the changes in the rate of return on operating assets.

**Alternate problem F** One of the largest spice companies in the world, McCormick & Company, Inc., produces a diverse array of specialty foods. The following information is for McCormick & Company, Inc.:

| | 2000 | 1999 |
|---|---|---|
| (USD thousands) | | |
| Net sales | $2,123,500 | $2,006,900 |
| Income before interest and taxes | 225,700 | 174,700 |
| Net income | 137,500 | 98,500 |
| Interest expense | 39,700 | 32,400 |
| Stockholders' equity | 359,300 | 382,400 |
| Common stock, no par value, November 30 | 175,300 | 173,800 |

Assume average common shares outstanding for 2000 and 1999 are 69,600 and 72,000 (in thousands), respectively.

Compute the following for both 2000 and 1999. Then compare and comment. Assume stockholders' equity for 1998 was $ 388,100.

1. EPS of common stock.
2. Net income to net sales.
3. Return on average common stockholders' equity.
4. Times interest earned ratio.

**Alternate problem G** Parametric Technology Corporation is in the CAD/CAM/CAE industry and is the top supplier of software tools used to automate a manufacturing company. The following consolidated balance sheet and supplementary data are for Parametric for 2003:

**Parametric Technology Corporation**

**Consolidated balance sheet**

**For 2003 September 30 (in thousands)**

| Assets | |
|---|---|
| Current assets | |
| Cash and cash equivalents | $ 325,872 |
| Short-term investments | 22,969 |
| Accounts receivable, net of allowances for doubtful account of $6,270 | 183,804 |
| Other current assets | 95,788 |

| | |
|---|---|
| Total current assets | $ 628,433 |
| Marketable investments | 26,300 |
| Property and equipment, net | 66,879 |
| Other assets | 203,271 |
| Total assets | $ 924,883 |
| **Liabilities and stockholders‘ equity** | |
| Current liabilities | |
| Accounts payable and accrued expenses | $ 77,144 |
| Accrued compensation | 52,112 |
| Deferred revenue | 231,495 |
| Income taxes | 1,601 |
| Total currents liabilities | $ 362,352 |
| Other liabilities | 33,989 |
| Stockholders’ equity | |
| Preferred stock, $.01 par value; 5,000 shares authorized; none issued | |
| Common stock, $.01 par value; 500,000 shares authorized; 276,053 (2000) and 272,277 (1999) shares issued | 2,761 |
| Additional paid-in capital | 1,641,513 |
| Foreign currency translation adjustment | (12,629) |
| Accumulated deficit | (1,036,456) |
| Treasury stock, at cost, 6,456 (2000) and 2,113 (1999) shares | (66,647) |
| Total liabilities and stockholders’ equity | $ 924,883 |

- Net loss, ($ 3,980).
- Loss before interest and taxes, ($ 4,700).
- Cost of goods sold, $ 244,984.
- Net sales, $ 928,414.
- Total interest expense for the year, $ 367.
- Weighted-average number of shares outstanding, 273,081.

Calculate the following ratios and show your computations. For calculations normally involving averages, such as average accounts receivable or average stockholders’ equity, use year-end amounts if the information is not available to use averages.

1. Current ratio.

2. Net income to average common stockholders' equity.
3. Number of days' sales in accounts receivable (assume 365 days in 2003).
4. EPS of common stock.
5. Times interest earned ratio.
6. Equity ratio.
7. Net income to net sales.
8. Total assets turnover.
9. Acid-test ratio.

**Alternate problem H** Paper Company is considering switching from the FIFO method to the LIFO method of accounting for its inventory before it closes its books for the year. The January 1 merchandise inventory was $ 864,000. Following are data compiled from the adjusted trial balance at the end of the year:

| | |
|---|---|
| Merchandise inventory, December 31 (FIFO) | $1,008,000 |
| Current liabilities | 720,000 |
| Net sales | 2,520,000 |
| Operating expenses | 774,000 |
| Current assets | 1,890,000 |
| Total assets (operating) | 2,880,000 |
| Cost of goods sold | 1,458,000 |

If the switch to LIFO takes place, the December 31 merchandise inventory would be $ 900,000.

1. Compute the current ratio, inventory turnover ratio, and rate of return on operating assets assuming the company continues using FIFO.
2. Repeat (a) assuming the company adjusts its accounts to the LIFO inventory method.

**Beyond the numbers – Critical thinking**

**Business decision case A** The comparative balance sheets of the Darling Corporation for 2011 December 31, and 2010 follow:

**Darling Corporation**

**Comparative balance sheets**

**2011 December 31, and 2010**

**(USD millions)**

| | 2011 | 2010 |
|---|---|---|
| Assets | | |
| Cash | $ 480,000 | $ 96,000 |
| Accounts receivable, net | 86,400 | 115,200 |
| Merchandise inventory | 384,000 | 403,200 |

| | | |
|---|---|---|
| Plant and equipment, net | 268,800 | 288,000 |
| Total assets | $ 1,219,200 | $902,400 |
| Liabilities and stockholders' equity | | |
| Accounts payable | $ 96,000 | $ 96,000 |
| Common stock | 672,000 | 672,000 |
| Retained earnings | 451,200 | 134,400 |
| Total liabilities and stockholders' equity | $1,219,200 | $902,400 |

Based on your review of the comparative balance sheets, determine the following:

1. What was the net income for 2011 assuming there were no dividend payments?
2. What was the primary source of the large increase in the cash balance from 2010 to 2011?
3. What are the two main sources of assets for Darling Corporation?
4. What other comparisons and procedures would you use to complete the analysis of the balance sheet?

Business decision case B As Miller Manufacturing Company's internal auditor, you are reviewing the company's credit policy. The following information is from Miller's annual reports for 2008, 2009, 2010, and 2011:

| | 2008 | 2009 | 2010 | 2011 |
|---|---|---|---|---|
| Nets accounts receivable | $ 1,080,000 | $ 2,160,000 | $ 2,700,000 | $ 3,600,000 |
| Net sales | 10,800,000 | 13,950,000 | 17,100,000 | 19,800,000 |

Management has asked you to calculate and analyze the following in your report:

1. If cash sales account for 30 per cent of all sales and credit terms are always 1/10, n/60, determine all turnover ratios possible and the number of days' sales in accounts receivable at all possible dates. (The number of days' sales in accounts receivable should be based on year-end accounts receivable and net credit sales.)
2. How effective is the company's credit policy?

Business decision case C Wendy Prince has consulted you about the possibility of investing in one of three companies (Apple, Inc., Baker Company, or Cookie Corp.) by buying its common stock. The companies' investment shares are selling at about the same price. The long-term capital structures of the companies alternatives are as follows:

| | Apple, Inc. | Baker Company | Cookie Corp. |
|---|---|---|---|
| Bonds with a 10% interest rate | | | $2,400,000 |
| Preferred stock with an 8% dividend rate | | $2,400,000 | |

| | | | |
|---|---|---|---|
| Common stock, $10 par value | $4,800,000 | 2,400,000 | 2,400,000 |
| Retained earnings | 384,000 | 384,000 | 384,000 |
| Total long-term equity | $5,184,000 | $5,184,000 | $5,184,000 |
| Number of common shares outstanding | 480,000 | 240,000 | 240,000 |

Prince has already consulted two investment advisers. One adviser believes that each of the companies will earn $ 300,000 per year before interest and taxes. The other adviser believes that each company will earn about $ 960,000 per year before interest and taxes. Prince has asked you to write a report covering these points:

1. Compute each of the following, using the estimates made by the first and second advisers.

(a)Earnings available for common stockholders assuming a 40 per cent tax rate.

(b)EPS of common stock.

(c) Rate of return on total stockholders' equity.

1. Which stock should Prince select if she believes the first adviser?
2. Are the stockholders as a group (common and preferred) better off with or without the use of long-term debt in the companies?

Annual Report analysis D The following selected financial data excerpted from the annual report of Appliance Corporation represents the summary information which management presented for interested parties to review:

Appliance Corporation

Selected Financial Data

(USD thousands except per share data)

| | 2010 | 2009 | 2008 | 2007 | 2006 |
|---|---|---|---|---|---|
| Net sales | $3,049,524 | $3,372,515 | $2,987,054 | $3,041,223 | $2,970,626 |
| Cost of sales | 2,250,616 | 2,496,065 | 2,262,942 | 2,339,406 | 2,254,221 |
| Income taxes | 74,800 | 90,200 | 38,600 | 15,900 | 44,400 |
| Income (loss) from continuing operations | (14,996) | 151,137 | 51,270 | (8,254) | 79,017 |
| Per cent of income (loss) from continuing operations to net sales | (0.5%) | 4.5% | 1.7% | (0.3%) | 2.7% |
| Income (loss) from continuing operations per share | $ (0.14) | 1.42 | 0.48 | (0.08) | $ 0.75 |
| Dividends paid per share | 0.515 | 0.50 | 0.50 | 0.50 | 0.50 |
| Average shares outstanding (in thousands) | 107,062 | 106,795 | 106,252 | 106,077 | 105,761 |

| | | | | | |
|---|---|---|---|---|---|
| Working capital | $ 543,431 | $ 595,703 | $ 406,181 | $452,626 | $ 509,025 |
| Depreciation of property, plant and equipment | 102,572 | 110,044 | 102,459 | 94,032 | 83,352 |
| Additions to property, plant and equipment | 152,912 | 84,136 | 99,300 | 129,891 | 143,372 |
| Total assets | 2,125,066 | 2,504,327 | 2,469,498 | 2,501,490 | 2,535,068 |
| Long-term debt | 536,579 | 663,205 | 724,65 | 789,232 | 809,480 |
| Total debt to capitalization | 45.9% | 50.7% | 60.0% | 58.7% | 45.9% |
| Shareowners' equity per share of common stock | $ 6.05 | $ 6.82 | $ 5.50 | $ 9.50 | |

1. As a creditor, what do you believe management's objectives should be? Which of the preceding items of information would assist a creditor in judging management's performance?
2. As an investor, what do you believe management's objectives should be? Which of the preceding items of information would assist an investor in judging management's performance?
3. What other information might be considered useful?

Group project E Choose a company the class wants to know more about and obtain its annual report. In groups of two or three students, calculate either the liquidity, equity, profitability, or market test ratios. Each group should select a spokesperson to tell the rest of the class the results of the group's calculations. Finally, the class should decide whether or not to invest in the corporation based on the ratios they calculated.

Group project F In a group of two or three students, go to the library and attempt to locate Dun & Bradstreet's Industry Norms and Key Business Ratios. You may have to ask the reference librarian for assistance to see if this item is available at your institution. If it is not available at your institution, ask if it is available through an interlibrary loan. (Obviously, if you cannot obtain this item, you cannot do this project.) Then select and obtain the latest annual report of a company of your choice. Determine the company's SIC Code (a code that indicates the industry in which that company operates). SIC Codes for specific companies are available on COMPACT DISCLOSURE, an electronic source that may be available at your library. As an alternative, you could call the company's home office to inquire about its SIC Code. The annual report often contains the company's phone number. From the annual report, determine various ratios for the company, such as the current ratio, debt to equity ratio, and net income to net sales. Then compare these ratios to the industry norms for the company's SIC Code as given in the Dun & Bradstreet source. Write a report to your instructor summarizing the results of your investigation.

Group project G In a group of two or three students, obtain the annual report of a company of your choice Identify the major sections of the annual report and the order in which they appear. Would you recommend the order be changed to emphasize the most useful and important information? If so, how? Then describe some specific useful information in each section. Comment on your perceptions of the credibility that a reader of the annual report could reasonably assign to each section of the report. For instance, if such a discussion appears in the annual report you select, would you assign high credibility to everything that appears in the Letter to Stockholders regarding the company's future prospects? Write a report to your instructor summarizing the results of your investigation.

Using the Internet—A view of the real world

Visit the following website for Eastman Kodak Company:

http://www.kodak.com

By following choices on the screen, locate the income statements and balance sheets for the latest two years. Calculate all of the ratios illustrated in the chapter for which the data are available. Compare the ratios to those shown for Synotech as presented in the chapter. Write a report to your instructor showing your calculations and comment on the results of your comparison of the two companies.

Visit the following website for General Electric Company:

http://www.ge.com

By following choices on the screen, locate the income statements and balance sheets for the latest two years. Calculate all of the ratios illustrated in the chapter for which the data are available. Compare the ratios to those shown for Synotech as presented in the chapter. Write a report to your instructor showing your calculations and comment on the results of your comparison of the two companies.

Answers to self-test

True-false

True. Financial statement analysis consists of applying analytical tools and techniques to financial statements and other relevant data to obtain useful information.

False. Horizontal analysis provides useful information about the changes in a company's performance over several periods by analyzing comparative financial statements of the same company for two or more successive periods.

False. Common-size statements show only percentage figures, such as percentages of total assets and percentages of net sales.

True. Liquidity ratios such as the current ratio and acid-test ratio indicate a company's short-term debt-paying ability.

True. The accrual net income shown on the income statement is not cash basis income and does not indicate cash flows.

True. Analysts must use comparable data when making comparisons of items for different periods or different companies.

Multiple-choice

1. b. Current assets: \$ 136,000 + \$ 64,000 + \$ 184,000 + \$ 244,000 + \$ 12,000 = \$ 640,000

Current liabilities: \$ 256,000 + \$ 64,000 = \$ 320,000

Current ratio:

1. c. Quick assets:

\$ 136,000 + \$ 64,000 + \$ 184,000 = \$ 384,000

Current liabilities:

256,000 + \$ 64,000 = \$ 320,000

Acid-test ratio:

1. Net sales:

\$ 4,620,000

Average accounts receivable:

Accounts receivable turnover:

1. Cost of goods sold:

$ 3,360,000

Average inventory:

Inventory turnover:

1. Income before interest and taxes, $ 720,000

Interest on bonds, 192,000

Times interest earned ratio: $ 720,000/$ 192,000 = 3.75 times

# APPENDIX: PARTNERSHIPS

## SOLE PROPRIETORSHIPS AND PARTNERSHIPS

As a reminder from Unit 1, for accounting purposes, each business form is separate from other business entities and from its owner(s).

A **sole proprietorship** is an unincorporated business owned by one single person and often managed by that same person. Sole proprietors include physicians, lawyers, electricians, and other people in business for themselves. Many small service businesses and retail establishments are also sole proprietorships. Some characteristics of a sole proprietorship are:

1. No legal formalities are necessary to organize such businesses, and usually business operations can begin with only a limited investment (called **Capital**).
2. A sole proprietorship does not pay taxes on profits at the business level but instead pays taxes based on the company's earnings on the owner's personal income tax.
3. The business owner is personally liable for all debts of his or her company. This is called **unlimited liability**. Creditors can take and use your personal assets to cover the company's outstanding business debt if the company does not have enough money to pay debt.
4. A sole proprietor can take money out of the business any time he or she wants which is recorded in an contra-equity account called Drawing or **Withdrawals**.

A **partnership** is an unincorporated business owned by two or more persons associated as partners. Often the same persons who own the business also manage the business. Many small retail establishments and professional practices, such as dentists, physicians, attorneys, and many CPA firms, are partnerships. The characteristics of a partnership include:

1. As with a sole proprietorship, if the company cannot pay its debts the partners personal assets can and will be used to pay off the debt. See how this **unlimited liability** is even riskier in the case of a partnership. Each partner is personally liable not only for his or her own actions but also for the actions of all the partners. If, through mismanagement by one of your partners, the partnership is forced into bankruptcy, the creditors can go after you for all outstanding debts of the partnership.
2. Another fun one is **mutal agency**. This means partners can sign contracts on behalf of the company with or without the other partner's knowledge or approval. This makes the unlimited liability part very scary!
3. Partneship agreements can be written or verbal, yes, verbal! Any partner contributions are recorded in their own Capital account.
4. As with a sole proprietorship, the business itself does not pay taxes. Instead, the earnings of the company are divided between the partners using an agreed upon rate and the earnings are taxed on each partner's personal income tax.
5. A partnership has a **limited life** meaning that when the partners change for any reason, the existing partnership ends and new one must be formed.
6. Partners can take money out of the business when they want. This is recorded in each partner's Withdrawal or Drawing account.

# JOURNAL ENTRIES FOR PARTNERSHIPS

## Investing in a partnership

Partners (or owners) can invest cash or other assets in their business. They can even transfer a note or mortgage to the business if one is associated with an asset the owner is giving the business. Assets contributed to the business are recorded at the fair market value. Anytime a partner invests in the business the partner receives capital or ownership in the partnership. You will have one capital account and one withdrawal (or drawing) account for each partner.

To illustrate, Sam Sun and Ron Rain decided to form a partnership. Sam contributes $100,000 cash to the partnership. Ron is going to give $25,000 cash and an automobile with a market value of $30,000. Ron is also going to transfer the $20,000 note on the automobile to the business. The journal entries would be:

| Account | Debit | Credit |
|---|---|---|
| Cash | 100,000 | |
| S. Sun, Capital | | 100,000 |
| To record cash contribution by owner | | |
| | | |
| Cash | 25,000 | |
| Automobile | 30,000 | |
| Note Payable | | 20,000 |
| R. Rain, Capital (25,000 + 30,000 – 20,000) | | 35,000 |
| To record assets and note contributed by owner | | |

The entries could be separated as illustrated or it could be combined into one entry with a debit to cash for $125,000 ($100,000 from Sam and $25,000 from Ron) and the other debits and credits remaining as illustrated. Either way is acceptable. Since the note will be paid by the partnership, it is recorded as a liability for the partnership and reduces the capital balance of Ron Rain.

Partners can take money out of the business whenever they want. Partners are typically not considered employees of the company and may not get paychecks. When the partners take money out of the business, it is recorded in the Withdrawals or Drawing account. Remember, this is a contra-equity account since the owners are reducing the value of their ownership by taking money out of the company.

To illustrate, Sam Sun wants to go on a beach vacation and decides to take $8,000 out of the business. Ron Rain wants to go to Scotland and will take $15,000 out of the business. The journal entries would be:

| Account | Debit | Credit |
|---|---|---|
| S. Sun, Withdrawal | 8,000 | |
| Cash | | 8,000 |

| | | |
|---|---|---|
| To record cash withdrawn by owner | | |
| | | |
| R. Rain, Withdrawal | 15,000 | |
| Cash | | 15,000 |
| To record cash withdrawn by owner | | |

Just as in the previous example, the entries could also be combined into one entry with the credit to cash $23,000 ($8,000 from Sam + $15,000 from Ron) and the debits as listed above instead.

## Income Allocation

Once net income is calculated from the income statement (revenues – expenses), net income or loss is allocated or divided between the partners and closed to their individual capital accounts. The partners should agree upon an allocation method when they form the partnership. The partners can divide income or loss anyway they want but the 3 most common ways are:

1. **Agreed upon percentages**: Each partner receives a previously agreed upon percentage. For example, Sam Sun will get 60% and Ron Rain will get 40%. To allocate income, net income or loss is multiplied by the percent agreed upon.
2. **Percentage of capital**: Each partner receives a percentage of capital calculated as Partner Capital / Total capital for all partners. Using Sam and Ron, Sam has capital of $100,000 and Ron has capital of $35,000 for a total partnership capital of $135,000 (100,000 + 35,000). Sam's percentage of capital would be 74% (100,000 / 135,000) and Ron's percentage would be 26% (35,000 / 135,000). To allocate income, the percent of capital is multiplied by the net income or loss for the period.
3. **Salaries, Interest, Agreed upon percent**: Since owners are not employees and typically do not get paychecks, they should still be compensated for work they do for the business. In this method, we start with net income and give salaries out to the partners, then we calculate an interest amount based on their investment in the business, and any remainder is allocated using set percentages. This is by far the most confusing so a video example would be helpful.

Watch this video online: https://youtu.be/wODP0UekxhM

Note: The video shows a sharing ratio of 3:1. To use this in calculations, you will add the numbers presented together (3 + 1 = 4) and divide each number of the sharing ratio by this total to get a percentage. The sharing ratio of 3:1 means 75% ( 3/4) and 25% ( 1/4).

The journal entries to close net income or loss and allocate to the partners for each of the scenarios presented in the video would be (*remember, revenues and expenses are closed into income summary first and then net income or loss is closed into the capital accounts)*:

| Account | Debit | Credit |
|---|---|---|
| Income Summary | 70,000 | |
| Partner A, Capital | | 37,500 |
| Partner B, Capital | | 32,500 |
| To record allocation of $70,000 net income to partners. | | |
| | | |
| Income Summary | 30,000 | |

| | | |
|---|---|---|
| Partner A, Capital | | 7,500 |
| Partner B, Capital | | 22,500 |
| To record allocation of $30,000 net income to partners. | | |
| | | |
| Partner A, Capital | 22,500 | |
| Partner B, Capital | | 12,500 |
| Income Summary | | 10,000 |
| To record allocation of $10,000 net LOSS to partners. | | |

If the partners cannot or do not decide how income will be allocated, allocate it equally between the partners (for 4 partners divide net income by 4; for 3 partners divide net income by 3, etc.).

## Liquidation of a Partnership

Sometimes things do not go as well as planned in a business and it may be necessary to go out of business. When a partnership goes out of business, the following items must be completed:

- All closing entries should be completed including allocating any net income or loss to the partners.
- Any non-cash assets should be sold for cash and any gain or loss from the sale would be allocated to the partners.
- Any liabilities should be paid.
- Any remaining cash is allocated to the partners based on the capital balance in each partner's account (note: this is not an allocated figure but the actual capital balance for each partner after the other transactions).

Here is a good (but long) video demonstrating the liquidation process and the journal entries required.

Watch this video online: https://youtu.be/rqFHf2uB6og



# CHANGES TO THE PARTNERS

## Partner Withdrawal

In your partnership, you may decide to add new partners. Or, you may decide you or one of your partners need to leave the partnership. Worst case scenario is the death of one of your partners. What do you do?

For withdrawal of a partnership, either from death or choice, there are a several scenarios:

1. The individual partners pay, with their own cash and not the partnership cash, the leaving partner for a share of the leaving partner's capital account.
2. The partnership pays the leaving partner for the value of his or her capital account + a cash bonus.

3. The leaving partner pays a bonus to the remaining partners by not taking the full amount of the his or her capital balance. Any remaining balance would be allocated between the remaining partners.

This video will demonstrate the process for both scenarios and the journal entries for the first scenario.

Watch this video online: https://youtu.be/I92UrTGT6gQ

When a bonus is paid to the retiring partner using partnership cash, the capital account of the retiring partner is debited and any bonus amount is allocated to the remaining partner accounts according to their agreed upon profit and loss sharing percentages.

In the video, a partner was leaving and received a $2,000 bonus or $12,000 total cash from the partnership since his capital balance was $10,000 (let's call him S. Leavy). Two partners remain (we will call them I. Staying and M. Too) and share profits equally. The journal entry to withdrawal of S. Leavy from the partnership is:

| Account | Debit | Credit |
|---|---|---|
| S. Leavy, Capital | 10,000 | |
| I. Staying, Capital ($2000 bonus / 2) | 1,000 | |
| M. Too, Capital ($2000 bonus / 2) | 1,000 | |
| Cash | | 12,000 |
| To record bonus paid to retiring partner (S.Leavy) | | |

The last scenario in the video, a partner was leaving but decided not to take the full amount of his capital balance. S. Leavy had a capital balance of $12,000 and wants to leave the partnership by receiving $8,000 cash. Two partners remain (we will call them I. Staying and M. Too) and share profits equally. The journal entry to withdrawal of S. Leavy from the partnership is:

| Account | Debit | Credit |
|---|---|---|
| S. Leavy, Capital | 12,000 | |
| Cash | | 8,000 |
| I. Staying, Capital ($4000 bonus / 2) | | 2,000 |
| M. Too, Capital ($4000 bonus / 2) | | 2,000 |
| To record bonus paid by retiring partner (S.Leavy) | | |

## Partner Admission

A partner can be added to an existing partnership in four ways, including:

1. New partner can purchase part of the interest of another partner.
2. New partner can invest cash or other assets in the business.
3. New partner can pay a bonus to existing partners by paying more than interest percentage received.
4. New partner can receive a bonus from partnership by paying less than the interest percentage received.

We will look at each one individually including journal entries and effect on owner's capital.

1. New partner can purchase part of the interest of another partner.

Sam Sun and Roni Rain are partners. Sam has a capital balance of $100,000 and Roni $90,000. Chloe Cloud wants to join the partnership. Roni Rain has agreed to sell Chloe 1/3 of her interest in the partnership for $40,000 cash. The cash will be paid directly to Roni and not to the partnership. This will not change total partnership equity but instead 1/3 of Roni Rain's capital balance will be transferred to Chloe Cloud in the following entry:

| | Debit | Credit |
|---|---|---|
| R. Rain, Capital | 30,000 | |
| C. Cloud, Capital | | 30,000 |
| To record admittance of C. Cloud. | | |

Total partnership equity remains at $190,000 with Sam Sun having $100,000, Roni Rain $60,000 (90,000 original – 30,000 to Chloe), Chloe Cloud $30,000.

2. New partner can invest cash or other assets in the business.

In this scenario, the new partner will provide cash or other assets directly to the partnership to become an owner. Since the partnership is receiving the cash or other assets, we will record those at fair market values and there will be no change to the existing partners.

Chloe Cloud invests $50,000 cash to be come a new partner with Sam Sun and Roni Rain. Since the cash is received by the partnership, we will record this and give Chloe cloud her capital balance. The entry to record this would be:

| | Debit | Credit |
|---|---|---|
| Cash | 50,000 | |
| C. Cloud, Capital | | 50,000 |
| To record admittance of C. Cloud for cash. | | |

Assuming the same beginning facts as example 1, the new partnership equity would be $240,000 (Sam Sun $100,000; Roni Rain $90,000; Chloe Cloud $50,000).

3. New partner can pay a bonus to existing partners by paying more than interest percentage received. This occurs when the partnership has a current market value greater than the current partner's equity.

Assume Sun and Rain partnership equity is $190,000 total. Chloe Cloud will pay the partnership $85,000 cash to get a 30% interest in the business. First, we need to calculate the new value of the partnership. The new value will be existing capital $190,000 + $85,000 new partner cash for $275,000. Second, we calculate the value of a 30% interest by multiplying new capital total by 30 % (275,000 x 30% = $82,500). Third, we compare the cash paid by new partner $85,000 – to value of 30% interest $82,500 to get the bonus to the other partners of $2,500. Finally, we will divide the bonus between the partners using profit and loss sharing agreements but for ease let us assume it is divided equally ($2,500 / 2 partners = $1,250 each). We will increase each of the old partner's capital accounts by the bonus amount. The journal entry would be:

| | Debit | Credit |
|---|---|---|
| Cash (paid by Cloud) | 85,000 | |
| C. Cloud, Capital (30% interest) | | 82,500 |
| S. Sun, Capital ($2,500 bonus / 2) | | 1,250 |

| | | |
|---|---|---|
| R. Rain, Capital ($2,500 bonus / 2) | | 1,250 |
| To record admission and bonus to C. Cloud | | |

The new partnership equity would be $275,000 with Cloud added and Sun and Rain will have increased their capital by $1,250 each.  Capital balances are:  Sun $101,250; Rain $91,250; and Cloud $82,500.

4.  New partner can receive a bonus from partnership by paying less than the interest percentage received. This can occur when the new partner has a special skill or expertise needed by the partnership or the partnership just needs the cash!

Assume Sun and Rain partnership equity is $190,000 total.  Chloe Cloud will pay the partnership $42,000 cash to get a 20% interest in the business.  First, we need to calculate the new value of the partnership.  The new value will be existing capital $190,000 + $42,000 new partner cash for $232,000.  Second, we calculate the value of a 20% interest by multiplying new capital total by 20 %  (232,000 x 20% = $46,400).  Third, we compare the value of the 20% interest $46,400 –  cash paid by new partner $42,000to get the bonus to the new partner of $4,400. Finally, we will divide the bonus between the partners using profit and loss sharing agreements but for ease let us assume it is divided equally  ($4,400/ 2 partners = $2,200 each).  This bonus would reduce each of the old partner's capital balances.  The journal entry would be:

| | Debit | Credit |
|---|---|---|
| Cash (paid by Cloud) | 42,000 | |
| S. Sun, Capital  ($4,400 / 2) | 2,200 | |
| R. Rain, Capital ($4,400 / 2) | 2,200 | |
| C. Cloud, Capital | | 82,500 |
| To record admission and bonus to C. Cloud | | |

The new partnership equity would be $232,000 with Cloud added but Sun and Rain decreased their capital by $2,200 each.  Capital balances are:  Sun $97,800; Rain $87,800; and Cloud $46,400.



# EXERCISES: APPENDIX B (REVISE QUESTIONS)

SHORT-ANSWER QUESTIONS, EXERCISES, AND PROBLEMS

➢  Cite the major advantages of the corporate form of business organization and indicate why each is considered an advantage.

➢  What is meant by the statement that corporate income is subject to double taxation? Cite several other disadvantages of the corporate form of organization.

➢  Why is Organization Expense not a good title for the account that records the costs of organizing a corporation? Could you justify leaving the balance of an Organization Costs account intact throughout the life of a corporation?

➢ What are the basic rights associated with a share of capital stock if there is only one class of stock outstanding?

➢ Explain the purpose or function of: (a) the stockholders' ledger, (b) the minutes book, (c) the stock-transfer agent, and (d) the stock registrar.

➢ What are the differences between par value stock and stock with no-par value?

➢ Corporate capital stock is seldom issued for less than par value. Give two reasons why this statement is true.

➢ Explain the terms liquidation value and redemption value.

➢ What are the meanings of the terms stock preferred as to dividends and stock preferred as to assets?

➢ What do the terms cumulative and noncumulative mean in regard to preferred stock?

➢ What are dividends in arrears, and how should they be disclosed in the financial statements?

➢ A corporation has 1,000 shares of 8 per cent, $200 par value, cumulative, preferred stock outstanding. Dividends on this stock have not been declared for three years. Is the corporation legally liable to its preferred stockholders for these dividends? How should this fact be shown in the balance sheet, if at all?

➢ Explain why a corporation might issue a preferred stock that is both convertible into common stock and callable.

➢ Explain the nature of the account entitled Paid-In Capital in Excess of Par Value. Under what circumstances is this account credited?

➢ What are the two main elements of stockholders' equity in a corporation? Explain the difference between them.

➢ Name several sources of paid-in capital. Would it suffice to maintain one account called Paid-In Capital for all sources of paid-in capital? Why or why not?

➢ Does accounting for treasury stock resemble accounting for an asset? Is treasury stock an asset? If not, where is it properly shown on a balance sheet?

➢ What are some possible reasons for a corporation to reacquire its own capital stock as treasury stock?

Exercises

Exercise A Kelly Green and Rose Violet form a partnership. Kelly contributes $130,000 cash and Rose contributes equipment worth $20,000 and a building worth $150,000. The building has a mortgage of $70,000 that will now be paid by the partnership. Write the required journal entries for each partner's investment.

Exercise B Partner Z withdraws cash of $25,000 and Partner Y withdraws $18,000. Write the journal entries required to record each partner's withdrawal.

Exercise C Partner Z withdraws cash of $25,000 and Partner Y withdraws $18,000. Write the journal entries required to record each partner's withdrawal.

Exercise D Sonny Shade, Roni Rain, and Chloe Cloud form the Stormy Season partnership. Sonny has a capital balance of $200,000; Roni $300,000; and Chloe $600,000. Income and loss allocated based on (1) salaries given to Sonny $70,000, Roni $40,000 and Chloe $20,000; (2) 10% interest based on their capital balances; (3) remainder divided equally. Calculate the amount of net income to be allocated to each partner if net income is $255,000.

Exercise E Assume the same facts as in Exercise ? but instead of net income there is a net loss of $45,000. Calculate the amount of net loss to be allocated to each partner and the required journal entry to close income summary.

**Exercise F** Gordon Company issued 10,000 shares of common stock for $1,120,000 cash. The common stock has a par value of $100 per share. Give the journal entry for the stock issuance.

**Exercise G** Thore Company issued 30,000 shares of $20 par value common stock for $680,000. What is the journal entry for this transaction? What would the journal entry be if the common stock had no-par or stated value?

**Exercise H** Li & Tu, Inc., needed land for a plant site. It issued 100 shares of $480 par value common stock to the incorporators of their corporation in exchange for land, which cost $56,000 one year ago. Experienced appraisers recently valued the land at $72,000. What journal entry would be appropriate to record the acquisition of the land?

**Exercise I** Smart Corporation owes a trade creditor $30,000 on open account which the corporation does not have sufficient cash to pay. The trade creditor suggests that Smart Corporation issue to him 750 shares of the $24 par value common stock, which is currently selling on the market at $40. Present the entry or entries that should be made on Smart Corporation's books.

**Exercise J** Why would a law firm ever consider accepting stock of a new corporation having a total par value of $320,000 as payment in full of a $480,000 bill for legal services rendered? If such a transaction occurred, give the journal entry the issuing company would make on its books.

**Exercise K** Kelly Company had outstanding 50,000 shares of $20 stated value common stock, all issued at $24 per share, and had retained earnings of $800,000. The company reacquired 2,000 shares of its stock for cash at book value from the widow of a deceased stockholder.

1. Give the entry to record the reacquisition of the stock.
2. Give the entry to record the subsequent reissuance of this stock at $50 per share.
3. Give the entry required if the stock is instead reissued at $30 per share and there were no prior treasury stock transactions.

## Problems

**Problem A** LMN Partnership consists of capital balances for Partner L $425,000, Partner M $150,000 and Partner N $325,000. Calculate the amount of net income (or loss) to be allocated to each partner and the required journal entry to close income summary for each independent situation below. Net income for the year is $240,000.

1. Net Income is divided equally
2. Net Income is divided based on a percentage of capital balance
3. Net income is allocated giving salaries of $50,000 to Partner L and $30,000 to Partner N. Each partner receives 10% of their capital balance and any remainder is divided equally.
4. Assume the same facts as 3 above but there is a net loss of $4,000 instead of net income.

**Problem B** The PQ partnership is not going well and the partners have decided to liquidate the business. The partners share income and loss in a ratio of 2:1. The balance sheet for the business is listed below:

| | | | |
|---|---|---|---|
| **PQ Company** | | | |
| **Balance Sheet** | | | |
| **Assets** | | **Liabilities and Equity** | |
| Cash | 50,000 | Accounts Payable | 500,000 |
| Building | 800,000 | Partner P, Capital | 170,000 |
| | | Partner Q, Capital | 180,000 |
| Total Assets | 850,000 | Total Liab. and Equity | 850,000 |

Prepare the liquidation schedule and all required journal entries for the liquidation assuming the building is sold for $650,000 cash.

**Problem C** The bookkeeper of Hart Company has prepared the following incorrect statement of stockholders' equity for the year ended 2009 December 31:

| | | |
|---|---|---|
| Stockholders' equity: | | |
| Paid-In Capital: | | |
| Preferred stock – 6%, cumulative (8,000 shares) | $1,003,200 | |
| Common stock – 50,000 shares | 2,856,000 | |
| Total paid-in capital | | $3,859,200 |
| Retained earnings | | 1,636,800 |
| Total stockholders' equity | | $5,496,000 |

The authorized stock consists of 12,000 shares of preferred stock with a $120 par value and 75,000 shares of common stock, $48 par value. The preferred stock was issued on two occasions: (1) 5,000 shares at par, and (2) 3,000 shares at $134.40 per share. The 50,000 shares of common stock were issued at $62.40 per share. Five thousand shares of treasury common stock were reacquired for $264,000. The bookkeeper deducted the cost of the treasury stock from the Common Stock account.

Prepare the correct stockholders' equity section of the balance sheet at 2009 December 31.

**Problem D** On 2008 December 27, Glade Company was authorized to issue 250,000 shares of $24 par value common stock. It then completed the following transactions:

2009

Jan. 14 Issued 45,000 shares of common stock at $30 per share for cash.

29 Gave the promoters of the corporation 25,000 shares of common stock for their services in organizing the company. The board of directors valued these services at $744,000.

19 Exchanged 50,000 shares of common stock for the following assets at the indicated fair market values:

| | |
|---|---|
| Land | $216,000 |
| Building | 528,000 |
| Machinery | 720,000 |

1. Prepare general journal entries to record the transactions.
2. Prepare the balance sheet of the company as of 2009 March 1.

**Problem E** In the corporate charter that it received on 2009 May 1, Norris Company was authorized to issue 15,000 shares of common stock. The company issued 1,000 shares immediately for $82 per share, cash.

On July 2, the company issued 100 shares of stock to a lawyer to satisfy a $8,400 bill for legal services rendered in organizing the corporation.

On July 5, the company issued 1,000 shares to the principal promoter of the corporation in exchange for a patent. Another 200 shares were issued to this same person for costs incurred and services rendered in bringing the corporation into existence. The market value of the stock was $84 per share.

1. Set up T-accounts, and post these transactions. Then prepare a balance sheet for the Norris Company as of 2009 July 5, assuming the authorized stock has a par value of $75 per share.
2. Repeat part (a) for the stockholders' equity accounts, and prepare the stockholders' equity section of the July 5 balance sheet assuming the stock authorized has no par value but has a $30 per share stated value.
3. Repeat part (a) for the stockholders' equity accounts assuming the stock authorized has neither par nor stated value. Prepare the stockholders' equity section of the balance sheet.

**Problem F** On 2009 May 1, Farmington Company received a charter that authorized it to issue:

- 4,000 shares of no-par preferred stock to which a stated value of $12 per share is assigned. The stock is entitled to a cumulative dividend of $9.60, convertible into two shares of common stock, callable at $208, and entitled to $200 per share in liquidation.
- 1,500 shares of $400 par value, $20 cumulative preferred stock, which is callable at $420 and entitled to $412 in liquidation.
- 60,000 shares of no-par common stock to which a stated value of $40 is assigned.

May 1 All of the $9.60 cumulative preferred was issued at $204 per share, cash.

2 All of the $20 cumulative preferred was exchanged for merchandise inventory, land, and buildings valued at $128,000, $160,000, and $425,000, respectively.

3 Cash of $15,000 was paid to reimburse promoters for costs incurred for accounting, legal, and printing services. In addition, 1,000 shares of common stock were issued to the promoters for their services. The value of all of the services (including those paid in cash) was $55,000.

1. Prepare journal entries for these transactions.
2. Assume that retained earnings were $200,000. Prepare the stockholders' equity section of the 2009 May 31, balance sheet.

**Problem G** On 2008 January 2, the King Company received its charter. It issued all of its authorized 3,000 shares of no-par preferred stock at $104 and all of its 12,000 authorized shares of no-par common stock at $40 per share. The preferred stock has a stated value of $50 per share, is entitled to a basic cumulative dividend of $6 per share, is callable at $106 beginning in 2010, and is entitled to $100 per share plus cumulative dividends in the event of liquidation. The common stock has a stated value of $10 per share.

On 2009 December 31, the end of the second year of operations, retained earnings were $90,000. No dividends have been declared or paid on either class of stock.

Prepare the stockholders' equity section of King Company's 2009 December 31, balance sheet.

**Alternate problems**

**Alternate problem A** The trial balance of Dex Corporation as of 2009 December 31, contains the following selected balances:

| | |
|---|---|
| Notes payable (17%, due 2011 May 1) | $4,000,000 |
| Allowance for uncollectible accounts | 60,000 |
| Common stock (without par value, $20 stated value; 300,000 shares authorized, issued, and outstanding) | 6,000,000 |
| Retained earnings, unappropriated | 500,000 |
| Dividends payable (in cash, declared December 15 on preferred stock) | 14,000 |

| | |
|---|---|
| Appropriation for pending litigation | 600,000 |
| Preferred stock (6%, $200 par value; 3,000 shares authorized, issued, and outstanding) | 600,000 |
| Paid-In Capital – Donations | 400,000 |
| Paid-In Capital in Excess of Par Value – Preferred | 10,000 |

Present the stockholders' equity section of the balance sheet as of 2009 December 31.

**Alternate problem B** On 2009 January 1, Cowling Company was authorized to issue 500,000 shares of $5 par value common stock. It then completed the following transactions:

2009

Jan. 14 Issued 90,000 shares of common stock at $24 per share for cash.

29 Gave the promoters of the corporation 50,000 shares of common stock for their services in organizing the company. The board of directors valued these services at $620,000.

Feb. 19 Exchanged 100,000 shares of common stock for the following assets at the indicated fair market values:

| | |
|---|---|
| Equipment | $180,000 |
| Building | 440,000 |
| Land | 600,000 |

1. Prepare general journal entries to record the transactions.
2. Prepare the balance sheet of the company as of 2009 March 1.

**Alternate problem C** On 2009 July 3, Barr Company was authorized to issue 15,000 shares of common stock; 3,000 shares were issued immediately to the incorporators of the company for cash at $320 per share. On July 5 of that year, an additional 300 shares were issued to the incorporators for services rendered in organizing the company. The board valued these services at $96,000. On 2009 July 6, legal and printing costs of $12,000 were paid. These costs related to securing the corporate charter and the stock certificates.

1. Set up T-accounts and post these transactions. Then prepare the balance sheet of the Barr Company as of the close of 2009 July 10, assuming the authorized stock has a $160 par value.
2. Repeat (a) for the T-accounts involving stockholders' equity, assuming the stock is no-par stock with a $240 stated value. Prepare the stockholders' equity section of the balance sheet.
3. Repeat (a) for the T-accounts involving stockholders' equity, assuming the stock is no-par stock with no stated value. Prepare the stockholders' equity section of the balance sheet.

**Alternate problem D** Tempo Company received its charter on 2009 April 1, authorizing it to issue: (1) 10,000 shares of $400 par value, $32 cumulative, convertible preferred stock; (2) 10,000 shares of $12 cumulative no-par preferred stock having a stated value of $20 per share and a liquidation value of $100 per share; and (3) 100,000 shares of no-par common stock without a stated value.

On April 2, incorporators of the corporation acquired 50,000 shares of the common stock for cash at $80 per share, and 200 shares were issued to an attorney for services rendered in organizing the corporation. On April 3, the company issued all of its authorized shares of $32 convertible preferred stock for land valued at $1,600,000 and a building valued at $4,800,000. The property was subject to a mortgage of $2,400,000. On April 8, the company issued 5,000 shares of the $12 preferred stock in exchange for a patent valued at $1,040,000. On April 10, the company issued 1,000 shares of common stock for cash at $80 per share.

1. Prepare general journal entries for these transactions.
2. Prepare the stockholders' equity section of the 2009 April 30, balance sheet. Assume retained earnings were $80,000.

3. Assume that each share of the $32 convertible preferred stock is convertible into six shares of common stock and that one-half of the preferred is converted on 2009 September 1. Give the required journal entry.

**Alternate problem E** Kane Company issued all of its 5,000 shares of authorized preferred stock on 2008 January 1, at $100 per share. The preferred stock is no-par stock, has a stated value of $5 per share, is entitled to a cumulative basic preference dividend of $6 per share, is callable at $110 beginning in 2009, and is entitled to $100 per share in liquidation plus cumulative dividends. On this same date, Kane also issued 10,000 authorized shares of no-par common stock with a $10 stated value at $50 per share.

On 2009 December 31, the end of its second year of operations, the company's retained earnings amounted to $160,000. No dividends have been declared or paid on either class of stock since the date of issue.

Prepare the stockholders' equity section of Kane Company's 2009 December 31, balance sheet.

## Beyond the numbers—Critical thinking

**Business decision case A** Rudd Company and Clay Company have extremely stable net income amounts of $4,800,000 and $3,200,000, respectively. Both companies distribute all their net income as dividends each year. Rudd Company has 100,000 shares of $80 par value, 6 per cent preferred stock, and 500,000 shares of $8 par value common stock outstanding. Clay Company has 50,000 shares of $40 par value, 8 per cent preferred stock, and 400,000 shares of $8 par value common stock outstanding. Both preferred stocks are cumulative.

1. Compute the annual dividend per share of preferred stock and per share of common stock for each company.
2. Based solely on the preceding information, which common stock would you predict to have the higher market price per share? Why?
3. Which company's stock would you buy? Why?

**Business decision case B** Jesse Waltrip recently inherited $480,000 cash that he wishes to invest in the common stock of either the West Corporation or the East Corporation. Both corporations have manufactured the same types of products for five years. The stockholders' equity sections of the two corporations' latest balance sheets follow:

| | | |
|---|---|---|
| WEST CORPORATION | | |
| Stockholders' equity: | | |
| Paid-in capital: | | |
| Common stock—$125 par value, 30,000 shares | | |
| authorized, issued and outstanding | | $3,750,000 |
| Retained earnings | | 3,450,000 |
| Total stockholders' equity | | $7,200,000 |
| EAST CORPORATION | | |
| Stockholders' equity: | | |
| Paid-in capital: | | |
| Preferred stock—8%, $500 par value, cumulative 4,000 shares | | |

| | | |
|---|---|---|
| authorized, issued and outstanding | $2,000,000 | |
| Common stock—$125 par value, 40,000 shares authorized, | | |
| issued and outstanding | 5,000,000 | $7,000,000 |
| Retained earnings | | 560,000 |
| Total stockholders' equity | | $7,560,000 |

The West Corporation has paid a cash dividend of $6 per share each year since its creation; its common stock is currently selling for $590 per share. The East Corporation's common stock is currently selling for $480 per share. The current year's dividend and three prior years' dividends on the preferred stock are in arrears. The preferred stock has a liquidation value of $600 per share.

1. What is the book value per share of the West Corporation common stock and the East Corporation common stock? Is book value the major determinant of market value of the stock?
2. Based solely on the previous information, which investment would you recommend to Waltrip? Why?

Annual report analysis C Determine the 2003 return on average common stockholders' equity for The Limited in the Annual report appendix. Explain in writing why this information is important to managers, investors, and creditors.

Ethics case D Refer to the ethics case concerning Joe Morrison to answer the following questions:

1. Which alternative would benefit the company and its management over the next several years?
2. Which alternative would benefit society?
3. If you were Morrison, which side of the argument would you take?

Group project E In teams of two or three students, examine the annual reports of three companies and calculate each company's return on common shareholders' equity for the most recent two years. At least two years are needed to observe any changes. As a team, decide in which of the three companies you would invest. Appoint a spokesperson for the team to explain to the class which company the team would invest in and why.

Group project F In a team of two or three students, locate the annual reports of three companies that have preferred stock in their stockholders' equity section. Determine the features of the preferred stock. Analyze the data in the annual report to determine whether dividends have been paid on the preferred stock each year. Are there dividends in arrears? Write a report to your instructor summarizing your findings. Also be prepared to make a short presentation to the class.

Group project G In a group of one or two students, contact state officials and/or consult library resources to inquire about the incorporation laws in your state. Determine your state laws regarding the issuance of stock at an amount below par value, how legal capital is determined, and the requirements and government fees for incorporating a company in your state. Write a report to your instructor summarizing the results of your investigation and be prepared to make a short presentation to your class.

Using the Internet—A view of the real world

Visit the following website for Macromedia:

http://www.macromedia.com

Pursue choices on the screen until you locate the consolidated statement of stockholders' equity. You will probably go down some "false paths" to get to this financial statement, but you can get there. This experience is all part of learning to use the Internet. Note the changes that have occurred in the Common Stock, Additional Paid-In Capital, and Retained Earnings accounts. Check out the notes to the financial statements for further information. Write a memo to your instructor summarizing your findings.

Visit the following website for Gartner Group:

http://www.gartner.com

Pursue choices on the screen until you locate the consolidated statement of stockholders' equity. You will probably go down some "false paths" to get to this financial statement, but you can get there. This experience is all part of learning to use the Internet. Trace the changes that have occurred in the last three years in the Common Stock account. Check out the notes to the financial statements for further information. Write a memo to your instructor summarizing your findings.

1. [1]Some corporations have eliminated the preemptive right because the preemptive right makes it difficult to issue large blocks of stock to the stockholders of another corporation to acquire that corporation.