Introduction to Financial Accounting

SEVENTH EDITION

HORNGREN SUNDEM ELLIOTT

Introduction to Financial Accounting

Seventh Edition

Charles T. Horngren
Stanford University

Gary L. Sundem
University of Washington—Seattle

John A. Elliott
Cornell University

Prentice Hall, *Upper Saddle River, NJ 07458*

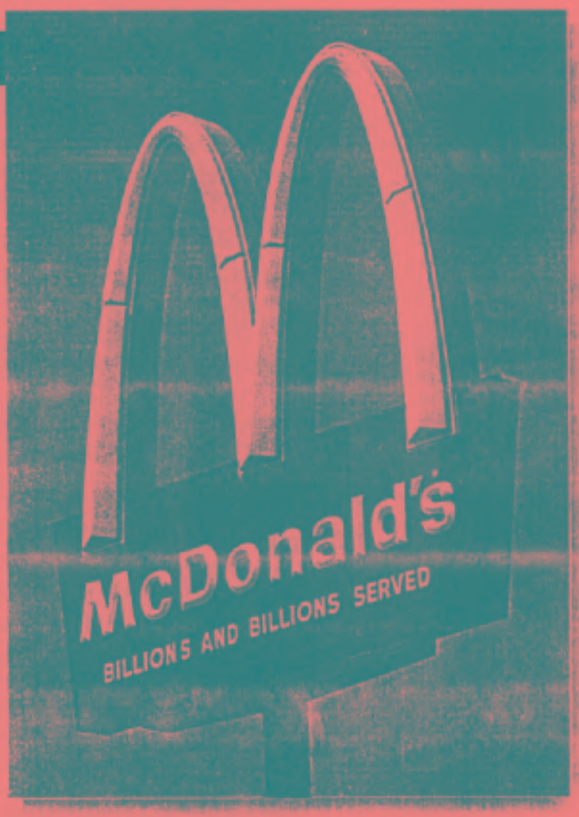
Brief Contents

CONTENTS

Chapter

1

ACCOUNTING: THE LANGUAGE OF BUSINESS



The World's most recognized arches are associated with more than 21,000 locations in more than 100 countries.

who wanted to open similar burger stands around the country. A persistent man, Kroc convinced the McDonald brothers to allow him to sell franchises. Kroc's golden opportunity became the golden arches, and a small California burger stand became one of the world's strongest marketing engines. Today McDonald's has become one of the most recognized brand names in the world, mostly by sticking to the strategy worked out years ago using accounting information.

accounting The process of identifying, recording, summarizing, and reporting economic information to decision makers.

financial accounting The field of accounting that serves external decision makers, such as stockholders, suppliers, banks, and government agencies.

Objective 1
Explain how accounting information assists in making decisions.

This book is an introduction to financial accounting. **Accounting** is a process of identifying, recording, summarizing and reporting economic information to decision makers. **Financial accounting** focuses on the specific needs of decision makers external to the organization such as stockholders, suppliers, banks, and government agencies. So you probably expect to see a bunch of rules and procedures about how to record financial information and how to report it to investors. Well, you are correct. You will see all of those. But our philosophy about financial accounting goes beyond rules and procedures. To use your financial accounting training effectively you must also understand the underlying business transactions that give rise to the economic information and why the information is helpful in making the financial decisions.

We hope it is true that you want to know about how businesses work. When you understand that McDonald's sales information by product helped its management make reporting decisions about what products to sell, you will see why we track sales and profitability by product line. Outside investors and internal marketing experts all need this information.

Our goal is to help you understand business transactions. We also want you to know how business transactions create accounting information and how decision makers both inside the company (managers) and outside the company (investors) use this information in deciding how, when, and what to buy or sell. By the end of this course you will understand business transactions, how to record those transactions, and how accountants combine those transactions to create financial reports that decision makers can use. In the process you will get to know some of the world's premier companies. You may wonder about what it costs to develop a theme park such as Disney World. Are these parks worth that kind of huge investment? How many people visit these Disney destinations each year? Can Disney keep track of them all, and are there enough visitors to make the parks profitable? If an investor considers purchasing Disney stock, what does she need to know to decide that the current price is a good one? We cannot answer *every* such question you might ask, but we will explore some exiting aspects of business and use business examples to illustrate the uses of accounting information.

In pursuing actual business examples, we will consider details about many of the 30 companies in the Dow Jones Industrial Average (the DOW), the most commonly reported stock market index in the world. Disney and McDonald's are both among these 30 companies along with many other large, familiar companies listed in Exhibit 1-1. We will also consider some smaller, younger, and faster growing companies such as Timberland, Boston Market, and The Gap. For now, we will start with the basics.

THE NATURE OF ACCOUNTING

Accounting organizes and summarizes economic information so that decision makers can use it. The information is presented in reports called *financial statements*. To prepare these statements, accountants analyze, record, quantify, accumulate, summarize, classify, report, and interpret economic events and their financial effects on the organization.

Exhibit 1-1

Dow Industrials

Assets and Owners' Equity, Fall 1997 ($ in millions)

Company Name	Total Assets	Total Owners' Equity
Allied Signal, Inc.	12,829.000	4,180.000
Aluminum Co. of America	13,449.898	4,462.394
American Express	108,512.000	8,528.000
AT&T Corp.	55,552.000	20,295.000
Boeing Co.	27,254.000	10,941.000
Caterpillar, Inc.	18,728.000	4,115.996
Chevron Corp.	34,854.000	15,623.000
Coca-Cola Co.	16,161.000	6,156.000
Disney	37,306.000	16,086.000
Du Pont (E I) De Nemours	37,987.000	10,709.000
Eastman Kodak Co.	14,438.000	4,734.000
Exxon Corp.	95,527.000	43,542.000
General Electric Co.	272,402.000	31,125.000
General Motors Corp.	222,142.000	23,418.000
Goodyear Tire & Rubber Co.	9,671.796	3,279.100
Hewlett-Packard Co.	27,699.000	13,438.000
Int'l Business Machines Corp.	81,132.000	21,628.000
Int'l Paper Co.	28,252.000	9,344.000
Johnson & Johnson	20,010.000	10,836.000
McDonald's Corp.	17,386.000	8,718.191
Merck & Co.	24,293.098	11,970.500
Minnesota Mining & Mfg. Co.	13,364.000	6,284.000
Morgan (J P) & Co.	222,026.000	11,432.000
Philip Morris Cos. Inc.	54,871.000	14,218.000
Procter & Gamble Co.	27,544.000	12,046.000
Sears Roebuck & Co.	36,167.000	4,945.000
Travelers Group, Inc.	151,067.000	13,214.000
Union Carbide Corp.	6,546.000	2,167.000
United Technologies Corp.	16,745.000	4,740.000
Wal-Mart Stores	39,604.000	17,143.000

The series of steps involved in initially recording information and converting it into financial statements is called the *accounting system*. The exact form of the statements produced by the accounting system can be adjusted to meet the needs of the decision makers who use the information. The accounting systems themselves are actually designed based on the types of information desired by managers and other decision makers. Accountants analyze the needs of these decision makers and create the accounting system that best meets those needs. Bookkeepers and computers then perform the routine tasks of collecting and compiling economic information. Although some accounting systems may be highly complex and require the skills and talents of many people, the real value of any accounting system lies in the information it provides.

Consider the accounting system at your school. It collects information about tuition charges and payments and tracks the status of each student. Your school must be able to bill individuals whose balances are unpaid. It must be able to schedule courses and hire faculty to meet the course demands of students. It must ensure that tuition and other cash

inflows are sufficient to pay the faculty and keep the buildings warm (or cool) and well lit. If your experience is like most students, you can find some flaws with your school's accounting system. Perhaps there are too many waiting lines at registration or too many complicated procedures in filing for financial aid that appear to have no purpose. If you are lucky, you have experienced electronic registration for courses and made all of your tuition payments in response to bills received in the mail. The right information system can make the difference.

Note that the various information systems used by your school for registration and billing may be separate or integrated. We have referred to an accounting system, and certainly the billing and collections portion constitute accounting information. The course registration system may be separate from the accounting system at some schools. At these schools you might have to show a paid tuition bill in order to be permitted to register. At other schools the course registration system might create billings for courses on a credit hour basis and students who do not pay will be dropped during the semester. Increasingly, the lines between various information systems are blurring.

Every business maintains an accounting system, from the store where you bought this book to the company that issued the credit card you used to pay. Mastercard and Visa maintain very fast, very complicated accounting systems. At any moment, thousands of credit card transactions are occurring around the globe, and accounting systems are keeping track of them all. When you use your charge card, it is read electronically and linked to the cash register, which transmits the transaction amount over phone lines to the card company's central computer. The computer checks to make sure that your charges are within acceptable limits and approves or denies the transaction. At the same time the computer also conducts some fairly careful security checks. For example, if your credit card were being used simultaneously to buy groceries in Ithaca and to make long distance phone calls in Korea, the credit card computer might sense that something is wrong and require you to call a customer service representative before the charges were approved. Without reliable accounting systems, credit cards simply could not exist.

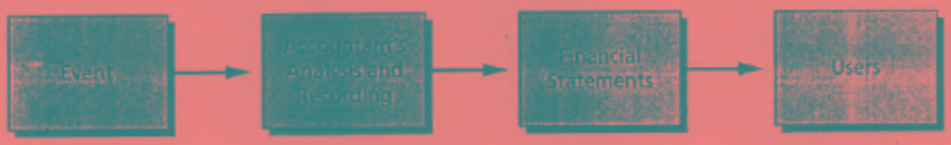
Accounting as an Aid to Decision Making

Accounting information is useful to anyone who must make decisions that have economic consequences. Such decision makers include managers, owners, investors, and politicians. For example,

- When the engineering department of Apple Computer develops a new personal computer, an accountant develops a report on the potential profitability of the product, including estimated sales and estimated production and selling costs. Managers use the report to help decide whether to produce and market the product.
- Jill runs a small consulting firm and has five employees who service clients. In deciding who to promote (and who to fire), Jill produces reports each month of the productivity of each employee and compares productivity to the salary and other costs associated with the employees' work for the month.
- An investor considering buying stock in either General Motors or Volvo would consult published accounting reports to compare the most recent financial results of the companies. The information in the reports helps her decide which company would be the better investment choice.
- A senator debating a new low-income housing plan needs to know how the proposed plan will affect the country's budget. Accounting information shows how much the plan will cost and where the money will come from.
- A lender considering a loan to a company that wants to expand would examine the historical performance of the company and projections the company provided about how the borrowed funds will be used to produce new business.

Accounting helps decision making by showing where and when money has been spent and commitments have been made, by evaluating performance, and by indicating the financial implications of choosing one plan rather than another. Accounting also helps predict the future effects of decisions, and it helps direct attention to current problems, imperfections, and inefficiencies, as well as opportunities.

Consider some basic relationships in the decision-making process:



Our focus includes all four boxes. All financial accounting courses cover analysis and recording and preparing financial statements. We will pay more attention to the underlying business process and to the way in which the financial reports help decision makers to take action.

Financial and Management Accounting

The financial statements discussed in this book are common to all areas of accounting. "Financial accounting" is often distinguished from "management accounting." The major distinction between them is their use by two different classes of decision makers. The field of financial accounting serves external decision makers, such as stockholders, suppliers, banks, and government agencies. **Management accounting** serves internal decision makers, such as top executives, department heads, college deans, hospital administrators, and people at other management levels within an organization.[1] The two fields of accounting share many of the same procedures for analyzing and recording the effect of individual transactions.

management accounting The field of accounting that serves internal decision makers, such as top executives, department heads, college deans, hospital administrators, and people at other management levels within an organization.

The primary questions regarding a firm's financial success that decision makers want answered are:

What is the financial picture of the organization on a given day?

How well did it do during a given period?

The accountant answers these questions with three major financial statements: balance sheet, income statement, and statement of cash flows. The balance sheet focuses on the financial picture as of a given day. The other financial statements focus on the performance over time.

The most common source of financial information used by investors and managers is the annual report. The **annual report** is a document prepared by management and distributed to current and potential investors to inform them about the company's past performance and future prospects. Firms distribute their annual report to stockholders automatically. Interested investors may request the report by calling the investor relations department of the company.

annual report A combination of financial statements, management discussion and analysis, and graphs and charts that is provided annually to investors.

You may want to skim over The Gap's annual report in Appendix A to see how firms use photographs and charts extensively to communicate their message. Also, in addition to the financial statements, annual reports include:

1. A letter from corporate management
2. A discussion and analysis of recent economic events by management

[1] *For a book-length presentation of the field, see Charles T. Horngren, Gary L. Sundem, and William O. Stratton,* Introduction to Management Accounting, *11th ed. (Upper Saddle River, NJ: Prentice Hall, 1999), the companion volume to this textbook.*

Evaluating the Annual Report

The *New York Times* recently assessed and graded the "Letters to Shareholders" that many companies use in their annual reports to reflect on the year's performance. First Chicago, a major bank, was given a grade of D. They suffered a 14% decline in performance but did not explain the reasons clearly. The chairman reported the "trading results were significantly lower, due largely to very difficult market conditions." In other words, times were hard because times were hard.

This was also the year in which Intel, the computer chip producer, experienced grave difficulties. They discovered that their Pentium computer chip made an infrequent, but predictable, mistake in certain calculations. At first they claimed that the mistake was very rare and should only worry rocket scientists. Their large user base responded angrily, and they gradually moved to a policy of complete replacement of the faulty chip. The financial consequences were significant, costing Intel about $475 million. And, as you will discover in this book, the financial statements will explain this process to educated readers. Intel evaluated its actions in the management letter in its annual report. Chairman Gordon Moore reported that "1994 was the best of times—and the worst of times. We received a crash course in consumer relations." Forthright confrontation of the problem and a direct explanation in their management letter earned Intel an "A" from The *New York Times*.

Sometimes the cover or format of the annual report says something about the company. In 1996 IBM issued its annual report on a CD and also made it available on the Internet. Could there be a more perfect marriage of communication, product emphasis, and corporate identity! A few companies are taking a minimalist approach. Can you imagine a corporation issuing an annual report without including the name of the corporation on the cover? Picture a black and white billboard. The background is white. A black silhouette of a beverage bottle appears above the caption, "Quick. Name a soft drink." If you thought Coca-Cola, you are right. If we reproduced the shape of the bottle for you, black against the white background, you too would probably know it was not Pepsi.

Ultimately, the annual report is both an informational document and a marketing document. In this accounting class we will prepare you to understand the information in the financial statements and in the management's analysis in the annual report. We will leave the decisions about the cover and about which photographs to use in the annual report to our colleagues who teach other courses.

Source: From Patrice Duggan Samuels, "Annual Reports: Upfront and Unstarched," The *New York Times*, April 9, 1995, page 15.

3. Footnotes that explain many elements of the financial statements in more detail
4. The report of the independent auditors
5. A statement of management's responsibility for preparation of the financial statements
6. Other corporate information

Although all of the annual report is important, we will concentrate on the principal financial statements and how accountants collect and report this information.

THE BALANCE SHEET

balance sheet (statement of financial position, statement of financial condition) A financial statement that shows the financial status of a business entity at a particular instant in time.

One of the major financial statements prepared by the accounting system is the **balance sheet,** which shows the financial status of a company at a particular instant in time. The balance sheet has two counterbalancing sections. The left side lists assets, which represent the resources of the firm (everything the firm owns and controls—from cash to buildings, and so on). The right side lists liabilities and owners' equity, which represent the sources of resources used to acquire the assets. Liabilities and owners' equity might be thought of as claims against the resources.

Although *balance sheet* is a widely used term, it is not as descriptive as its newer substitute terms: **statement of financial position** or **statement of financial condition.** But old terms die hard, so balance sheet will be used in this book.

Objective 2
Describe the components of the balance sheet.

To illustrate the balance sheet, suppose George Smith, a salaried employee of a local bicycle company, quits his job and opens his own bicycle shop. Smith has heard about the troubles of new businesses that lack money, so he invests plenty: $400,000. Then Smith, acting for the business (which he names Biwheels Company), borrows $100,000 from a local bank for business purposes. That gives Biwheels $500,000 in assets, all currently in the form of cash. The opening balance sheet of this new business enterprise follows:

Biwheels Company
Balance Sheet December 31, 19X1

Assets		Liabilities and Owners' Equity	
Cash	$500,000	Liabilities (note payable)	$100,000
		Smith, capital	400,000
Total assets	$500,000	Total liabilities and owners' equity	$500,000

The elements in this balance sheet show the financial status of the Biwheels Company as of December 31, 19X1. The company's assets at this point in time ($500,000) are listed on the left. They are balanced on the right by an equal amount of liability and owners' equity ($100,000 liability owed to the bank plus $400,000 paid in by Smith).

Because the balance sheet shows the financial status at a particular point in time, it is always dated. Also, the left and right sides are always kept in balance (thus the name balance sheet). The elements in the balance sheet form the **balance sheet equation:**

balance sheet equation Assets = Liabilities + Owners' equity

$$\text{Assets} = \text{Liabilities} + \text{Owners' equity}$$

The terms in this equation are specifically defined as follows:

Assets are economic resources that are expected to increase or cause future cash inflows or reduce or prevent future cash outflows. Examples are cash, inventories, and equipment.

assets Economic resources that are expected to benefit future cash inflows or help reduce future cash outflows.

Liabilities are economic obligations of the organization to outsiders, or claims against its assets by outsiders. An example is a debt to a bank. When a company takes out a loan or other type of liability, a promissory note that states the terms of repayment is usually exchanged. Accountants use the term **notes payable** to describe the existence of promissory notes.

liabilities Economic obligations of the organization to outsiders, or claims against its assets by outsiders.

notes payable Promissory notes that are evidence of a debt and state the terms of payment.

Owners' equity is the residual interest in, or remaining claims against, the organization's assets after deducting liabilities. When the business is first started, the owners' equity is measured by the total amount invested by the owners. As illustrated by "Smith, capital" in the Biwheels Company example, the accountant often uses the term capital instead of owners' equity to designate an owner's investment in the business. The residual, or "leftover," nature of owners' equity is often emphasized by reexpressing the balance sheet equation as follows:

owners' equity The residual interest in the organization's assets after deducting liabilities.

$$\text{Owners' equity} = \text{Assets} - \text{Liabilities}$$

BALANCE SHEET TRANSACTIONS

Balance sheets are affected by every transaction that a company, or an entity, has. An **entity** is an organization or a section of an organization that stands apart from other organizations and individuals as a separate economic unit. A **transaction** is any event that both affects the financial position of an entity and can be reliably recorded in money terms. Each transaction has counterbalancing entries on the balance sheet so that the total assets always equal the total liabilities and owners' equity. That is, the equality of the balance sheet equation is maintained for every transaction. An accountant who prepares a balance sheet that does not balance has made a mistake somewhere because the balance sheet must balance.

entity An organization or a section of an organization that stands apart from other organizations and individuals as a separate economic unit.

transaction Any event that both affects the financial position of an entity and can be reliably recorded in money terms.

Objective 3
Analyze business transactions and relate them to changes in the balance sheet.

Let's take a look at some transactions of Biwheels Company to see how typical transactions affect the balance sheet.

TRANSACTION 1, INITIAL INVESTMENT. The first Biwheels transaction was the investment by the owner on December 31, 19X1. Smith deposited $400,000 in a business bank account entitled Biwheels Company. The accounting equation is affected as follows:

	Assets	=	Liabilities	+	Owners' Equity
	Cash				*Smith, Capital*
(1)	+ 400,000	=			+ 400,000 (owner investment)

This transaction increases both the assets, specifically Cash, and the owners' equity of the business, specifically Smith, Capital. Liabilities are unaffected. Why? Because Smith's business has no obligation to an outside party because of this transaction. A parenthetical note, "owner investment," is used to identify the reason for the transaction's effect on owners' equity. The total amounts on the left side of the equation are equal to the total amounts on the right side, as they should be.

TRANSACTION 2, LOAN FROM BANK. On January 2, 19X2, Biwheels Company borrows from a bank, signing a promissory note for $100,000. The $100,000 is added to the business's cash. The effect of this loan transaction on the accounting equation is:

	Assets	=	Liabilities	+	Owners' Equity
	Cash		*Note Payable*		*Smith, Capital*
(1)	+ 400,000	=			+ 400,000
(2)	+ 100,000	=	+100,000		
Bal.	500,000	=	100,000		400,000
	500,000		500,000		

The loan increases the asset, Cash, and increases the liability, Note Payable, by the same amount, $100,000. After the transaction is completed, Biwheels has assets of $500,000, liabilities of $100,000, and owners' equity of $400,000. As always, the sums of the individual account balances (abbreviated Bal.) on each side of the equation are equal.

TRANSACTION 3, ACQUIRE INVENTORY FOR CASH. On January 2, 19X2, Biwheels acquires bicycles from a manufacturer for $150,000 cash.

	Assets			=	Liabilities	+	Owners' Equity
	Cash		*Merchandise Inventory*		*Note Payable*		*Smith, Capital*
Bal.	500,000			=	100,000		400,000
(3)	−150,000		+150,000	=			
Bal.	350,000		150,000	=	100,000		400,000
	500,000				500,000		

inventory Goods held by a company for the purpose of sale to customers.

This transaction, the cash purchase of inventory, increases one asset, Merchandise Inventory, and decreases another asset, Cash, by the same amount. **Inventory** refers to goods held by the company for the purpose of sale to customers. The form of the assets changed, but the total amount of assets is unchanged. Moreover, the right-side items are completely unchanged.

Biwheels can prepare a balance sheet at any point in time, even after every transaction. The balance sheet for January 2, after the first three transactions, would look like this:

Biwheels Company
Balance Sheet January 2, 19X2

Assets		Liabilities and Owners' Equity	
Cash	$350,000	Liabilities (note payable)	$100,000
Merchandise inventory	150,000	Smith, capital	400,000
Total assets	$500,000	Total liabilities and owners' equity	$500,000

Transaction Analysis

Accountants record transactions in an organization's accounts. An **account** is a summary record of the changes in a particular asset, liability, or owners' equity, and the *account balance* is the total of all entries to the account to date. The analysis of transactions is the heart of accounting. For each transaction, the accountant determines (1) which specific accounts are affected, (2) whether the account balances are increased or decreased, and (3) the amount of the change in each account balance.

account A summary record of the changes in a particular asset, liability, or owners' equity.

Exhibit 1-2 shows how a series of transactions may be analyzed using the balance sheet equation. The transactions are numbered for easy reference. Please examine how the first three transactions that were discussed earlier are analyzed in Exhibit 1-2.

Consider how each of the following additional transactions is analyzed:

4. Jan. 3. Biwheels buys bicycles for $10,000 from a manufacturer. The manufacturer requires $4,000 by January 10 and the balance in 30 days.
5. Jan. 4. Biwheels acquires assorted store equipment for a total of $15,000. A cash down payment of $4,000 is made. The remaining balance must be paid in 60 days.
6. Jan. 5. Biwheels sells a store showcase to a business neighbor after Smith decides he dislikes it. Its selling price, $1,000, happens to be exactly equal to its cost. The neighbor agrees to pay within 30 days.
7. Jan. 6. Biwheels returns some inventory (which had been acquired on January 3 for $800) to the manufacturer for full credit (an $800 reduction of the amount that Biwheels owes the manufacturer).
8. Jan. 10. Biwheels pays $4,000 to the manufacturer described in transaction 4.
9. Jan. 12. Biwheels collects $700 of the $1,000 owed by the business neighbor for transaction 6.

— Jan. 12. Smith remodels his home for $35,000, paying by check from his personal bank account.

Use the format in Exhibit 1-2 to analyze each transaction. Try to do your own analysis of each transaction before looking at the entries shown for it in the exhibit. For example, you could cover the numerical entries with a sheet of paper or a ruler and then proceed through each transaction, one by one.

Transaction 4, Purchase on Credit. Most purchases by various types of companies throughout the world are made on a credit basis rather than on a cash basis. An authorized signature of the buyer is usually good enough to assure payment. No formal promissory note is necessary. This practice is known as buying on **open account.** The money owed is shown on the buyer's balance sheet as an *account payable.* Thus an **account payable** is a liability that results from a purchase of goods or services on open account. As Exhibit 1-2 shows for this merchandise purchase on account, the merchandise inventory (an asset account) of Biwheels is increased and an account payable

open account Buying or selling on credit, usually by just an "authorized signature" of the buyer.

account payable A liability that results from a purchase of goods or services on open account.

Exhibit 1-2

Biwheels Company

Analysis of Transactions for December 31, 19X1–January 12, 19X2

Description of Transactions	Assets: *Cash*	+ *Accounts Receivable*	+ *Merchandise Inventory*	+ *Store Equipment*	=	Liabilities: *Note Payable*	+ *Accounts Payable*	+ Owners' Equity: *Smith, Capital*
(1) Initial investment	+400,000				=			+400,000
(2) Loan from bank	+100,000				=	+100,000		
(3) Acquire inventory for cash	−150,000		+ 150,000		=			
(4) Acquire inventory on credit			+ 10,000		=		+10,000	
(5) Acquire store equipment for cash plus credit	− 4,000			+15,000	=		+11,000	
(6) Sale of equipment		+1,000		− 1,000	=			
(7) Return of inventory acquired on January 3			− 800		=		− 800	
(8) Payments to creditors	− 4,000				=		− 4,000	
(9) Collections from debtors	+ 700	− 700						
Balance, January 12, 19X2	342,700	+ 300	+ 159,200	+ 14,000	=	100,000	+ 16,200	+ 400,000
		516,200					516,200	

(a liability account) is also increased in the amount of $10,000 to keep the equation in balance.

	Assets: *Cash*	*Merchandise Inventory*	=	Liabilities: *Note Payable*	*Accounts Payable*	+ Owners' Equity: *Smith, Capital*
Bal.	350,000	150,000	=	100,000		400,000
(4)		+10,000	=		+10,000	
Bal.	350,000	160,000	=	100,000	10,000	400,000
		510,000			510,000	

compound entry A transaction that affects more than two accounts.

TRANSACTION 5, PURCHASE FOR CASH PLUS CREDIT. This transaction illustrates a **compound entry** because it affects more than two balance sheet accounts (two asset accounts and one liability account in this case). Store equipment is increased by the full amount of its cost regardless of whether payment is made in full now, in full later, or partially now and partially later. Therefore Biwheels' Store Equipment (an asset account) is increased by $15,000, Cash (an asset account) is decreased by $4,000, and Accounts Payable (a liability account) is increased by the difference, $11,000.

	Assets: *Cash*	*Merchandise Inventory*	*Store Equipment*	=	Liabilities: *Note Payable*	*Accounts Payable*	+ Owners' Equity: *Smith, Capital*
Bal.	350,000	160,000		=	100,000	10,000	400,000
(5)	− 4,000		+15,000	=		+11,000	
Bal.	346,000	160,000	15,000	=	100,000	21,000	400,000
		521,000				521,000	

TRANSACTION 6, SALE ON CREDIT. This transaction is similar to a purchase on credit except that Biwheels is now the seller. Thus Biwheels is owed money. The cash payment that has been promised counts as an asset. Accounts Receivable (an asset account) of $1,000 is thus created, and Store Equipment (an asset account) is decreased by $1,000. In this case, the transaction affects assets only. Liabilities and owners' equity are unchanged.

	Assets				=	Liabilities		+ Owners' Equity
	Cash	*Accounts Receivable*	*Merchandise Inventory*	*Store Equipment*		*Note Payable*	*Accounts Payable*	*Smith, Capital*
Bal.	346,000		160,000	15,000	=	100,000	21,000	400,000
(6)		+1,000		−1,000	=			
Bal.	346,000	1,000	160,000	14,000	=	100,000	21,000	400,000
			521,000				521,000	

TRANSACTION 7, RETURN OF INVENTORY TO SUPPLIER. When a company returns merchandise to its suppliers for credit, its merchandise inventory account is reduced and its liabilities are reduced. In this instance, the amount of the decrease on each side of the equation is $800.

	Assets				=	Liabilities		+ Owners' Equity
	Cash	*Accounts Receivable*	*Merchandise Inventory*	*Store Equipment*		*Note Payable*	*Accounts Payable*	*Smith, Capital*
Bal.	346,000	1,000	160,000	14,000	=	100,000	21,000	400,000
(7)			− 800		=		− 800	
Bal.	346,000	1,000	159,200	14,000	=	100,000	20,200	400,000
			520,200				520,200	

TRANSACTION 8, PAYMENTS TO CREDITORS. A **creditor** is one to whom money is owed. For Biwheels, the manufacturer who supplied the bikes on credit is an example of a creditor. Payments to the manufacturer decrease both assets (Cash) and liabilities (Accounts Payable) by $4,000.

creditor A person or entity to whom money is owed.

	Assets				=	Liabilities		+ Owners' Equity
	Cash	*Accounts Receivable*	*Merchandise Inventory*	*Store Equipment*		*Note Payable*	*Accounts Payable*	*Smith, Capital*
Bal.	346,000	1,000	159,200	14,000	=	100,000	20,200	400,000
(8)	− 4,000				=		− 4,000	
Bal.	342,000	1,000	159,200	14,000	=	100,000	16,200	400,000
			516,200				516,200	

TRANSACTION 9, COLLECTIONS FROM DEBTORS. A **debtor** is one who owes money. Biwheels' business neighbor is a debtor, and Biwheels is the creditor. Collections from the neighbor increase one of Biwheels' assets (Cash) and decrease another asset (Accounts Receivable) by $700.

debtor A person or entity that owes money to another.

	Assets				=	Liabilities		+ Owners' Equity
	Cash	*Accounts Receivable*	*Merchandise Inventory*	*Store Equipment*		*Note Payable*	*Accounts Payable*	*Smith, Capital*
Bal.	342,000	1,000	159,200	14,000	=	100,000	16,200	400,000
(9)	+ 700	− 700			=			
Bal.	342,700	300	159,200	14,000	=	100,000	16,200	400,000
			516,200				516,200	

Preparing the Balance Sheet

A cumulative total may be drawn at any date for each account in Exhibit 1-2. The following balance sheet uses the totals at the bottom of Exhibit 1-2. Observe once again that a balance sheet represents the financial impact of all transactions up to a specific point in time, here January 12, 19X2.

Biwheels Company
Balance Sheet January 12, 19X2

Assets		Liabilities and Owners' Equity	
Cash	$342,700	Note payable	$100,000
Accounts receivable	300	Accounts payable	16,200
Merchandise inventory	159,200	Total liabilities	$116,200
Store equipment	14,000		
		Smith, capital	400,000
Total	$516,200	Total	$516,200

As noted earlier, Biwheels could prepare a new balance sheet after each transaction. Obviously, such a practice would be awkward and unnecessary. Therefore balance sheets are usually produced once a month.

Examples of Actual Corporate Balance Sheets

To become more familiar with the balance sheet and its equation, consider the following condensed excerpts from one actual recent financial report. Some terms vary among organizations, but the essential balance sheet equation does not.

The DuPont 1996 balance sheet shows that property, plant and equipment is a major asset for the chemical industry, accounting for more than half of total assets. Moreover, the total liabilities is greater than the amount of owners' equity. Other liabilities consist primarily of obligations to employees for future life insurance and medical benefits during retirement.

Appendix A at the end of this book contains a complete set of the actual 1996 financial statements of The Gap, Inc. As you proceed from chapter to chapter, you should examine the pertinent parts of The Gap's financial statements. In this way, you will become increasingly comfortable with actual financial reports. For example, the general format and major items in The Gap's balance sheet (Appendix A) should be familiar by now. Details will gradually become more understandable as each chapter explains the nature of the various major financial statements.

DuPont
Consolidated Balance Sheet
(Dollars in millions, except per share)

December 31	1996
Assets	
Current Assets	
Cash and Cash Equivalents	$ 1,066
Marketable Securities	253
Accounts and Notes Receivable	5,193
Other Current Assets	4,591
Total Current Assets	11,103
Property, Plant and Equipment	50,549
Less: Accumulated Depreciation, Depletion and Amortization	29,336
	21,213
Investment in Affiliates	2,278
Other Assets	3,393
Total	**$ 37,987**
Liabilities and Stockholders' Equity	
Current Liabilities	
Accounts Payable	$ 2,757
Other Liabilities	8,230
Total Current Liabilities	10,987
Long-Term Borrowings and Capital Lease Obligations	5,087
Other Liabilities	10,584
Total Liabilities	26,658
Total Stockholders' Equity	11,329
Total	**$37,987**

TYPES OF OWNERSHIP

Objective 4
Compare the features of proprietorships, partnerships, and corporations.

Although there are countless different types of companies, there are only three basic forms of ownership structures for business entities: sole proprietorships, partnerships, and corporations.

SOLE PROPRIETORSHIPS

A **sole proprietorship** is a separate organization with a single owner. Most often the owner is also the manager. Therefore sole proprietorships tend to be small retail establishments and individual professional businesses such as those of dentists, physicians, and attorneys. From an accounting viewpoint, each sole proprietorship is a separate entity that is distinct from the proprietor. Thus the cash in the dentist's business account is an asset of the dental practice, while the cash in her personal account is not.

sole proprietorship A separate organization with a single owner.

PARTNERSHIPS

A **partnership** is an organization that joins two or more individuals who act as co-owners. Many retail establishments are partnerships, and dentists, physicians, attorneys, and accountants often conduct their activities as partnerships. Partnerships can be gigantic. The largest international accounting firms have thousands of partners. Again, from an accounting viewpoint, each partnership is an individual entity that is separate from the personal activities of each partner.

partnership A form of organization that joins two or more individuals together as co-owners.

Corporations

corporation A business organization that is created by individual state laws.

limited liability A feature of the corporate form of organization whereby corporate creditors ordinarily have claims against the corporate assets only. The owners' personal assets are not subject to the creditors' grasp.

publicly owned A corporation in which shares in the ownership are sold to the public.

privately owned A corporation owned by a family, a small group of shareholders, or a single individual, in which shares of ownership are not publicly sold.

Corporations are business organizations created under state law in the United States. The most notable characteristic of a corporation is **limited liability** of the owners, which means that corporate creditors (such as banks or suppliers) ordinarily have claims against the corporate assets only. Individuals form a corporation by applying to the state for approval of the company's articles of incorporation, which include information on shares of ownership. Most large corporations are **publicly owned** in that shares in the ownership are sold to the public. The owners of the corporation are then identified as *shareholders* (or *stockholders*). Large publicly owned corporations can have thousands of shareholders. Some corporations are **privately owned** by families, small groups of shareholders, or a single individual, and shares of ownership are not publicly sold. Many states allow having only one shareholder.

In the United States, the laws governing the creation of a corporation vary from state to state. In spite of its small size, Delaware is the state in which many corporations are legally created because its rules are less restrictive than are those of most other states. In addition, its legal and incorporating fees are low and its legal system and the judges who hear business cases are experienced and efficient at resolving disputes and lawsuits. The exact rights and privileges of a corporation vary from state to state and from country to country.

Internationally, organizational forms similar to corporations are common. In the United Kingdom they are frequently indicated by the word limited (Ltd.) in the name. In many countries whose laws trace back to Spain, the initials S.A. refer to a "society anonymous" meaning that multiple unidentified owners stand behind the company. Not surprisingly, countries in the former Soviet Union are formulating legal systems that permit corporate-style companies. They are also creating markets where the owners of these companies can buy and sell their ownership interests.

Whereas the owners of proprietorships and partnerships are typically active managers of the business as well, corporate managers often own only a small part of the public corporation. Because the corporate form is the form in which the majority of U.S. business is conducted, we will use corporate accounting practice exclusively henceforth.

A Note on Nonprofit Organizations

The major focus of this book is on profit-seeking organizations, such as business firms. However, the fundamental accounting principles also apply to nonprofit (that is, not-for-profit) organizations. Managers and accountants in hospitals, universities, government agencies, and other nonprofit organizations use financial statements. Money must be raised and spent, budgets must be prepared, and financial performance must be judged. Nonprofit organizations need to use their limited resources wisely, and financial statements are essential for judging their use of resources.

Advantages and Disadvantages of the Corporate Form

The corporate form of organization has many advantages. Limited liability is foremost. If a corporation drifts into financial trouble, its creditors cannot look for repayment beyond the corporation itself. In other words, the owners' personal assets are not subject to the creditors' grasp. In contrast, the owners of proprietorships and partnerships typically have *unlimited liability*, which means that business creditors can look to the owners' personal assets for repayment. For example, if Biwheels were a partnership, each partner would bear a personal liability for full payment of the $100,000 bank loan.

Another advantage of the corporation is easy transfer of ownership. In selling shares in its ownership, the corporation usually issues **capital stock certificates** (often called simply **stock certificates**) as formal evidence of ownership. These shares may be sold and resold among present and potential owners. Numerous stock exchanges exist in the United States and worldwide where long established rules for trading facilitate daily buying and selling of shares. More than 600 million shares are bought and sold on an average day on the New York Stock Exchange (NYSE) alone. Further, trading is not limited to U.S. markets. Shares of many large U.S. firms are also traded on international exchanges such as those in Tokyo and London. And many Japanese and British firms have shares traded on the NYSE. Examples include Nissan, Toyota, and Honda from Japan, British Petroleum, and Glaxo Wellcome from the United Kingdom. The total market value of shares traded in U.S. markets is approximately $7 trillion, compared with some $1 trillion in Japan and $1.5 trillion in London.

capital stock certificate (stock certificate) Formal evidence of ownership shares in a corporation.

In contrast to proprietorships and partnerships, corporations have the advantage of ease in raising ownership capital from hundreds or thousands of potential stockholders. Indeed, AT&T has over 2 million stockholders, owning a total of over 1.6 billion shares of stock as of December 31, 1996.

The corporation also has the advantage of continuity of existence. The life of a corporation is indefinite in the sense that it continues even if its ownership changes. In contrast, proprietorships and partnerships officially terminate upon the death or complete withdrawal of an owner.

The effects of the form of ownership on income taxes may vary significantly. For example, a corporation is taxed as a separate entity (as a corporation). But no income taxes are levied on a proprietorship (as a proprietorship) or on a partnership (as a partnership). Instead the income earned by proprietorships and partnerships is attributed to the owners as personal taxpayers. In short, the income tax laws regard corporations as being taxable entities, but proprietorships or partnerships as not being taxable entities. Whether the corporate form provides tax advantages or disadvantages depends heavily on the personal tax situations of the owners.

Regardless of the economic and legal advantages or disadvantages of each type of organization, some small-business owners incorporate simply for prestige. That is, they feel more important if they can refer to "my corporation" and if they can refer to themselves as "chairman of the board" or "president" instead of "business owner" or "partner."

In terms of numbers of businesses, there are fewer corporations in the United States than there are proprietorships or partnerships. However, the corporation has far more economic significance. Corporations conduct a sheer money volume of business that dwarfs the volume of other forms of organization. Moreover, almost every reader of this book interacts with, owes money to, or invests in corporations. For these reasons, this book emphasizes the corporate form of ownership.

Accounting for Owners' Equity

The basic accounting concepts that underlie the owners' equity section of the balance sheet are the same for all three forms of ownership. However, owners' equities for proprietorships and partnerships are often identified by the word **capital.** In contrast, owners' equity for a corporation is usually called **stockholders' equity** or **shareholders' equity.** Examine the possibilities for the Biwheels Company that are shown in the accompanying table.

capital A term used to identify owners' equities for proprietorships and partnerships.

stockholders' equity (shareholders' equity) Owners' equity of a corporation. The excess of assets over liabilities of a corporation.

The accounts for the proprietorship and the partnership show owners' equity as straightforward records of the capital invested by the owners. For a corporation, though, the total capital investment by its owners, both at the start of the company and thereafter, is called **paid-in capital.** It is recorded in two parts: capital stock at par value and paid-in capital in excess of par value.

paid-in capital The total capital investment in a corporation by its owners at the inception of business and subsequently.

Owners' Equity for Different Organizations

Owners' Equity for a Proprietorship (Assume George Smith is the sole owner)	
George Smith, capital	$400,000
Owners' Equity for a Partnership *(Assume Smith has two partners)*	
George Smith, capital	$320,000
Alex Handl, capital	40,000
Susan Eastman, capital	40,000
Total partners' capital	$400,000
Owners' Equity for a Corporation	
Stockholders' equity:	
Paid-in capital:	
Capital stock, 10,000 shares issued at par value of $10 per share	$100,000
Paid-in capital in excess of par value of capital stock	300,000
Total paid-in capital	$400,000

The Meaning of Par Value

par value (stated value) The nominal dollar amount printed on stock certificates.

paid-in capital in excess of par value When issuing stock, the difference between the total amount received and the par value.

Most states require stock certificates to have some dollar amount printed on them. This amount is determined by the board of directors and is usually called **par value** or **stated value.** Typically, the stock is sold at a price that is higher than its par value. The difference between the total amount received for the stock and the par value is called **paid-in capital in excess of par value.** This distinction is of little economic importance and we introduce it here only because you will frequently encounter it in actual financial statements.

Let's take a closer look at par value by altering our Biwheels example. We will now assume that Biwheels is a corporation and that 10,000 shares of its stock have been sold for $40 per share. The par value is $10 per share, and therefore the paid-in capital in excess of par value is $30 per share. Thus, the total ownership claim of $400,000 arising from the investment is split between two equity claims, one for $100,000 "capital stock, at par" and one for $300,000 "paid-in capital in excess of par" or "additional paid-in capital."

The following formulas show these components of the total paid-in capital account:

$$\text{Total paid-in capital} = \text{Capital stock at par} + \text{Paid-in capital in excess of par}$$
$$\$400{,}000 = \$100{,}000 + \$300{,}000$$

$$\text{Capital stock at par} = \text{Number of shares issued} \times \text{Par value per share}$$
$$\$100{,}000 = 10{,}000 \times \$10$$

$$\text{Paid-in capital in excess of par} = \text{Total paid-in capital} - \text{Capital stock at par}$$
$$\$300{,}000 = \$400{,}000 - \$100{,}000$$

$$\text{Total paid-in capital} = \text{Number of shares issued} \times \text{Average issue price per share}$$
$$\$400{,}000 = 10{,}000 \times \$40$$

The following financial statement excerpts show par value and paid-in capital at work in real companies:

The Gap, Inc.
Consolidated Balance Sheets

($000)	February 1, 1997	February 3, 1996
Stockholders' Equity		
Common stock $.05 par value		
Authorized 500,000,000 shares; issued 317,864,090 and 315,971,306 shares	$ 15,895	$ 15,799
Additional paid-in capital	442,049	335,193
Retained earnings	1,938,352	1,569,347
Other	(741,826)	(279,866)
Total Stockholders' Equity	$1,654,470	$1,640,473

AT&T Corp. and Subsidiaries
Consolidated Balance Sheets

Dollars in Millions		
At December 31	*1996*	*1995*
Shareowners' Equity		
Common shares, par value $1 per share	$ 1,623	$ 1,596
Authorized shares: 2,000,000,000		
Outstanding shares: 1,623,487,646 at December 31, 1996; 1,596,005,351 at December 31, 1995		
Additional paid-in capital	15,643	16,614
Other	(49)	(249)
Retained earnings (deficit)	3,078	(687)
Total shareowners' equity	$20,295	$17,274

Note that AT&T has $1 par value common shares, while The Gap has $.05 par value common stock. Whether called common shares or **common stock**, the meaning is the same as that of "capital stock" in the discussion above. Although it would be nice to stick to one phrase at every point in this textbook, the reality is that the world is full of different words for some accounting items. One of our goals is to help you to prepare yourself for reading and understanding actual financial statements and reports. Therefore, we will use many of the various synonyms you are likely to come across when reading financial statements. Another of our goals is to identify distinctions that are important and those that are not. For example there are different par values for these companies, but these values bear no relation to the companies' market prices, as illustrated below:

common stock Stock representing the class of owners having a "residual" ownership of a corporation.

	AT&T	The Gap
Par Value	$ 1.00	$ .05
Market Value	$44.00	$52.00

The extremely small amount of par value as compared to the additional paid-in capital is common in practice and illustrates the insignificance of "par value" in today's business world. The Gap uses the frequently encountered term, "additional paid-in capital," as a short synonym for "paid-in capital in excess of par value of common stock." Finally, note that the number of "shares authorized" is the maximum number of shares that the company can issue as designated by the company's articles of incorporation.

Both AT&T and The Gap show *retained earnings* and *other* as part of their owners' equity. These values arise from various sources with the passage of time. Our current focus

is on the first two lines-common stock and additional paid-in capital. These amounts can be described accurately with a simple term, total paid-in capital. An important point about "paid-in" capital is that it shows amounts that owners actively contributed to the firm.

Individuals buy shares of stock as investments. Sometimes they purchase the stock from the company and the previous discussion describes what happens. The company records cash received and records the par value of shares issued with the excess shown as an increase in paid-in capital. But the majority of stock transactions involving purchase and sale of stock occur between individuals. When Mary sells 100 shares of DuPont to Carlos, the transaction has no effect on DuPont. Mary may have a gain if the shares are sold for more than she paid for them. She will have a loss on the sale otherwise. But this affects DuPont only in terms of keeping track of its owners. When the shares change hands, Mary will be replaced by Carlos on the corporate records as an owner, and Carlos will begin to receive the dividends on the shares and will be allowed to vote on corporate issues.

STOCKHOLDERS AND THE BOARD OF DIRECTORS

In partnerships, top management may be shared by the owners. In corporations, the ultimate responsibility for management is delegated by stockholders to the *board of directors,* as indicated in the following diagram:

An advantage of the corporate form of organization is that it separates ownership and management. Stockholders invest resources but do not need to devote time to managing, and managers can be selected for their managerial skills, not their ability to invest large sums in the firm. The board of directors is the link between stockholders and the actual managers. It is the board's duty to ensure that managers act in the interests of shareholders.

The board of directors is elected by the shareholders, but the slate of candidates is often selected by management. Sometimes, the chairman of the board is also the top manager and the major shareholder. For example, for over 30 years Henry Ford II was the major stockholder, the chairman of the board, and the chief executive officer (CEO) of the Ford Motor Company. Other top company managers, such as the president, financial vice president, and marketing vice president, are routinely elected to the board of directors of the company they manage. Therefore, the interests of both stockholders and managers are usually represented on the board of directors.

Membership on a board of directors is often extended to CEOs and presidents of other corporations, to university presidents and professors, and to attorneys. For example,

the 16-member board of General Mills recently included five General Mills managers, eight present or former CEOs of other companies, two professors, and one attorney. In many cases, these members of the board are also stockholders of the corporation. Many companies are moving toward having smaller boards of directors that include fewer members of the company's management team. For example, in 1996, IBM had an 11-member board, which included only one member of IBM's management. That member was Louis Gerstner, who took over as chief executive officer several years earlier and currently serves as chairman of the board.

CREDIBILITY AND THE ROLE OF AUDITING

Objective 5
Describe auditing and how it enhances the value of financial information.

If someone told you that smoking cigarettes was not related to the risk of lung cancer, your reaction would be based on when the conversation occurred, on who the speaker was, and on your own knowledge at the time. For instance, when Europeans arrived in North America and first witnessed the act of smoking tobacco, no one knew what lung cancer was, and no one linked disease to behavior. By the middle of the twentieth century, people understood that what you did to your body could easily make you sick, but there wasn't enough evidence about the health risks of smoking. Were people who smoked more likely to have lung cancer? By the mid-1990s, evidence showed that the answer to this question was most certainly yes, although it was not until 1997 that executives of tobacco companies acknowledged a link. Some people continue to consider the additional risk of cancer small and continue to smoke.

This little history lesson shows that when people make statements, those statements will often be affected by the position of the speaker. Tobacco executives cannot say that tobacco causes cancer for to do so would be to acknowledge prior lies and to invite lawsuits. Smokers cannot say that tobacco is really dangerous because to do so would call into question their own behavior. As listeners we discount certain claims because we know the motives of the person or organization making the claim.

Corporate managers are the ones who provide financial statements to both internal and external decision makers, and they may have incentives to make the company's performance look better than it really is. Perhaps doing so will make it easier to raise money to open new stores, or increase the managers' compensation. Managers often believe that company conditions are better than they really are because managers are optimistic about the good decisions they have made and the plans they are implementing. Investors are naturally a little suspicious of what managers tell them. The problem we face as investors is that we need to be able to rely on managers to tell the truth, but we cannot see personally what is really going on in the firm.

One way to solve this credibility problem is to introduce an honorable, expert third party. In the area of financial statements this third party is called the auditor. The **auditor** examines the information that managers use to prepare the financial statements and provides assurances about the credibility of those statements. Upon seeing the auditor's assurance that the financial statements provide a fair and accurate picture of a company's economic circumstances, investors can feel more comfortable about using the information to guide their investing activity. Another way to ensure truthful reporting by managers is by handing out stiff legal penalties for lying. A manager who knowingly misstates performance is subject to both fines and jail sentences under U.S. law.

auditor A person that examines the information used by managers to prepare the financial statements and attests to the credibility of those statements.

The Certified Public Accountant

The desire for stockholders and external parties such as banks who lend money to the firm to have third-party assurance about the credibility of financial statements gave rise naturally to a profession dedicated to that purpose. Providing credibility requires individuals

who must have both the technical knowledge to assess financial statements and determine their quality as well as the reputation for integrity and honestly telling investors and other interested parties if management has not produced fair financial statements. Enter the certified public accountant.

certified public accountant (CPA) In the United States, a person earns this designation by a combination of education, qualifying experience, and the passing of a two-day written national examination.

A **certified public accountant (CPA)** in the United States earns his or her certification by a combination of education, qualifying experience, and passing a two-day written national examination. The examination is administered and graded by a national organization, the American Institute of Certified Public Accountants (AICPA). The institute is the principal professional association in the private sector that regulates the quality of the public accounting profession. Other English-speaking nations have similar arrangements but use the term chartered accountant (CA) instead of certified public accountant.

The CPA examination covers four major topical areas: auditing, accounting theory, business law, and accounting practice. The last is a series of accounting problems covering a wide variety of topics, including income taxes, cost accounting, and accounting for nonprofit institutions.

Although the AICPA prepares and grades the CPA examination on a national basis, the individual states have their own regulations concerning the qualifications for taking and passing the examination and for earning the right to practice as a CPA. These regulations are determined and enforced by state boards of accountancy.

The Auditor's Opinion

audit An examination of transactions and financial statements made in accordance with generally accepted auditing standards.

auditor's opinion (independent opinion) A report describing the auditor's examination of transactions and financial statements. It is included with the financial statements in an annual report issued by the corporation.

To assess management's financial disclosure, public accountants conduct an **audit,** which is an examination of transactions and financial statements made in accordance with generally accepted auditing standards developed primarily by the AICPA. This audit includes miscellaneous tests of the accounting records, internal control systems, and other auditing procedures as deemed necessary. The examination is described in the **auditor's opinion** (also called an **independent opinion**) that is included with the financial statements in a corporation's annual report. Standard phrasing is used for auditors' opinions, as illustrated by the following opinion rendered by a large CPA firm, Ernst & Young, for McDonald's Corporation.

> To the Board of Directors and Shareholders of McDonald's Corporation:
>
> *We have audited the accompanying consolidated balance sheet of McDonald's Corporation as of December 31, 1996 and 1995, and the related statements of income, shareholders' equity, and cash flows for each of the three years in the period ended December 31, 1996. These financial statements are the responsibility of the McDonald's Corporation management. Our responsibility is to express an opinion on these financial statements based on our audits.*
>
> *We conducted our audits in accordance with generally accepted auditing standards. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.*
>
> *In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of McDonald's Corporation at December 31, 1996 and 1995, and the consolidated results of*

its operations and its cash flows for each of the three years in the period ended December 31, 1996 in conformity with generally accepted accounting principles.

ERNST & YOUNG LLP

This book will explore the meaning of such phrases as "present fairly" and "generally accepted accounting principles." For now, reflect on the fact that auditors do not prepare a company's financial statements. Rather, the auditor's opinion is the public accountant's stamp of approval on management's financial statements.

THE ACCOUNTING PROFESSION

Objective 6
Distinguish between public and private accounting.

There are many ways to classify accountants, but the easiest and most common way is to divide them into public and private accountants. **Public accountants** are those whose services are offered to the general public on a fee basis. Such services include auditing, preparing income taxes, and management consulting. All other accountants would be **private accountants.** This category consists not only of those individuals who work for businesses but also those who work for government agencies, including the Internal Revenue Service, and other nonprofit organizations.

public accountants Accountants who offer services to the general public on a fee basis including auditing, tax work, and management consulting.

private accountants Accountants who work for businesses, as well as government agencies, and other nonprofit organizations.

public accounting The field of accounting where services are offered to the general public on a fee basis.

Public Accounting Firms

Public accounting firms vary in their size and in the type of accounting services they perform. There are small proprietorships, where auditing may represent as little as 10% or less of annual billings. Billings are the total amounts charged to clients for services rendered to them. The bulk of the work of these small proprietorships is usually income taxes and "write-up" work (the actual bookkeeping services for clients who are not equipped to do their own accounting).

There are also a handful of gigantic firms that have more than two thousand partners with offices located throughout the world. Such enormous firms are necessary because their clients also tend to be enormous. For instance, a large CPA firm has reported that its annual audit of one client takes the equivalent of 72 accountants working a full year. Another client has 300 separate corporate entities in 40 countries that must ultimately be consolidated into one set of overall financial statements.

The six largest public international accounting firms are known collectively as the "Big-Six":

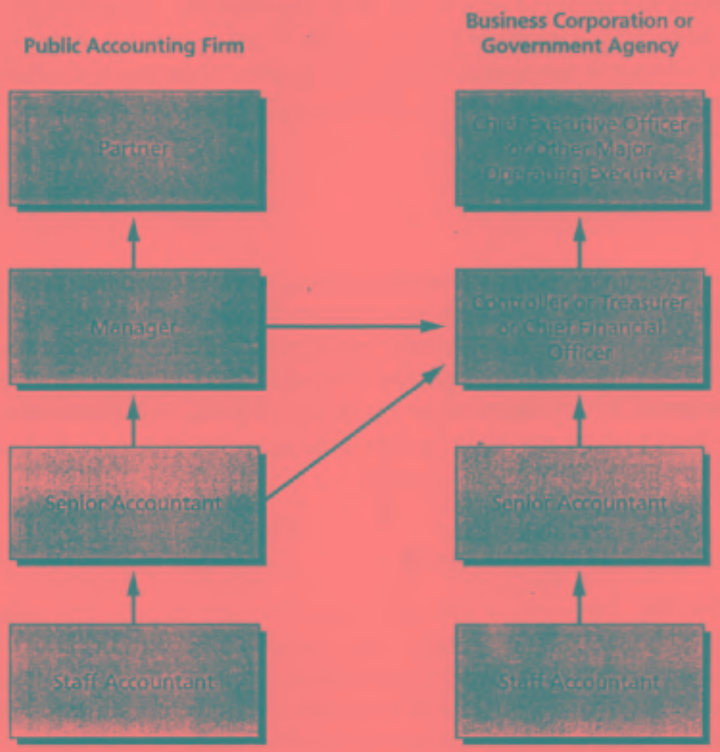
- Arthur Andersen & Co.
- Coopers & Lybrand
- Deloitte & Touche
- Ernst & Young
- KPMG Peat Marwick
- Price Waterhouse

Many of these firms trace their origins to England and Scotland during the colonial period when audit firms came to the United States to oversee investments in the colonies. As this text is being written the combination of the largest international accounting firms is continuing. This process began decades ago when the "Big-Eight" experienced two mergers. Ernst & Young was created by joining predecessor firms Ernst & Ernst with Arthur Young while Deloitte & Touche grew out of Touche Ross combining with Deloitte, Haskin & Sells. In early 1998, a merger is pending between Coopers & Lybrand and Price Waterhouse. Thus the "Big-Six" may soon be the "Big-Five."

Of the companies listed on the New York Stock Exchange, 97% are clients of the "Big-Six." These accounting firms have annual billings in excess of a billion dollars each. A large part of the billings is attributable to auditing services. The top partners in big accounting firms are compensated on about the same scale as their corporate counterparts. Huge accounting firms tend to receive more publicity than other firms. However, please remember that there are thousands of other able accounting firms, varying in size from sole practitioners to giant international partnerships.

Other Opportunities for Accountants

In the accompanying diagram, the long arrows indicate how accountants often move from public accounting firms to positions in business or government. Obviously, these movements can occur at any level or in any direction.



Accounting cuts across all management functions, including purchasing, manufacturing, wholesaling, retailing, and a variety of marketing and transportation activities. It provides an excellent opportunity for gaining broad knowledge. The people responsible for collecting and interpreting financial information about the company develop detailed knowledge about what is occurring and close relationships with key decision makers. Senior accountants or controllers in a corporation are often picked as production or marketing executives. Why? Because they may have impressed other executives as having acquired general management skills.

Accounting is ranked as the most important business school course for future managers. *Business Week* recently reported that "more CEOs [chief executive officers] started out in finance or accounting than in any other area." It is easy to see why accounting is called the language of business.

Professional Ethics

Members of the American Institute of Certified Public Accountants must abide by a code of professional conduct. Surveys of public attitudes toward CPAs have consistently ranked

the accounting profession as having high ethical standards. The code of professional conduct is especially concerned with integrity and independence. For example, independent auditors are forbidden to own shares of their client corporations. Moreover, the auditors must satisfy themselves that their clients' financial statements are properly prepared.

The emphasis on ethics extends beyond public accounting. For example, members of the Institute of Management Accountants are expected to abide by that organization's code of ethics for management accountants. Auditors and management accountants have professional responsibilities regarding competence, confidentiality, integrity, and objectivity. Professional accounting organizations and state regulatory bodies have procedures for reviewing behavior alleged to violate codes of professional conduct.

SUMMARY PROBLEMS FOR YOUR REVIEW

PROBLEM ONE

Analyze the following additional transactions of Biwheels Company. Begin with the balances shown for January 12, 19X2, in Exhibit 1-2 on page 12. Prepare an ending balance sheet for Biwheels Company (say, on January 16 after these additional transactions).

i. Biwheels pays $10,000 on the bank loan (ignore interest).

ii. Smith buys furniture for his home for $5,000, using his family charge account at Macy's.

iii. Biwheels buys merchandise inventory for $50,000. Half the amount is paid in cash, and half is owed on open account.

iv. Biwheels collects $200 more from its business debtor.

SOLUTION TO PROBLEM ONE

See Exhibits 1-3 and 1-4. Note that transaction ii is ignored because it is wholly personal. However, visualize how Smith's personal balance sheet would be affected. His assets, Home Furniture, would rise by $5,000 and his liabilities, Accounts Payable, would also rise by $5,000.

Exhibit 1-3

Biwheels Company
Analysis of Additional January Transactions

	Assets				=	Liabilities + Owners' Equity		
Description of Transaction	*Cash*	+ *Accounts Receivable*	+ *Merchandise Inventory*	+ *Store Equipment*	=	*Note Payable*	+ *Accounts Payable*	+ *Smith, Capital*
Balance, January 12, 19X2	342,700	+ 300	+ 159,200	+ 14,000	=	100,000	+ 16,200	+ 400,000
(i) Payment on bank loan	− 10,000				=	− 10,000		
(ii) Personal; no effect								
(iii) Acquire inventory, half for cash	−25,000		+ 50,000		=		+ 25,000	
(iv) Collection of receivable	+ 200	−200						
Balance, January 16	307,900	+ 100	+ 209,200	+ 14,000	=	90,000	+ 41,200	+ 400,000
			531,200		=		531,200	

Exhibit 1-4

Biwheels Company
Balance Sheet January 16, 19X2

Assets		Liabilities and Owners' Equity	
		Liabilities:	
Cash	$307,900	Note payable	$ 90,000
Accounts receivable	100	Accounts payable	41,200
Merchandise inventory	209,200	Total liabilities	$131,200
Store equipment	14,000	Smith, capital	400,000
Total	$531,200	Total	$531,200

Problem Two

"If I purchase 100 shares of the outstanding stock of General Motors Corporation (or Biwheels Company), I invest my money directly in that corporation. General Motors must record that event." Do you agree? Explain.

Solution to Problem Two

Money is invested directly in a corporation when the corporation originally issues the stock. For example, 100,000 shares of stock may be issued at $80 per share, bringing in $8 million to the corporation. This is a transaction between the corporation and the stockholders. It affects the corporate financial position:

Cash	$8,000,000	Stockholders' equity	$8,000,000

Subsequently, 100 shares of that stock may be sold by an original stockholder (Michael Jordan) to another individual (Meg Ryan) for $130 per share. This is a private transaction; no cash is received by the corporation. Of course, the corporation records the fact that 100 shares originally owned by Jordan are now owned by Ryan, but the corporate financial position is unchanged. Accounting focuses on the business entity; subsequently, private dealings of the owners have no effect on the financial position of the entity, although the corporation records the owners' identities.

Problem Three

"One individual can be an owner, an employee, and a creditor of a corporation." Do you agree? Explain.

Solution to Problem Three

The corporation enters contracts, hires employees, buys buildings, and conducts other business. The chairman of the board, the president, the other officers, and all the workers are employees of the corporation. Thus Katharine Graham could own some of the capital stock of the *Washington Post* and also be an employee (CEO). Because money owed to employees for salaries is a liability, she could be an owner, an employee, and a creditor. Similarly, an employee of a telephone company who is a stockholder of the company could also be receiving telephone services from the same company. She is an owner, employee, customer, and debtor of the company.

Problem Four

Refer to the financial statements for The Gap Inc. reproduced in Appendix A in order to respond to the following questions.

1. As of what date is the consolidated balance sheet prepared?
2. What are total assets for The Gap for the two years shown in the consolidated balance sheets? What elements explain the difference in the asset levels for the two years?
3. What is the par value of the common stock?
4. How many share of common stock are authorized and how many shares are outstanding at the latest year-end?

Solution to Problem Four

1. Two balance sheets are presented. One is dated as of February 1, 1997 and the other as of February 3, 1996. The more recent one is in the left column of the page. When the company uses a fiscal year that does not end on December 31 it is sometimes confusing to label the year. In this instance The Gap refers to the year ended February 1, 1997 as fiscal year 1996. We will follow that pattern.
2. Total assets were $2,343,000,000 in fiscal 1995 and $2,626,000,000 in fiscal 1996. The total change of $283 million was primarily due to additional property, equipment, and merchandise inventory. Note that the numbers in the balance sheet omit three zeros. This is indicated by the ($000) in the upper left-hand corner of the statement. Thus the total asset number of $2,626,927 refers to $2.6 billion, $2,626,927,000.
3. The par value is $.05.
4. The Gap has 500,000,000 shares authorized. This is the number of shares The Gap is legally able to issue. As of February 1, 1997, 274,517,331 shares are outstanding. In the caption describing the number of shares, when two numbers appear, as they do for "outstanding," the first number refers to the left-hand column and the second number refers to the right-hand column. Thus, 287,747,984 shares were outstanding on February 3, 1996.

Highlights to Remember

Financial statements provide information for decision making to managers, creditors, and owners of all types of organizations. The balance sheet (or statement of financial position) provides a "snapshot" of the financial position of an organization at any instant. That is, it answers the basic question, Where are we?

The balance sheet equation is Assets = Liabilities + Owners' Equity. This equation must always be in balance.

Transaction analysis is the heart of accounting. A transaction is any event that both affects the financial position of an entity and can be reliably recorded in money terms. For each transaction, an accountant must determine what accounts are affected and by how much.

Corporations are the most important form of business ownership because so much business is conducted by corporations. The ownership equity of a corporation is usually called stockholders' equity. It initially takes the form of common stock at par, or stated, value plus additional paid-in capital.

Separation of ownership from management in corporations creates a demand for auditing, a third-party examination of financial statements. The public accounting profession gives credibility to audits by specifying qualifications for certified public accountants, including ethical standards, and by developing generally accepted auditing standards to ensure thoroughness of audits. Because accountants work with managers in all management functions, accounting positions are fertile training grounds for future top managers.

Accounting Vocabulary

account, p. 11
accounting, p. 4
account payable, p. 11
annual report, p. 7
assets, p. 9
audit, p. 22
auditor, p. 20
auditor's opinion, p. 22
balance sheet, p. 8
balance sheet equation, p. 9
capital, p. 17
capital stock certificate, p. 17
certified public accountant (CPA), p. 22
common stock, p. 19
compound entry, p. 12
corporation, p. 16
creditor, p. 13
debtor, p. 13
entity, p. 10
financial accounting, p. 4
independent opinion, p. 22
inventory, p. 10
liabilities, p. 9
limited liability, p. 16
management accounting, p. 7
notes payable, p. 9
open account, p. 11
owners' equity, p. 9
paid-in capital, p. 17
paid-in capital in excess of par value, p. 18
partnership, p. 15
par value, p. 18
private accountants, p. 23
privately owned, p. 16
public accountants, p. 23
public accounting, p. 23
publicly owned, p. 16
shareholders' equity, p. 17
sole proprietorship, p. 15
stated value, p. 18
statement of financial condition, p. 8
statement of financial position, p. 8
stock certificate, p. 17
stockholders' equity, p. 17
transaction, p. 10

Assignment Material

The assignment material for each chapter is divided into Questions, Exercises, and Problems. The assignment material contains problems based on fictitious companies and problems based on real-life situations. We hope our use of actual companies and news events enhances your interest in accounting.

We identify problems based on real companies by highlighting the name in blue. These problems underscore a major objective of this book: to increase your ability to read, understand, and use published financial reports and news articles. In later chapters, these problems provide the principal means of reviewing not only the immediate chapter but also the previous chapters. Note that the last four problems in each chapter are (1) a problem based on The Gap, whose financial statements are in Appendix A, (2) a financial statement research problem, (3) a Collaborative Learning Exercise, and (4) an Internet-based problem.

www.mcdonalds.com/a_system/investinfo.
to find Mcdonalds Investor Information menu.
browser allows to see graphics, select the Complete Version.

Questions

1-1. Describe *accounting.*

1-2. "It's easier to learn accounting if you avoid real-world examples." Do you agree? Explain.

1-3. Give three examples of decisions that are likely to be influenced by financial statements.

1-4. Give three examples of users of financial statements.

1-5. Briefly distinguish between *financial accounting* and *management accounting.*

1-6. Give two synonyms for *balance sheet.*

1-7. "The balance sheet may be out of balance after some transactions, but it is never out of balance at the end of an accounting period." Do you agree? Explain.

1-8. "When a company buys inventory for cash, total assets do not change. But when it buys inventory on open account, total assets increases." Explain.

1-9. Explain the difference between a *note payable* and an *account payable.*

1-10. Give two synonyms for *owners' equity.*

1-11. Explain the meaning of *limited liability.*

1-12. Why does this book emphasize the corporation rather than the proprietorship or the partnership?

1-13. "International companies with Ltd. or S.A. after their name are essentially the same in organizational form as U.S. companies with Corp. after their name." Do you agree? Explain.

1-14. "The accounting systems described in this book apply to corporations and are not appropriate for nonprofit organizations." Do you agree? Explain.

1-15. "The idea of par value is insignificant." Explain.

1-16. Explain the relationship between the board of directors and top management of a company.

1-17. What is a CPA and how does someone become one?

Exercises

1-18 Describing Underlying Transactions

LaTech Company, which was recently formed, is engaging in some preliminary transactions before beginning full-scale operations for retailing laptop computers. The balances of each item in the company's accounting equation are given below for May 10 and for each of the next nine business days.

	Cash	Accounts Receivable	Computer Inventory	Store Fixtures	Accounts Payable	Owners' Equity
May 10	$ 6,000	$ 4,000	$18,000	$ 3,000	$ 4,000	$27,000
11	12,000	4,000	18,000	3,000	4,000	33,000
12	12,000	4,000	18,000	6,000	4,000	36,000
15	9,000	4,000	21,000	6,000	4,000	36,000
16	9,000	4,000	26,000	6,000	9,000	36,000
17	12,000	1,000	26,000	6,000	9,000	36,000
18	7,000	1,000	26,000	13,000	11,000	36,000
19	4,000	1,000	26,000	13,000	8,000	36,000
22	4,000	1,000	25,600	13,000	7,600	36,000
23	2,000	1,000	25,600	13,000	7,600	34,000

State briefly what you think took place on each of these nine days, assuming that only one transaction occurred each day. **Required**

1-19 Describing Underlying Transactions

The balances of each item in Monterrey Company's accounting equation are given below for August 31 and for each of the next nine business days.

State briefly what you think took place on each of these nine days, assuming that only one transaction occurred each day. **Required**

Chapter

2 MEASURING INCOME TO ASSESS PERFORMANCE

IT'S *just* LUNCH!, a young, fast-growing company, helped these two professionals meet for lunch.

Learning Objectives

After studying this chapter, you should be able to

1. *Explain how accountants measure income.*
2. *Use the concepts of recognition, matching, and cost recovery to record revenues and expenses.*
3. *Prepare an income statement and show how it is related to a balance sheet.*
4. *Prepare a statement of cash flows and show how it differs from an income statement.*
5. *Account for cash dividends and prepare a statement of retained income.*
6. *Compute and explain earnings per share, price-earnings ratio, dividend-yield ratio, and dividend-payout ratio.*

When Andrea McGinty's fiancé walked out on her just weeks before their wedding, the 29-year-old jewelry marketing representative was faced with the prospect of reentering the dating scene. She didn't like what she found: singles bars, video dating services, personal ads. None of the available choices appealed to her instincts as a sophisticated, professional person, and none of them really fit into her lifestyle. Then she hit on an idea. What if there were a service that fit the lifestyle of today's busy professionals, one that let people date over the lunch hour instead of during an entire evening? Ready to take on the challenge, McGinty formed "It's Just Lunch!" in downtown Chicago.

Using her accounting education as a foundation, McGinty knew that she'd need some capital to start the business and generate income. So she used $6,000 from her personal savings to print flyers and lease office space. She also knew that the sales revenue she hoped to generate would be reduced by the expenses of running the business, so she priced her services to be sure she made an acceptable return on her investment. She charged $400 for arranging six dates.

What started as a simple idea for helping single professionals find matches has grown into a multimillion-dollar-a-year business. Sales last year exceeded $2.1 million, and net income totaled $400,000. McGinty relies on her accrual-based income statement and balance sheet reports each month to assess how well the company is doing. Because "It's Just Lunch!" now has many locations across the country, she gets reports for each location. These reports allow her to quickly identify a location that is not performing up to expectations and focus her energy on correcting any problems.

And what about McGinty's own dating life? A Chicago lawyer came in for help and decided he wanted to date the owner. After thinking about it, McGinty refunded his fees and accepted the date. They are now married.

The measurement of income is one of the most important and controversial topics in accounting. Income is calculated as the difference between revenue and expense. The resulting income number is a measure of accomplishment—a means of evaluating an organization's performance over a period of time.

Investors eagerly await reports about a company's annual income. Stock prices generally reflect investors' expectations about income. However, actual reported income often differs from what was expected, which tends to result in large swings in stock prices. For example, Nautica Enterprises, a hot name in the apparel industry, announced its earnings for the first quarter of 1997 during the week of June 30, 1997. The earnings were 13% higher than expected and the share price of Nautica Enterprises rose by $3.38 or 16% during the week. Investors concluded that the company's new designs were even more popular than they had realized and the prospects for future sales and profits were very good.

The Nautica example was the reaction to an actual announcement, but even rumors can have a major effect on stock prices. The September 10, 1997 *Wall Street Journal* attributed the previous day's 2.8% decline in IBM to "rumors about profit problems at IBM, stemming from adverse markets in Southeast Asia." Consider investors in IBM stock during recent years. They saw profits fall from $5.8 billion in 1988 to a loss of $2.8 billion in 1991 before reaching profits of $3.0 billion in 1994 and $5.4 billion in 1996. Share prices followed profits. One IBM share was $120 in 1988, fell to about $45 during 1993 before recovering to $166 at the end of 1996. Meanwhile, investors in McDonald's Corporation saw a steady increase in profits from $0.6 billion in 1988 to $0.9 billion in 1991, $1.2 billion in 1994 and $1.6 billion in 1996. And these investors experienced a fairly steady increase in share values as well. One McDonald's share sold for $12 in 1988, $16 in 1991, and reached $48 by the end of 1996. For comparison sake, $100 invested in a bank account in 1988 would be worth about $148 in 1996. In IBM, a $100 investment would have grown to only $138. But a $100 investment in McDonald's in 1988 would be worth $400 by 1996. These profitability numbers and various other pieces of information in financial statements allow investors to make intelligent decisions about whether to invest more or less in a particular firm.

So profits are a key measure of performance and value. This chapter presents the basics of measuring income, with a special focus on revenues and expenses. It also defines three basic financial statements prepared by accountants: the income statement, statement of cash flows, and statement of retained income.

INTRODUCTION TO INCOME MEASUREMENT

Objective 1
Explain how accountants measure income.

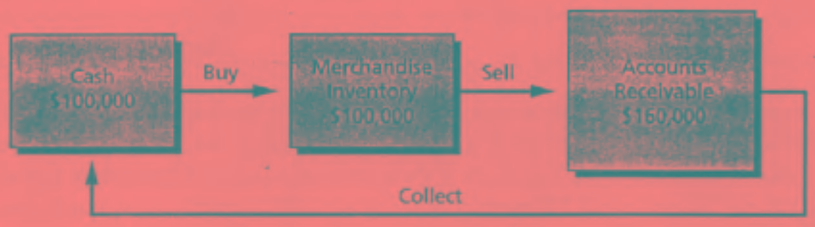
Measuring income is important to everyone, from individuals to businesses, because we all need to know how well we are doing economically. Income is a tool for keeping score. But measuring income is not straightforward. Income is generally regarded as a measure of the increase in the "wealth" of an entity over a period of time. But what is wealth and how do you measure it over a period of time? Accountants have agreed on a common set of rules for measuring income that should be applied by all companies. Decision makers

such as investors can more easily compare the performance of one company with that of another when the 'measuring stick', net income, is fairly standard. Let us now take a look at the foundations of these rules.

Operating Cycle

Most companies follow a similar operating cycle (also called a *cash cycle* or *earnings cycle*). During the **operating cycle,** the company uses cash to acquire goods and services, which in turn are sold to customers. The customers in turn pay for their purchases with cash, which brings us back to the beginning of the cycle. A retail business usually engages in some version of the operating cycle in order to earn profits. Consider the following example:

operating cycle The time span during which cash is used to acquire goods and services, which in turn are sold to customers, who in turn pay for their purchases with cash.



The box for Accounts Receivable (amounts owed to the entity by customers) is larger than the other two boxes because the company's objective is to sell its goods at a price higher than it paid for them. The amount that the selling price rises over costs/expenses is, of course, known as profit. The total amount of profit earned during a particular period depends on the difference between selling price and costs and on the speed of the operating cycle.

The Accounting Time Period

Because it is hard to measure accurately the success of an ongoing operation, the only way to be certain of how successfully a business has performed is to close its doors, sell all its assets, pay all liabilities, and return any leftover cash to the owner. Actually, in the 1400s, Venetian merchant traders did exactly that for each and every voyage. Successful investors might combine their cash to initiate another voyage while investors in failed voyages might have to sell other assets to cover unpaid liabilities. Of course, that system would not be feasible for companies today (imagine a company that needed to close down and restart after every business deal!). Instead, companies need to be able to measure their performances over discrete time periods.

The calendar year is the most popular time period for measuring income or profits. However, about 40% of large companies use a **fiscal year.** Established purely for accounting purposes, the fiscal year does not end on December 31. Instead, the fiscal year-end date is often the low point in annual business activity. For example, Kmart and JC Penney use a fiscal year ending on January 31. Why? Because Christmas sales and post-Christmas sales are over, and inventories, which are at their lowest point of the year, can be counted more easily and valued with greater accuracy.

fiscal year The year established for accounting purposes.

Of course, users of financial statements cannot wait an entire year for financial information. They want to know how well the business is doing each month, each quarter, and each half-year. Therefore, companies prepare financial statements for these **interim periods.**

interim periods The time span established for accounting purposes that are less than a year.

Revenues and Expenses

Now that we know the "when" and "why" of measuring income, we need to examine the "how." Revenues and expenses are the key components in measuring income. These terms apply to the inflows and outflows of assets that occur during a business's operating cycle. The **revenues** (inflows) also called **sales,** increase the owner's interest (equity) in the

revenues (sales) Increases in owners' equity resulting from the inflow of assets received in exchange for the delivery of goods or services to customers.

Exhibit 2–1

Biwheels Company

Analysis of Transactions for December 31, 19X1–January 12, 19X2 (in dollars)

	Assets				=	Liabilities		+	Stockholders' Equity
Description of Transactions	*Cash*	+ *Accounts Receivable*	+ *Merchandise Inventory*	+ *Store Equipment*	= *Note Payable*		+ *Accounts Payable*	+	*Stockholders' Equity*
(1) Initial investment	+400,000				=				+ 400,000
(2) Loan from bank	+100,000				= +100,000				
(3) Acquire inventory for cash	−150,000		+150,000		=				
(4) Acquire inventory on credit			+ 10,000		=		+10,000		
(5) Acquire store equipment for cash plus credit	− 4,000			+ 15,000	=		+11,000		
(6) Sales of equipment		+1,000		− 1,000	=				
(7) Return of inventory acquired on January 3			− 800		=		− 800		
(8) Payments to creditors	− 4,000				=		− 4,000		
(9) Collections from debtors	+ 700	− 700							
Balance, January 12, 19X2	+342,700	+ 300	+ 159,200	+ 14,000	=	100,000	+ 16,200	+	400,000
			516,200				516,200		

expenses Decreases in owners' equity that arise because goods or services are delivered to customers.

income (profit, earnings) The excess of revenues over expenses.

retained income (retained earnings, reinvested earnings) Additional owners' equity generated by income or profits.

business while **expenses** (outflows) decrease the owner's interest. Together these items define the fundamental meaning of **income** (or **profit** or **earnings**), which can be defined simply as the excess of revenues over expenses. Revenues arise when McDonald's collects cash in exchange for a "happy meal." Expenses arise when McDonald's uses hamburger, buns and other materials and pays the workers to deliver a completed meal to the customers. The McDonald's store owner is happy when the cash received exceeds the cost to produce and deliver the meal. The additional owners' equity generated by income or profits is called **retained income** (or **retained earnings** or **reinvested earnings**).

Consider again the Biwheels Company we examined in Chapter 1. Exhibit 2-1 is almost a direct reproduction of Exhibit 1-2, which summarized the nine transactions of George Smith's business. However, the company has now been incorporated, and the owners' equity account is no longer George Smith, Capital. In Exhibit 2-1, it is stockholders' equity.

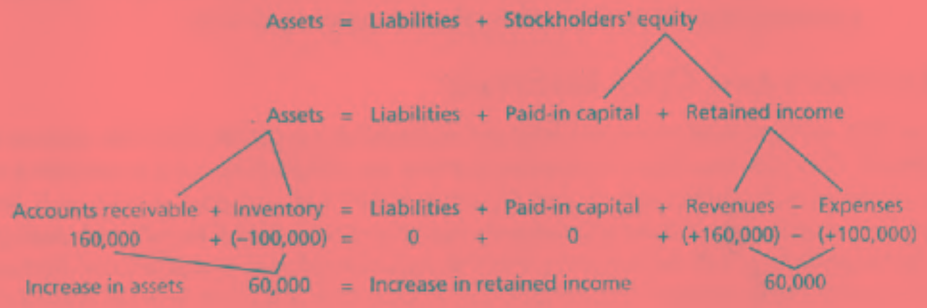
Now consider some additional transactions. Suppose Biwheels' sales for the entire month of January amount to $160,000 on open account. The cost to Biwheels of the inventory sold is $100,000. Note that the January sales and other transactions illustrated here are recorded as summarized transactions. The company's sales do not all take place at once, nor do purchases of inventory, collections from customers, or disbursements to suppliers.

The accounting for the summarized sales transaction has two phases, a revenue phase (10a) and an expense phase (10b):

	Assets		=	Liabilities	+	Stockholders' Equity
	Accounts Receivable	*Merchandise Inventory*				*Retained Income*
(10a) Sales on open account	+160,000		=			+160,000 (sales revenues)
(10b) Cost of merchandise inventory sold		−100,000	=			−100,000 (cost of goods sold expenses)

This transaction is somewhat complex and can be best understood as two things happening simultaneously in the balance sheet equation: an inflow of assets in the form of accounts receivable (10a) in exchange for an outflow of assets in the form of merchandise inventory (10b). This exchange of assets does not affect liabilities, so to keep the equation equal, stockholders' equity must rise by $60,000 ($160,000 (sales revenues) − $100,000 (cost of goods sold expense)).

As entries 10a and 10b show, revenue from sales is recorded as an increase in the asset Accounts Receivable and an increase in Retained Income. In contrast, the expense of the goods sold is recorded as a decrease in the asset Merchandise Inventory and a decrease in Retained Income. You can thus see that revenues are positive entries to stockholders' equity accounts, and expenses are negative entries to stockholders' equity accounts. These relationships can be illustrated as follows:



MEASURING INCOME

Accrual Basis and Cash Basis

There are multiple ways to measure income, the most compelling of which are the cash basis and the accrual basis. The **accrual basis** recognizes the impact of transactions in the financial statements for the time periods when revenues and expenses occur. That is, revenue is recorded as it is earned, and expenses are recorded as they are incurred—not necessarily when cash changes hands. In contrast, the **cash basis** recognizes the impact of transactions in the financial statements only when cash is received or disbursed.

accrual basis Accounting method that recognizes the impact of transactions on the financial statements in the time periods when revenues and expenses occur.

cash basis Accounting method that recognizes the impact of transactions on the financial statements only when cash is received or disbursed.

For many years accountants debated the merits of accrual-basis versus cash-basis accounting. Supporters of the accrual basis maintained that the cash basis ignores activities that increase or decrease assets other than cash. Supporters of the cash basis pointed out that a company, no matter how well it seems to be doing, can go bankrupt if it does not manage its cash properly. In the end, the debate has been declared a draw. One of the basic financial statements presents the results for the year in terms of cash flows. But in the calculation of income, the accrual basis won out. It is the current standard for income measurement. Although both bases have their merits, the accrual basis has the advantage of presenting a more complete summary of the entity's value-producing activities. The accrual basis recognizes revenues as they are earned and matches costs to revenues. This accrual process was illustrated in our analysis of the sale on open account in transaction 10. Revenue was recognized although no cash was received and an expense was recorded although no cash was paid. Let us now take a look at some of the specifics of the accrual basis.

Recognition of Revenues

A major convention accountants use to measure income on an accrual basis is **recognition** of revenues, which is a test for determining whether revenues should be recorded in

recognition A test for determining whether revenues should be recorded in the financial statements of a given period. To be recognized, revenues must be earned and realized.

the financial statements of a given period. To be recognized, revenues must ordinarily meet two criteria:

1. They must be *earned*. Revenues are considered earned when a company delivers goods or services to a customer.
2. They must be *realized*. Revenues are realized when cash or claims to cash are received in exchange for goods or services. "Claims to cash" usually mean credit or some other promise to pay. For a promise to pay to justify revenue recognition, the company must make relatively certain that it will receive the cash it has been promised.

Objective 2
Use the concepts of recognition, matching, and cost recovery to record revenues and expenses.

Revenue recognition for most retail companies, such as Wal-Mart, Safeway, and McDonald's, is straightforward. Revenue is both earned and realized at the point of sale—when a customer makes payment and takes possession of the goods. For other companies, revenue may be earned and realized at different times. When revenues are earned and realized at different times, the revenue is not recognized until the second event. Consider the following examples:

- *Newsweek* receives prepaid subscriptions. The revenue is realized when the subscription is received, but it is not earned until delivery of each issue.
- A dealer in oriental rugs lets a potential customer take a rug home on a trial basis. The customer has possession of the goods, but no revenue is recorded until the customer formally promises to accept the rug and pay for it.

Matching and Cost Recovery

product costs Costs that are linked with revenues and are charged as expenses when the related revenue is recognized.

cost of goods sold (cost of sales) The original acquisition cost of the inventory that was sold to customers during the reporting period.

matching The recording of expenses in the same time period as the related revenues are recognized.

period costs Items identified directly as expenses of the time period in which they are incurred.

cost recovery The concept by which some purchases of goods or services are recorded as assets because their costs are expected to be recovered in the form of cash inflows (or reduced cash outflows) in future periods.

Now that we have seen how revenues are recognized, we should turn our attention to expenses. There are two types of expenses in every accounting period: (1) those linked with the revenues earned that period, and (2) those linked with the time period itself. Some expenses, called **product costs,** are naturally linked with revenues. **Cost of goods sold** (that is, the acquisition cost of the inventory that was sold, also called **cost of sales**) and sales commissions are good examples. If there are no revenues, there is no cost of goods sold or sales commissions. When are product costs recognized? Accountants match such expenses to the revenues they help produce. Expenses are best recognized and recorded in the same period as their related revenues are recognized. This process is known as **matching.**

Other expenses, such as rent and many administrative expenses, cannot be linked directly to specific revenues. These expenses go toward supporting a company's operations for a given period and are thus called **period costs.** Period costs are recognized as expense in the period in which they are incurred. Rent expense arises because of the passage of time regardless of the sales level and therefore rent is a good example of a period cost. Consider a McDonald's store. The rent expense for May gives the store operator the right to do business for the month and is best matched to May sales, regardless of whether the sales are high or low.

Some expenses can be tricky in that a transaction occurs well before the revenues or benefits they will ultimately help produce. To record the expense in the proper period accountants use the **cost recovery** concept. Under cost recovery, some purchases of goods or services are recorded as assets because the costs are expected to be recovered in the form of cash inflows (or reduced cash outflows) in future periods. For example, the purchase price of goods or services that are acquired in the current period but will be sold or used in a future period should be initially recorded as an asset. When the good or service is sold or used, the accountant reduces the asset account and records an expense.

Rent paid in advance is such an asset. Suppose a firm pays an annual rental of $12,000 on January 1. An asset account, prepaid rent, is increased by $12,000 because the rental services have not yet been used. Each month the prepaid rent account is reduced by $1,000, and rent expense is increased by $1,000, recognizing the using up of the prepaid rent asset.

Applying Matching and Cost Recovery

To focus on the matching and cost recovery concepts, assume that the Biwheels Company has only two expenses other than the cost of goods sold: rent expense and depreciation expense. Rent is $2,000 per month, payable quarterly in advance. Transaction 11 (see Exhibit 2-2, which merely continues Exhibit 2-1) is the payment of $6,000 worth of store rent, covering January, February, and March of 19X2. (Assume that this initial payment was made on January 16, although rent is commonly paid at the start of the rental period.)

The rent payment gives the company the right to use store facilities for the next three months. The use of the facilities constitutes a future benefit, so the $6,000 is recorded in an asset account, Prepaid Rent.

Transaction 11, the rent payment, shows no effect on stockholders' equity in the balance sheet equation. One asset, cash, is simply exchanged for another, prepaid rent.

Transaction 12 is recorded at the end of January. It recognizes that one-third of the rental services has been used up, so that asset is reduced, and stockholders' equity is also reduced by $2,000 as rent expense for January. This recognition of rent expense means that $2,000 of the asset, Prepaid Rent, has been "used up" in the conduct of operations during January. That $2,000 worth of rent was a period cost for January and is recognized at the end of that period.

Prepaid rent of $4,000 remains an asset as of January 31. Why? Because without the prepayment, Biwheels would have to pay $2,000 in both February and March for rent. So the cost of the prepayment will be recovered in the sense that future cash outflows will be reduced by $4,000.

The same matching and cost recovery concepts that underlie the accounting for prepaid rent apply to **depreciation,** which is the systematic allocation of the acquisition cost of long-lived or fixed assets to the expense accounts of particular periods that benefit from the use of the assets. These assets are tangible physical assets such as buildings, equipment, furniture, and fixtures owned by the entity. Land is not subject to depreciation because it does not deteriorate over time.

depreciation The systematic allocation of the acquisition cost of long-lived or fixed assets to the expense accounts of particular periods that benefit from the use of the assets.

In both prepaid rent and depreciation, the business purchases an asset that gradually wears out or is used up. As the asset is being used, more and more of its original cost is transferred from an asset account to an expense account. The sole difference between depreciation and prepaid rent is the length of time taken before the asset loses its usefulness. Buildings, equipment, and furniture remain useful for many years; prepaid rent and other prepaid expenses usually expire within a year.

Transaction 13 in Exhibit 2-2 records the depreciation expense for the Biwheels equipment. A portion of the original cost of $14,000 becomes depreciation expense in each month of the equipment's useful life, say, 140 months. Under the matching concept, the depreciation expense for January is $14,000/140 months, or $100 per month:

	Assets	=	Liabilities	+	Stockholders' Equity
	Store Equipment				*Retained Income*
(13) Recognize depreciation expense	−100	=			−100 (increase depreciation expense)

In this transaction, the asset account, Store Equipment, is decreased as is the stockholders' equity account, Retained Income. The general concept of expense under the accrual basis should be clear by now. The purchases and uses of goods and services (for

Exhibit 2-2

Biwheels Company

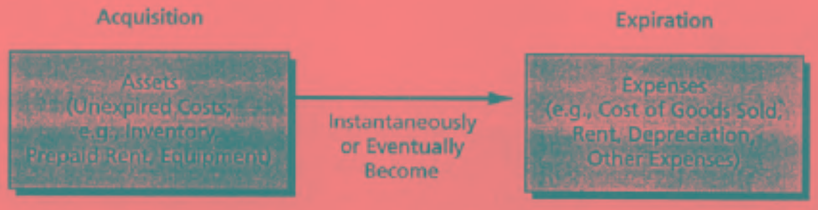
Analysis of Transactions for January 19X2 (in dollars)

	Assets					=	Liabilities		+ Stockholders' Equity	
Description of Transactions	*Cash*	*Accounts Receivable*	*Merchandise Inventory*	*Prepaid Rent*	*Store Equipment*	=	*Note Payable*	*Accounts Payable*	*Paid-in Capital*	*Retained Income*
(1)–(9) See Exhibit 2-1 Balance, January 12, 19X2	342,700	+ 300	+ 159,200		+ 14,000	=	100,000	+ 16,200	+ 400,000	
(10a) Sales on open account (inflow of assets)		+160,000				=				+ 160,000 (sales revenue)
(10b) Cost of merchandise inventory sold (outflow of assets)			–100,000			=				–100,000 (increase cost of goods sold expense)
(11) Pay rent in advance	– 6,000			+ 6,000		=				
(12) Recognize expiration of rental services				– 2,000		=				–2,000 (increase rent expense)
(13) Recognized expiration of equipment services (depreciation)					– 100	=				– 100 (increase depreciation expense)
Balance, January 31, 19X2	336,700	+ 160,300	+ 59,200	+ 4,000	+ 13,900	=	100,000	+ 16,200	+ 400,000	+ 57,900
			574,100					574,100		

example, inventories, rent, equipment) ordinarily consist of two basic steps: (1) the acquisition of the assets (transactions 3, 4, and 5 in Exhibit 2-1 and transaction 11 in Exhibit 2-2), and (2) the expiration of the assets as expenses (transactions 10b, 12, and 13 in Exhibit 2-2). As these examples show, when prepaid expenses and fixed assets are used up, the total assets and owners' equity are decreased. Expense accounts are basically deductions from stockholders' equity.

Recognition of Expired Assets

Assets such as inventory, prepaid rent, and equipment may be thought of as costs that are stored to be carried forward to future periods and recorded as expenses in the future. For inventory, the future period of expense recognition is identified by the sale of the item and the recognition of revenue at the time of sale. For rent the future period of recognition is the period to which the rent applies. For equipment, the total cost of the long-lived asset is split up into smaller pieces and a part of that total cost is recognized in each of the periods that benefits from the use of the asset. You might say that inventory costs are product costs that are matched to the revenue they produce. Rent is a period cost that is matched to the period it benefits. Equipment benefits many periods, and its cost is spread over those periods as depreciation expense:



The analysis of the inventory, rent, and depreciation transactions in Exhibit 2-2 distinguishes between acquisition and expiration. Inventory, rent, and equipment are all recorded as assets when they are acquired. The unexpired costs of inventory, prepaid rent, and equipment then remain assets until they are used up and become expenses.

What happens if acquired assets expire, or are used, almost immediately? For example, services such as advertising are often used almost as soon as they are acquired. Conceptually, these costs should, at least momentarily, be viewed as assets upon acquisition before being written off as expenses. For example, suppose a company purchased newspaper advertising for $1,000 cash. To abide by the acquisition-expiration sequence, the transaction could be analyzed in two phases (see alternative 1 below).

	Assets			= Liabilities +	Stockholders' Equity	
Transaction	*Cash*	+ *Other Assets*	+ *Prepaid Advertising*	=	*Paid-in Capital*	+ *Retained Income*
ALTERNATIVE 1: TWO PHASES						
Phase (a) Prepay for advertising	−1,000		+1,000	=		
Phase (b) Use up advertising			−1,000	=		−1,000 (advertising expense)
ALTERNATIVE 2: ONE PHASE						
Phases (a) and (b) together	−1,000			=		−1,000 (advertising expense)

In practice, however, prepaid advertising and many other services are acquired and used up so quickly that accountants do not bother recording them as assets. Instead accountants use the recording shortcut shown in alternative 2. When financial statements

are prepared, this alternative presents the correct result, although the two-step alternative 1 more accurately portrays the events. The entity acquires goods and services and these goods and services become expenses as they are used to generate revenue.

Although this chapter is focused on the income statement, it is important to realize that the income statement is really just a way of explaining changes between one balance sheet and another. The balance sheet equation shows revenue and expense items as subparts of owners' equity. The income statement just collects all of these changes in owners' equity for the accounting period and combines them in one place.

(1) Assets (A) = Liabilities (L) + Stockholders' equity (SE)

(2) Assets = Liabilities + Paid-in capital + Retained income

(3) Assets = Liabilities + Paid-in capital + Revenue − Expenses

Revenue and expense accounts are nothing more than subdivisions of stockholders' equity—temporary stockholders' equity accounts, as it were. Their purpose is to summarize the volume of sales and the various expenses so that income can be measured.

The analysis of each transaction in Exhibits 2-1 and 2-2 illustrates the dual nature of the balance sheet equation, which is always kept in balance. If the items affected are confined to one side of the equation, the total amount added is equal to the total amount subtracted on that side. If the items affected are on both sides, then equal amounts are simultaneously added or simultaneously subtracted on each side.

The striking feature of the balance sheet equation is its universal applicability. No transaction has ever been conceived, no matter how simple or complex, that cannot be analyzed via the equation. Business leaders and accountants employ the balance sheet equation constantly to be sure they understand the effects of business transactions they are planning.

THE INCOME STATEMENT

Objective 3
Prepare an income statement and show how it is related to a balance sheet.

income statement (statement of earnings, operating statement) A report of all revenues and expenses pertaining to a specific time period.

net income The remainder after all expenses have been deducted from revenues.

By now you should understand when revenues and expenses are recorded and how they can be used to measure income. The question you should be wondering is: Where are they recorded in the financial statements? Chapter 1 introduced the balance sheet as a snapshot-in-time summary of a company's financial status. However, the balance sheet doesn't show period by period revenue and expense transactions. For that purpose, we need another basic financial statement, the income statement. An **income statement** (also called **statement of earnings** or **operating statement**) is a report of all revenues and expenses pertaining to a specific time period. **Net income** is the famous "bottom line" on an income statement—the remainder after all expenses have been deducted from revenue.

Look back at Exhibit 2-2 and notice that four of the accounting events affect the Biwheels Company's retained income account: sales revenue, cost of goods sold expense, rent expense, and depreciation expense. Exhibit 2-3 shows how an income statement arranges these transactions to arrive at a net income of $57,900.

As we already stated, the income statement measures performance, in terms of revenues and expenses, over a span of time, whether it be a month, a quarter, or longer. Therefore the income statement must always indicate the exact period covered. In Exhibit 2-3, the Biwheels income statement clearly shows it covers the month ended January 31, 19X2.

Public companies in the United States generally publish income statements quarterly. In some other countries, companies publish only semiannual or annual statements. Nevertheless, most companies prepare such statements monthly or weekly for internal management purposes. Some top managers even insist on a daily income statement to keep up-to-date on the performance of their operations.

Exhibit 2-3

Biwheels Company
Income Statement for the Month Ended January 31, 19X2

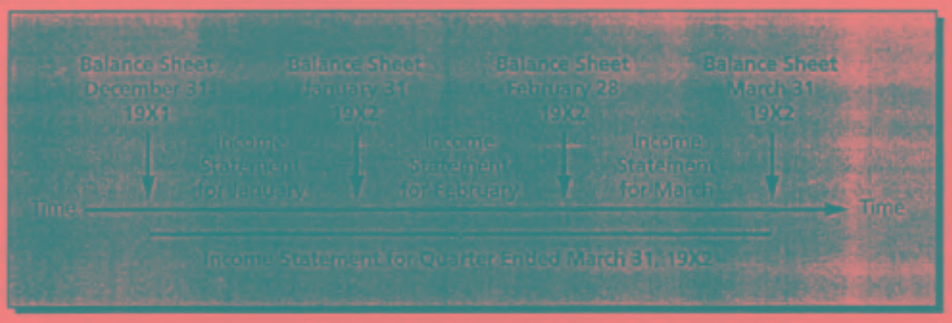
Sales (revenues)		$ 160,000
Deduct expenses:		
Cost of goods sold	$100,000	
Rent	2,000	
Depreciation	100	
Total expenses		102,100
Net income		$ 57,900

Decision makers both inside and outside the company use the income statement to assess the company's performance or its management over a span of time. The income statement shows how the entity's operations for the period have increased net assets through revenues and decreased net assets through expenses. Net income measures the amount by which the increase in newly acquired assets (revenues) exceeds the expiration of other assets (expenses). (A net loss means that expenses exceeded revenues.) In essence, net income is one measure of the wealth created by an entity during the accounting period. By tracking net income from period to period, and examining changes in the revenue and expense components of net income, investors and other decision makers can evaluate the success of the period's operations.

For example, the management of Sunglass Hut International explained its 15.2% increase in net income in 1996 in its annual report by addressing the revenue and cost elements separately. Revenues rose by 26% due primarily to new stores opened during the year. Comparable store sales rose by only 2.5%. Comparable stores are those that have been open for several years. Note that net income did not increase as much as revenue did. Management explained that during 1996 new stores were often opened in high-priced international locations which resulted in lower profits.

Relationship between Income Statement and Balance Sheet

The income statement is the major link between two balance sheets:



Remember that the balance sheet provides a snapshot of an entity's financial position at an instant of time. In contrast, the income statement provides more of a moving picture of events over a span of time. You can think of income statements as filling in the gaps between balance sheets. The balance sheets show the financial position of the company at discrete points in time, and the income statements explain the changes that have taken place between those points.

For example, the balance sheet for Biwheels Company on December 31, 19X1 showed assets of $500,000 and, to balance the equation, liabilities of $100,000 plus stockholders' equity of $400,000. There was no retained income. The January transactions analyzed in Exhibit 2-2 showed revenues of $160,000 and expenses of $102,100 recorded in the retained income account. The income statement in Exhibit 2-3 displays these revenues and expenses for the time span, the month of January. The next balance sheet, on January 31, 19X2, will include these changes in retained earnings (sales revenue of $160,000 less expenses of $102,100). The stockholders' equity account, Retained Income, will be $160,000 − $102,100 = $57,900 greater on January 31, 19X2 than it was on December 31, 19X1.

STATEMENT OF CASH FLOWS

Income versus Cash Flows

Objective 4
Prepare a statement of cash flows and show how it differs from an income statement.

You can think of income as a measure of the entity's performance in generating net assets (that is, assets less liabilities). Increases in retained income are accompanied by increases in assets or decreases in liabilities. However, income, especially when using accrual basis accounting, does not measure the entity's performance in generating cash. Because a business enterprise is usually formed to return cash to the owners, and because creditors must be paid in cash, many decision makers want a financial statement focused on cash in addition to the income statement that focuses on changes in net assets. The statement of cash flows is prepared to fill this need. Since the 1970's companies have been required to provide this statement in addition to the income statement. This is why we said earlier that the debate over whether to use cash or accrual accounting, was really a draw. Accountants do both.

statement of cash flows (cash flow statement) A required statement that reports the cash receipts and cash payments of an entity during a particular period.

The **statement of cash flows** (or **cash flow statement**) reports the cash receipts and cash payments of an entity during a particular period. Like the income statement, it summarizes activities over a span of time, so it must be labeled with the exact period covered. Furthermore, like the income statement, which shows details about how operating activities produce changes in retained income, the statement of cash flows details the changes in one balance sheet account, the cash account.

Introduction to Statement of Cash Flows

The creation of the statement of cash flows is simple. First, list the activities that increased cash (that is, cash inflows) and those that decreased cash (cash outflows). Second, place each cash inflow and outflow into one of three categories according to the type of activity that caused it: operating activities, investing activities, and financing activities.

Operating activities include the sale and the purchase or production of goods and services, including collecting accounts payable from customers, paying suppliers or employees, and paying for items such as rent, taxes, and interest. *Investing activities* include acquiring and selling long-term assets and securities held for long-term investment purposes. *Financing activities* include obtaining resources from owners and creditors and repaying amounts borrowed. When The Gap sells you clothing, it is an operating cash flow. When The Gap buys a new storefront in New York City to open a new store, it is an investing activity. When The Gap issues additional common stock to investors in order to raise money to finance growth and the new store, it is a financing activity.

Consider our Biwheels example from its inception in December 19X1 through the end of January 19X2. Part I of Exhibit 2-4 lists the transactions that affect cash, and Part

Exhibit 2-4

Biwheels Company

Statement of Cash Flows for the Two Months Ended January 31, 19X2

PART I: TRANSACTIONS AFFECTING CASH

Transaction	*Amount*	*Type of Activity*
(1) Initial investment	$400,000	Financing
(2) Loan from bank	100,000	Financing
(3) Acquire inventory for cash	(150,000)	Operating
(5) Acquire store equipment for cash	(4,000)	Investing
(8) Payments to trade creditors	(4,000)	Operating
(9) Sale of store equipment	700	Investing
(11) Pay rent in cash	(6,000)	Operating

PART II: STATEMENT OF CASH FLOWS

CASH FLOWS FROM OPERATING ACTIVITIES	
Cash payments to suppliers	$(154,000)
Cash payments for rent	(6,000)
Net cash used for operating activities	$(160,000)
CASH FLOWS FROM INVESTING ACTIVITIES	
Cash payments for purchases of equipment	$ (4,000)
Cash receipts from sales of equipment	700
Net cash used for investing activities	$ (3,300)
CASH FLOWS FROM FINANCING ACTIVITIES	
Proceeds from initial investment	$ 400,000
Proceeds from bank loan	100,000
Net cash provided by financing activities	$ 500,000
Net increase in cash	$ 336,700
Cash balance, December 1, 19X1	0
Cash balance, January 31, 19X2	$ 336,700

II shows the statement of cash flows. Notice that at the bottom of the statement the changes in cash during the month are added to the beginning balance to give the January 31, 19X2, balance in the cash account.

The statement of cash flows gives a direct picture of where cash came from and where it went. The dominant reason that Biwheels' cash increased by $336,700 is that the company obtained $500,000 of new financing. No cash came in from operating activities. In fact, a total of $160,000 was paid to support operating activities. It is not unusual to have large cash outflows for operating activities in the early periods of a business's life or when an entity is growing quickly. Cash payments for inventories and prepayments for operating expenses often exceed receipts. In the Biwheels example, all sales were on open account, and no cash was received before the end of January, so all operating cash flows were outflows. Despite having an income of $57,900 for January, Biwheels has not yet started to generate any cash from operating activities.

SUMMARY PROBLEM FOR YOUR REVIEW

PROBLEM ONE

Biwheels' transactions for January were analyzed in Exhibits 2-1 and 2-2. The balance sheet, January 31, 19X2, is

Biwheels Company
Balance Sheet January 31, 19X2

Assets		Liabilities and Stockholders' Equity		
Cash	$336,700	Liabilities:		
Accounts receivable	160,300	Note payable		$100,000
Merchandise inventory	59,200	Accounts payable		16,200
Prepaid rent	4,000	Total liabilities		$116,200
Store equipment	13,900	Stockholders' equity:		
		Paid-in capital	$400,000	
		Retained income	57,900	
		Total stockholders' equity		457,900
		Total liabilities and		
Total assets	$574,100	stockholders' equity		$574,100

The following series of transactions occurred during February:

(14) Collection of accounts receivable, $130,000.

(15) Payments of accounts payable, $15,000.

(16) Acquisitions of inventory on open account, $80,000, and for cash, $10,000.

(17) Merchandise carried in inventory at a cost of $110,000 was sold for $176,000, of which $125,000 was on open account and $51,000 was for cash.

(18) Recognition of rent expense for February.

(19) Recognition of depreciation expense for February.

(20) Borrowing of $10,000 from the bank was used to buy $10,000 of store equipment on February 28.

Required

1. Prepare an analysis of transactions, employing the equation approach demonstrated in Exhibit 2-2.
2. Prepare a balance sheet as of February 28, 19X2, and an income statement and statement of cash flows for the month of February.

Solution to Problem One

1. *Analysis of transactions.* The answer is in Exhibit 2-5. All transactions are straightforward extensions or repetitions of the January transactions.
2. *Preparation of financial statements.* Exhibit 2-6 contains the balance sheet, income statement, and statement of cash flows, which have been described earlier. Notice that the balance sheet lists the ending balances in all the accounts in Exhibit 2-5. The income statement summarizes the revenue and expense entries in retained income, and the statement of cash flows summarizes the entries to the cash account.

ACCOUNTING FOR DIVIDENDS AND RETAINED INCOME

Objective 5
Account for cash dividends and prepare a statement of retained income.

A corporation's revenues and expenses for a particular time period are recorded in the stockholders' equity account, Retained Income. Because net income is the excess of revenues over expenses, retained income increases by the amount of net income reported during the period. If expenses exceed revenues, retained income decreases by the amount of the period's **net loss.**

Exhibit 2-5

Biwheels Company

Analysis of Transactions for February 19X2 (in dollars)

Description of Transactions	Assets: *Cash*	+ *Accounts Receivable*	+ *Merchandise Inventory*	+ *Prepaid Rent*	+ *Store Equipment*	=	Liabilities: *Notes Payable*	+ *Accounts Payable*	+ Stockholders' Equity: *Paid-in Capital*	+ *Retained Income*
Balance, January 31, 19X2	336,700	+ 160,300	+ 59,200	+ 4,000	+ 13,900	=	100,000	+ 16,200	+ 400,000	+ 57,900
(14) Collection of accounts receivable	+130,000	−130,000								
(15) Payments of accounts payable	− 15,000					=		− 15,000		
(16) Acquisitions of inventory on open account and for cash	− 10,000		+ 90,000			=		+80,000		
(17a) Sales on open account and for cash	+ 51,000	+125,000				=				+176,000 (increase sales revenue)
(17b) Cost of inventory sold			−110,000			=				−110,000 (increase cost of goods sold expense)
(18) Recognize expiration of rental services				−2,000		=				− 2,000 (increase rent expense)
(19) Recognize expiration of equipment services (depreciation)					− 100	=				− 100 (increase depreciation expense)
(20a) Borrow from bank	+ 10,000					=	+10,000			
(20b) Purchase store equipment	− 10,000				+10,000	=				
Balance, February 28, 19X2	492,700	+ 155,300	+ 39,200	+ 2,000	+ 23,800	=	110,000	+ 81,200	+ 400,000	+ 121,800
			713,000					713,000		

Exhibit 2-6

Biwheels Company
Balance Sheet February 28, 19X2

Assets		Liabilities and Stockholders' Equity		
Cash	$492,700	Liabilities:		
Accounts receivable	155,300	Notes payable	$110,000	
Merchandise inventory	39,200	Accounts payable	81,200	$191,200
Prepaid rent	2,000	Stockholders' equity:		
Store equipment	25,000	Paid-in capital	$400,000	
		Retained income	122,800	522,800
Total	$713,000	Total		$713,000

Biwheels Company
Income Statement for the Month Ended February 28, 19X2

Sales		$176,000
Deduct expenses:		
Cost of goods sold	$110,000	
Rent	2,000	
Depreciation	100	112,100
Net income		$ 63,900

Biwheels Company
Statement of Cash Flows for the Month Ended February 28, 19X2

CASH FLOWS FROM OPERATING ACTIVITIES	
Cash collections from customers	$ 181,000
Cash payments to suppliers	(25,000)
Net cash provided by operating activities	$ 156,000
CASH FLOWS FROM INVESTING ACTIVITIES	
Purchase of store equipment	$ (10,000)
Net cash used for investing activities	$ (10,000)
CASH FLOWS FROM FINANCING ACTIVITIES	
Loan from bank	$ 10,000
Net cash provided by financing activities	$ 10,000
Net increase in cash	$ 156,000
Cash balance, February 1, 19X2	336,700
Cash balance, February 28, 19X2	$ 492,700

Cash Dividends

net loss The name given to the difference between revenues and expenses when expenses exceed revenues.

cash dividends Distributions of cash to stockholders that reduce retained income.

In addition to revenues and expenses, **cash dividends,** distributions of cash to stockholders, are recorded in the Retained Income account. These distributions reduce retained income. Corporations pay out cash dividends to stockholders to provide a return on the stockholders' investment in the corporation. The ability to pay dividends is fundamentally a result of profitable operations. Retained income increases as profits accumulate, and it decreases as dividends are paid out. Although cash dividends decrease retained income, they are not expenses like rent and depreciation. They should not be deducted from revenues because dividends are not directly linked to the generation of revenue or the costs of operating activities. For example, assume that on February 28, cash dividends of $50,000 are disbursed to stockholders. This transaction (21) is analyzed as follows:

	Assets	=	Liabilities	+	Stockholders' Equity
	Cash				*Retained Income*
(21) Declaration and payment of cash dividends	−50,000	=			−50,000 (dividends)

Transaction 21 shows the decrease in Retained Income and the decrease in Cash.

Cash dividends distribute some of the company's assets (cash) to shareholders, thus reducing the economic value of their remaining interest in Biwheels. Of course, companies must have sufficient cash on hand to pay cash dividends. Because dividends require so much cash, many companies try to avoid paying dividends that exceed the amount of cash provided by operating activities.

Not all companies pay dividends. Microsoft retains all of its income to finance future growth. McDonald's also paid no dividends during its early, highest growth years. However, as a successful company grows, the Retained Income account can soar enormously if dividends are not paid. It can easily be the largest stockholders' equity account. Its balance is the cumulative, lifetime earnings of the company less its cumulative, lifetime losses and dividends. For example, Eastman Kodak's retained earnings are $4,469 million, and its paid-in capital is only $1,161 million.

The board of directors of a company decides how much will be paid in dividends. Many factors affect the decision. Firms that are growing rapidly tend not to pay dividends because their growth requires continuous cash investment in plant, property, and equipment, leaving little cash for distribution. Stable, mature companies tend to pay consistent dividends year after year, in part because their investors expect them. For example, retirees might invest in stable companies that historically pay dividends so that the quarterly dividends provide cash for living expenses. Generally we might expect next quarter's dividend payment to be similar to today's, unless something significant happened. Not surprising, investors react significantly to sudden increases, and especially decreases, in dividends. Generally dividend decreases signal difficulty in finding the cash to maintain historical levels of dividend distributions.

Dividend Transactions

Transaction 21 presented the payment of a dividend as a single transaction. However, corporations usually approach dividend matters in steps. The board of directors declares—announces its intention to pay—a dividend on one date (declaration date), payable to those stockholders on record as owning the stock on a second date (record date), and actually pays the dividend on a third date (payment date).

Barron's lists dividend announcements as follows:

Company	Period	Amt.	Payable Date	Record Date
Allied Signal	Q*	$.15	3-2-98	2-9-98
Amoco	Q*	.75	3-10-98	2-11-98

*Q indicates that the dividend is typically declared quarterly.

Such dividend actions entail two accounting transactions. First, the declaration affects the corporation's financial position because the shareholders also become creditors for the amount of the legally declared dividend. Second, the resulting liability is reduced only when the cash is disbursed. Consequently, transaction 21 must be divided into two phases:

	Assets	=	Liabilities	+	Stockholders' Equity
	Cash	=	*Dividends Payable*	+	*Retained Income*
(21a) Date of declaration		=	+50,000		−50,000 (dividends)
(21b) Date of payment	−50,000	=	−50,000		
The net effect is eventually the same as in 21 above	−50,000	=	0		−50,000

Although the ultimate effect here is the same as that shown originally in transaction 21, a balance sheet prepared between the date of declaration and the date of payment will show dividends payable as a liability. For example, if Amoco issued a balance sheet on February 27, 1998 it would show about $367.5 million of dividends payable because it is paying a $.75 dividend per share on each of its 490 million outstanding shares. Note too that although a corporation may be expected to pay dividends, it is not legally required to do so until its board of directors formally declares a dividend.

Retained Income and Cash

The existence of retained income and cash enable a board of directors to declare a dividend. However, Cash and Retained Income are two entirely separate accounts, sharing no necessary relationship. Consider the following illustration:

Step 1. Assume an opening balance sheet of

Cash	$100	Paid-in capital	$100

Step 2. Purchase inventory for $50 cash. The balance sheet now reads

Cash	$ 50	Paid-in capital	$100
Inventory	50		
Total assets	$100		

Step 3. Now sell the inventory for $80 cash, which produces a retained income of $80 − $50 = $30:

Cash	$130	Paid-in capital	$100
		Retained income	30
		Total owners' equity	$130

At this stage, the retained income seems to be directly linked to the cash increase of $30. It is, but do not think that retained income is a claim against the cash specifically. Remember it is a claim against total assets. This relationship can be clarified by the transaction that follows.

Step 4. Purchase inventory and equipment, in the amounts of $60 and $50, respectively. Now,

Cash	$ 20	Paid-in capital	$100
Inventory	60	Retained income	30
Equipment	50		
Total assets	$130	Total owners' equity	$130

Where is the $30 in retained income reflected? Is it reflected in Cash? It cannot be, because there is only $20 in Cash, and Retained Income is $30. Part of the cash from profitable sales has been reinvested in inventory and equipment. This example helps to explain the nature of the Retained Income account. It is a residual claim, not a pot of gold. A residual claim means that if the company went out of business, and all of its assets were sold and converted to cash, the owners would receive the amount left over after all of the liabilities were paid. Retained income (and also paid-in capital) is a general claim against, or undivided interest in, total assets, not a specific claim against cash or against any other particular asset. Do not confuse the assets themselves with the claims against the assets.

Statement of Retained Income

Naturally, if owners are interested in tracing the amount of retained income in a company, accountants have created a financial statement to do just that. Exhibit 2-7 shows the **statement of retained income,** which lists the beginning balance (in this case, January 31) in Retained Income, followed by a description of any major changes (in this case, net income and dividends) that occurred during the period, and the ending balance (February 28) for the Biwheels Company.

statement of retained income A statement that lists the beginning balance in retained income, followed by a description of any changes that occurred during the period, and the ending balance.

Frequently, the statement of retained income is added to the bottom of the income statement. In such cases, the combined statements are called a **statement of income and retained income.** For example, the income statement in Exhibit 2-6 combined with the statement of retained income in Exhibit 2-7 appear reformatted, and retitled, in Exhibit 2-8 as a statement of income and retained income.

statement of income and retained income A statement that includes a statement of retained income at the bottom of an income statement.

Note how Exhibit 2-8 is anchored to the balance sheet equation:

Asset = Liabilities + Paid-in capital + Retained income

Ending balance = [Beginning balance + Revenues − Expenses − Dividends]

Bal. Feb. 28 after dividends = [57,900 + 176,000 − 112,100 − $50,000] = 71,800

Customs of Presentation

Exhibits 2-7 and 2-8 illustrate some customs that accountants follow when they prepare financial statements. To save space accountants often place a subtotal on the right side of the final number in a column, as is illustrated by the $112,100 in Exhibit 2-8.

Exhibit 2-7

Biwheels Company
Statement of Retained Income for the Month Ended February 28, 19X2

Retained income, January 31, 19X2	$ 57,900
Net income for February	63,900
Total	$121,800
Dividends declared	50,000
Retained income, February 28, 19X2	$ 71,800

Exhibit 2-8

Biwheels Company
Statement of Income and Retained Income for the Month Ended
February 28, 19X2

Sales		$176,000
Deduct expenses:		
Cost of goods sold	$110,000	
Rent	2,000	
Depreciation	100	112,100
Net income		$ 63,900*
Retained income, January 31, 19X2		57,900
Total		$121,800
Dividends declared		50,000
Retained income, February 28, 19X2		$ 71,800

* Note how the income statement ends here. The $63,900 simultaneously becomes the initial item on the statement of retained income portion of this combined statement.

Dollar signs are customarily used at the beginning of each column of dollar amounts and for net income. Some statements also use dollar signs with the subtotals, for example, the $63,900 and the $121,800 in Exhibit 2-8. Double-underscores (double rulings) are typically used to denote final numbers.

SUMMARY PROBLEM FOR YOUR REVIEW

PROBLEM TWO

The following interpretations and remarks are frequently encountered with regard to financial statements. Do you agree or disagree? Explain fully.

1. "Sales show the cash coming in from customers, and the various expenses show the cash going out for goods and services. The difference is net income."
2. Consider the following December 31, 1996 accounts of Motorola, Inc., a U.S. company that is a leading worldwide provider of wireless communications, semiconductors and advanced electronic systems, and components and services. You may have used one of their cell phones:

Motorola
Consolidated Balance Sheets
(In millions, except per share amounts) *Motorola, Inc. and Consolidated Subsidiaries*

December 31	**1996**	**1995**
Stockholders' equity		
Common stock, $3 par value		
Authorized shares: 1996 and 1995, 1,400		
Issued and outstanding shares: 1996, 593.4; 1995, 591.4	**1,780**	1,774
Preferred stock, $100 par value issuable in series		
Authorized shares: 0.5 (none issued)	—	—
Additional paid-in capital	**1,672**	1,750
Retained earnings	**8,343**	7,461
Total stockholders' equity	**$11,795**	$10,985

A Motorola employee commented, "Why can't that big company pay higher wages and dividends too? It can use its hundreds of millions of dollars of retained earnings to do so."

3. "The total Motorola stockholders' equity measures the amount that the shareholders would get today if the corporation were liquidated."

Solution to Problem Two

1. Cash receipts and disbursements are not the basis for the accrual accounting recognition of revenues and expenses. Sales could easily be credit sales for which no cash has yet been received, and expenses could be those that have been incurred but not yet paid out. Therefore, under accrual accounting sales and expenses are not equivalent to cash inflows and outflows.

   To determine net income under accrual accounting, expenses are subtracted from revenues (expenses are linked to revenues via matching). Cash flow from operations can be larger or smaller than net income.

2. As the chapter indicated, retained earnings is not cash. It is a stockholders' equity account that represents the accumulated increase in ownership claims due to profitable operations. This claim may be lowered by the payment of cash dividends, but a growing company will reinvest cash in receivables, inventories, plant, equipment, and other assets so necessary for expansion. As a result, the ownership claims measured by retained earnings may not be covered by cash. In fact, some companies might not be able to pay out their retained earnings without liquidating many or all of their assets.

3. Stockholders' equity is the excess of assets over liabilities. If the assets were carried in the accounting records at their liquidating value today and the liabilities were represented exactly at their market values, the remark would be true. However, the numbers on the balance sheet are historical numbers, not current numbers. Intervening changes in markets and general price levels in inflationary times may mean that the assets are woefully understated. Investors may make a critical error if they think that balance sheets indicate current values.

FOUR POPULAR FINANCIAL RATIOS

Objective 6
Compute and explain earnings per share, price-earnings ratio, dividend-yield ratio, and dividend-payout ratio.

Now that you know quite a bit about financial statements, you are ready to learn how the information in these statements is used. Numbers are hard to understand out of context. Is $10 a lot to pay for a share of stock? Is $1 a good dividend? To show you how investors think about such questions, we will gradually introduce you to various financial ratios.

A financial ratio is computed by dividing one number by another. For a set of complex financial statements, literally hundreds of ratios can be computed if desired. Every analyst has a set of favorite ratios, but one is so popular that it dwarfs all others: **earnings per share of common stock (EPS).** In fact, EPS data must appear on the face of the income statement of publicly held corporations. This is the only instance in which a financial ratio is required as a part of the body of financial statements. Let us now examine some popular ratios based on financial statement information.

Earnings per Share (EPS)

Earnings per share (EPS)
Net income divided by average number of common shares outstanding.

When the owners' equity is relatively simple, the computation of EPS is straightforward. For example, consider Pepsico Corporation, the well-known beverage and food company. It reported EPS of $.68, $.98 and $.72 in 1990, 1993, and 1996, respectively. The 1996 EPS

is calculated by dividing 1996 income of $1,149 million by average shares outstanding during the year of 1,606,000,000.

$$\text{EPS} = \frac{\text{Net income}}{\text{Average number of shares outstanding}}$$

$$\text{1993 EPS} = \frac{\$1,587,900,000}{1,620,000,000} = \$.98 \quad \text{1996 EPS} = \frac{\$1,149,000,000}{1,606,000,000} = \$.72$$

The Pepsico computation is relatively simple because the company has only one type of capital stock, little fluctuation of shares outstanding throughout the year, and no unusual items affecting the computation of net income. EPS calculations can become more difficult when such complications arise. Investors interested in Pepsico might ask whether EPS was growing over time and might ask especially why EPS was lower in 1996.

Price-Earnings (P-E) Ratio

price-earnings ratio (P-E) Market price per share of common stock divided by earnings per share of common stock.

Another popular ratio is the **price-earnings (P-E) ratio:**

$$\text{P-E Ratio} = \frac{\text{Market price per share of common stock}}{\text{Earnings per share of common stock}}$$

The numerator is typically today's market price for a share of the company's stock. The denominator is the EPS for the most recent 12 months. Thus the P-E ratio varies throughout a given year, depending on the fluctuations in the company's stock price. For example, Pepsico's P-E ratio would be:

Pepsico

	Using Highest Market Price During Fourth Quarter	Using Lowest Market Price During Fourth Quarter
1996 P-E	$\frac{\$32.88}{\$.72} = 45.7$	$\frac{\$28.13}{\$.72} = 39.1$
1993 P-E	$\frac{\$\ 21}{\$.98} = 21.4$	$\frac{\$18}{\$.98} = 18.4$

The P-E ratio is sometimes called the earnings multiple. It measures how much the investing public is willing to pay for a chance to share the company's potential earnings. Note especially that the P-E ratio is determined by the marketplace. This earnings multiplier may differ considerably for two companies within the same industry. It may also change for the same company through the years. In general, a high P-E ratio indicates that investors predict that the company's net income will grow rapidly. Consider Microsoft's 1996 ratio of 53 compared with the P-E ratio of 8 for Chrysler. These ratios tell us that Microsoft's earnings are expected to grow much more rapidly than Chrysler's. History certainly suggests this is likely. Microsoft earnings per share have grown almost 50% each year during the last decade while Chrysler's EPS grew at about 5% per year over the same period. The *Wall Street Journal* publishes P-E ratios daily on its stock pages.

Dividend-Yield Ratio

dividend-yield ratio Common dividends per share divided by market price per share.

Individual investors are usually interested in the profitability of their personal investments in common stock. That profitability takes two forms: cash dividends and market-price appreciation of the stock. The **dividend-yield ratio** (the current dividend per share divided by the current market price of the stock), also simply called dividend yield, gauges dividend payouts. It is computed as follows:

Pepsico

	Using Highest Market Price During Fourth Quarter	Using Lowest Market Price During Fourth Quarter
1996 Dividend yield =	$\frac{\$.50}{\$32.88} = 1.5\%$	$\frac{\$.50}{\$28.13} = 1.8\%$
1993 Dividend yield =	$\frac{\$.30}{\$21} = 1.4\%$	$\frac{\$.30}{\$18} = 1.7\%$

Dividend ratios may be of particular importance to those investors in common stock who seek regular cash returns on their investments. For example, an investor who favored high current returns would not buy stock in growth companies. Growth companies have conservative dividend policies because they are using most of their profit-generated resources to help finance expansion of their operations.

Market prices at which stocks are traded in organized marketplaces, such as the New York Stock Exchange, are quoted in the daily newspapers. The dividend yields are also published, as measured by annual disbursements based on the last quarterly dividends.

Consider the following stock quotations for Pepsico regarding trading on September 9, 1997:

52 Weeks High	52 Weeks Low	Stock	Div.	Yld. %	P-E Ratio	Sales 100s	High	Low	Close	Net Chg.
39¾	28¾	Pepsico	.50	1.3	47	33,103	38½	37¹⁵⁄₁₆	38⅜	⅛

Reading from left to right, the highest price at which Pepsico common stock was traded in the preceding 52 weeks was $39.75 per share; the lowest price, $28.125. The current dividend rate for 12 months is $.50 per share, producing a yield of 1.3% based on the day's closing price of the stock. The P-E ratio is 47, also based on the closing price. Total sales for the day were 3,310,300 shares. The highest price at which the stock was traded was $38.50 per share; the lowest $37.93. The closing price was that of the last trade for the day, $38.43, which was $.31 lower than the preceding day's last trade.

Keep in mind that transactions in publicly traded shares are between individual investors in the stock, not between the corporation and the individuals. Thus a "typical trade" results in the selling of, say, 100 shares of Pepsico stock held by Ms. Johnson in Minneapolis to Ms. Davis in Atlanta for $3,843 in cash. These parties would ordinarily transact the trade through their respective stockbrokers. Pepsico Corporation would not be directly affected by the trade except that its records of shareholders would be changed to show that 100 shares were now held by Davis, not Johnson.

Dividend-Payout Ratio

Although not routinely published, the **dividend-payout ratio** also receives much attention from analysts. Consider McDonald's, the well-known fast-food chain. The formula for its payout computation is given below, followed by McDonald's ratio, using figures from its 1996 annual report:

dividend-payout ratio Common dividends per share divided by earnings per share.

$$\text{Dividend-payout ratio} = \frac{\text{Common dividends per share}}{\text{Earnings per share}}$$

$$\text{Dividend-payout ratio} = \frac{\$.42}{\$2.91} = 14\%$$

Exhibit 2-9

Some Synonyms in Accounting

Term Initially Used in This Book	Examples of Synonyms	Example of Companies
1. Net income		Anheuser-Busch, H.J. Heinz, Colgate-Palmolive
	Net earnings	General Mills, Chrysler, Johnson & Johnson
	Profit	Caterpillar
2. Retained income		General Motors
	Retained earnings	Anheuser-Busch, H. J. Heinz, Colgate-Palmolive
	Reinvested earnings	Scott Paper, Coca-Cola
	Earnings retained for use in the business	Ford Motor
	Profit employed in the business	Caterpillar

McDonald's fits into the category of a low-payout company. As long as McDonald's continues its worldwide expansion, a minimal payout can be anticipated. Some fast-growing companies such as Microsoft pay no dividends. In contrast, companies without exceptional growth tend to pay a higher percentage of their earnings as dividends. Public utilities will ordinarily have high payout ratios. For instance, recently Pacific Gas and Electric Company paid dividends amounting to 80% of its earnings. Chrysler falls between the extremes, with a 1996 payout ratio of ($1.40 ÷ $5.03) = 28%.

THE LANGUAGE OF ACCOUNTING IN THE REAL WORLD

At this point you have learned a great number of accounting terms. Unfortunately, organizations use different terms to describe the same concept or account. As a result, the terms you see in real financial statements might not correspond to the ones you just learned. To ease your potential terminology worries, a number of synonyms are presented in Exhibit 2-9. These terms are not introduced here to confuse you. Our objective is to acquaint you with the real world of accounting vocabulary so that you will not be surprised when a company's financial statement uses different terms than you learned initially.

SUMMARY PROBLEM FOR YOUR REVIEW

PROBLEM THREE

During 1996 Liz Claiborne stock sold for about $40 per share. The company had net income of $155,665,000, had an average of 72,402,326 shares outstanding during the year and paid dividends of $.45 per share. Calculate the following:

Earnings per share	Dividend-Yield ratio
Price-Earnings ratio	Dividend-Payout ratio

www.disney.com/investors. to find Investor Relations section of the W.D.C. home page. Select Investor Relations from the menu, then select Fact Book of the most recent year to find fin. information.

Solution to Problem Three

Earnings per share = $155,665,000/72,402,326 = $2.15

Price-Earnings ratio = $40/$2.15 = 18.6

Dividend-Yield ratio = $.45/$40 = 1.1%

Dividend-Payout ratio = $.45/$2.15 = 21%

Highlights to Remember

Accountants can measure income, the excess of revenues over expenses for a particular time period, on an accrual or cash basis. In accrual accounting, revenue is recorded when it is earned, and expenses are recorded when they are incurred. In cash accounting, revenues and expenses are recorded only when cash changes hands. Accrual accounting is the standard basis for accounting today.

The concept of revenue recognition means that revenues are assigned to the period in which they are earned and realized. Under the concepts of matching and cost recovery, expenses are assigned to a period in which the pertinent goods and services are either used or appear to have no future benefit. Revenues and expenses are components of stockholders' equity. Revenues increase stockholders' equity, and expenses decrease stockholders' equity.

An income statement shows an entity's revenues and expenses for a particular span of time. The net income (loss) during the period increases (decreases) the amount of retained income on the balance sheet.

Accrual accounting is an excellent way to follow a company's use of its overall assets, but it does not trace cash flows. To satisfy decision makers' need to follow a company's use of cash, accountants use a statement of cash flows. This statement can easily be linked to both the income statement and the balance sheet.

Cash dividends are not expenses. They are distributions of cash to stockholders that reduce retained income. Corporations are not obligated to pay dividends, but once dividends are declared by the board of directors they become a legal liability until paid in cash.

Accounting Vocabulary

accrual basis, p. 45
cash basis, p. 45
cash dividends, p. 56
cash flow statement, p. 52
cost of goods sold, p. 46
cost of sales, p. 46
cost recovery, p. 46
depreciation, p. 47
dividend payout ratio, p. 63
dividend-yield ratio, p. 62
earnings, p. 44
earnings per share (EPS), p. 61
expenses, p. 44
fiscal year, p. 43
income, p. 44
income statement, p. 50
interim periods, p. 43
matching, p. 46
net income, p. 50
net loss, p. 56
operating cycle, p. 43
operating statement, p. 50
period costs, p. 46
price-earnings ratio, p. 62
product costs, p. 46
profit, p. 44
recognition, p. 45
reinvested earnings, p. 44
retained earnings, p. 44
retained income, p. 44
revenues, p. 44
sales, p. 44
statement of cash flows, p. 52
statement of earnings, p. 50
statement of income and retained income, p. 59
statement of retained income, p. 59

Chapter

3 Recording Transactions

One Gap Storefront from a firm with over 2,000 casual apparel specialty stores, including Bannana Republic and Old Navy locations.

Learning Objectives

After studying this chapter, you should be able to

1. *Use double-entry accounting.*
2. *Analyze and journalize transactions.*
3. *Post journal entries to the ledgers.*
4. *Prepare and use a trial balance.*
5. *Correct erroneous journal entries and describe how errors affect accounts.*
6. *Use T-accounts to analyze accounting relationships.*
7. *Explain how computers have transformed processing of accounting data.*

Have you ever bought a shirt, a pair of jeans, or anything else from a Gap Store? If so, your purchase was just one of hundreds of transactions that The Gap had to record that day. With so many transactions happening, you might think that yours would get lost in the shuffle. Yet you can read a report on it in any major newspaper in a press release such as this one:

"**Gap, Inc. Reports Results for Second Quarter; Earnings Per Share Up 13% on Revenue Gain of 20%**—San Francisco, CA, August 14, 1997—Gap, Inc. (NYSE-GPS) today reported record sales and earnings for the fiscal second quarter which ended August 2, 1997. Second Quarter: Net sales grew 20% to $1.345 billion compared to $1.120 billion in 1996. Comparable store sales grew 4% compared with 9% growth last year. Net earnings increased 6% to $69.5 million, compared with $65.8 million last year. The net earnings gain is on top of a 103% increase in last year's second quarter. Earnings per share, reflecting the Company's ongoing share repurchase activities, grew 13% to $.26 from $.23 last year."

Are you not seeing that shirt you bought? Read between the lines. The information contained in this news article comes directly from The Gap's corporate headquarters and is designed to inform investors, stockholders, and other interested parties about the financial performance of the organization. The Gap's corporate headquarters gets this information directly from the company's accounting records. Of course, these records contain every single Gap transaction—including your shirt purchase.

Gap, Inc.'s accounting system records the financial effect of every transaction in the appropriate accounts. Transactions can take many forms—for example, merchandise sales for cash or credit or purchases of inventory to stock in its stores. When summarized at the end of the month, quarter, or year, the totals for each account can

be used to prepare the financial reports that tell the financial story for that period. As you can see from The Gap, Inc.'s press release, their net sales totaled $1.345 billion for the quarter. After deducting expenses and other items, net earnings came to $69.5 million, or 5.2% of net sales ($69.5 ÷ $1,345). Now you know that only 5.2% of what you paid for your shirt was actually net earnings for The Gap.

Methods of processing accounting data have changed dramatically in the last decade or two, as computerized systems have replaced manual ones. However, the steps in recording, storing, and processing accounting data have not changed. Switching from pencil-and-paper accounting records to computerized ones is a little like switching from a car with a stick shift to an automatic. You spend less time worrying about routine tasks, but you still need to understand the way the basic system works. Whether the data are entered into the system by pencil, keyboard, or optical scanner, the same basic data are required to produce accounting reports.

To use intelligently the financial statements we learned about in the last two chapters, decision makers must understand the methods used to record and analyze the data in those reports. This chapter focuses on those methods. In particular, this chapter explains the double-entry accounting system that is universally used to record and process information about a company's transactions. As you will find, a working knowledge of this system is essential for anyone engaged in business. Ultimately the accounting practices are a language that managers in all organizations use to understand the economic progress of their organization.

THE DOUBLE-ENTRY ACCOUNTING SYSTEM

Objective 1
Use double-entry accounting.

double-entry system The method usually followed for recording transactions, whereby at least two accounts are always affected by each transaction.

In large businesses such as McDonald's and the Disney Stores, hundreds or thousands of transactions occur hourly. With so much activity, it is easy to lose track of one or two transactions. However, even one lost transaction could wreak havoc on a company's accounting (just think of what happens when you miss one transaction in your checking account record) and lead to some very serious consequences. As a result, accountants must carefully keep track of and record these transactions in a systematic manner. Usually accountants will record all of a business entity's transactions using a **double-entry system,** in which at least two accounts are always affected by each transaction. Each transaction must be analyzed to determine which accounts are involved, whether the accounts are increased or decreased, and how much each account balance will change.

Recall the first three transactions of the Biwheels Company introduced in Chapter 1:

	A		=	L	+	SE
	Cash	*Merchandise Inventory*		*Note Payable*		*Paid-in Capital*
(1) Initial investment by owner	+400,000		=			+400,000
(2) Loan from bank	+100,000		=	+100,000		
(3) Acquire inventory for cash	–150,000	+150,000	=			

This balance sheet equation format illustrates the basic concepts of the double-entry system by showing two entries for each transaction. It also emphasizes that the equation Assets = Liabilities + Stockholders' Equity must always remain in balance. Unfortunately,

this format is too unwieldy for recording each and every transaction that occurs. In practice, accountants use ledgers to record the individual transactions in the proper accounts.

Ledger Accounts

A **ledger** contains the records for a group of related accounts. The ledger may be in the form of a bound record book, a loose-leaf set of pages, or some kind of electronic storage element such as magnetic tape or disk, but it is always kept current in a systematic manner. For simplicity's sake, you can think of a ledger as a book with one page for each account. When you hear about "keeping the books" or "auditing the books," the word books refers to the ledger. A firm's **general ledger** is the collection of accounts that accumulate the amounts reported in the firm's major financial statements.

ledger The records for a group of related accounts kept current in a systematic manner.

general ledger The collection of accounts that accumulates the amounts reported in the major financial statements.

The ledger accounts used here are simplified versions of those used in practice. They are called **T-accounts** because they take the form of the capital letter T. They capture the essence of the accounting process we need to understand as accountants and managers without burdening us with too many details that bookkeepers use. The vertical line in the T divides the account into left and right sides for recording increases and decreases in the account. The account title is on the horizontal line. For example, consider the format of the Cash account:

T-account Simplified version of ledger accounts that takes the form of the capital letter T.

Cash	
Left side	Right side
Increases in cash	Decreases in cash

The T-accounts for the first three Biwheels Company transactions are as follows:

Assets				=	Liabilities + Stockholders' Equity			
Cash					Note Payable			
Increases		Decreases			Decreases		Increases	
(1)	400,000	(3)	150,000				(2)	100,000
(2)	100,000							
Merchandise Inventory					Paid-in Capital			
Increases		Decreases			Decreases		Increases	
(3)	150,000						(1)	400,000

Note that two accounts are affected by each numbered transaction, as is the rule under the double-entry system.

In practice, accounts are created as needed. The process of creating a new T-account in preparation for recording a transaction is called *opening the account.* For transaction 1, we opened Cash and Paid-in Capital. For transaction 2, we opened Note Payable, and for transaction 3, we opened Merchandise Inventory.

Each T-account summarizes the changes in a particular asset, liability, or owners' equity. Because T-accounts show only amounts and not transaction descriptions, each transaction is keyed in some way, such as by the numbering used in this illustration or by the date or by both. This keying helps the rechecking (auditing) process by aiding the tracing of entries in the ledger account to the original transactions, which are written down in chronological order as they occur.

A **balance** is the difference between the total left-side and right-side amounts in an account at any particular time. Asset accounts have left-side balances. They are increased by entries on the left side and decreased by entries on the right side. Liabilities and owners' equity accounts have right-side balances. They are increased by entries on the right side and decreased by entries on the left side.

balance The difference between the total left-side and right-side amounts in an account at any particular time.

Take a look at the analysis of the entries for each Biwheels transaction. Notice that each transaction generates a left-side entry in one T-account and a right-side entry of the same amount in another T-account. Helpful hint: When analyzing a transaction, initially pinpoint

the effects (if any) on cash. Did cash increase or decrease? Then think of the effects on other accounts. In this way, you get off to the right start. Usually, it is much easier to identify the effects of a transaction on cash than it is to identify the effects on other accounts.

1. **Transaction:** Initial Investment by owners, $400,000 cash.
   Analysis: The asset **Cash** is increased.
   The stockholders' equity **Paid-in-Capital** is increased.

Cash		Paid-in Capital	
(1)	(400,000)	(1)	(400,000)

2. **Transaction:** Loan from bank, $100,000.
   Analysis: The asset **Cash** is increased.
   The liability **Note Payable** is increased.

Cash		Note Payable	
(1)	400,000	(2)	(100,000)
(2)	(100,000)		

3. **Transaction:** Acquired inventory for cash, $150,000.
   Analysis: The asset **Cash** is decreased.
   The asset **Merchandise Inventory** is increased.

Cash			
(1)	400,000	(3)	(150,000)
(2)	100,000		

Merchandise Inventory	
(3)	(150,000)

Accounts such as these exist to keep an up-to-date record of the changes in specific assets and equities. Financial statements can be prepared at any instant if the account balances are up to date. The information accumulated in the accounts provides the necessary summary balances for the financial statements. For example, Biwheels' balance sheet after its first three transactions would contain the following account balances:

Assets		Liabilities + Owners' Equity	
Cash	$350,000	Liabilities:	
Merchandise		Note payable	$100,000
inventory	150,000	Stockholders' equity:	
		Paid-in capital	400,000
Total	$500,000	Total	$500,000

DEBITS AND CREDITS

debit An entry or balance on the left side of an account.

credit An entry or balance on the right side of an account.

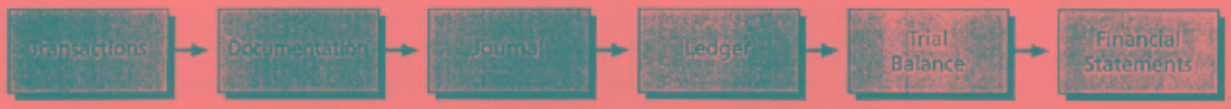
charge A word often used instead of debit.

You have just seen that the double-entry system features entries on left sides and right sides of various accounts. Accountants use the term **debit** (abbreviated dr.) to denote an entry on the left side of any account and the term **credit** (abbreviated cr.) to denote an entry on the right side of any account. Many people make the mistake of thinking that credit means increase and debit means decrease. Trust us—when used in accounting they do not. Left and right would be much easier and more descriptive to use, but debit and credit are the standard terms for the double-entry system. The word **charge** is often used instead of debit, but no single word is used as a synonym for credit. Just remember that debit means left and credit means right and you will be fine.

Debit and credit are used as verbs, adjectives, and nouns. "Debit $1,000 to cash, and credit $1,000 to accounts receivable" are examples of uses as verbs, meaning that $1,000 should be placed on the left side of the Cash account and on the right side of the Accounts Receivable account. Similarly, in phrases such as "a debit is made to cash" or "cash has a debit balance of $12,000," the word debit is a noun or an adjective that describes the status of a particular account. From this point on you will be seeing an awful lot of *debit* and *credit*. Be sure you understand their uses completely before moving on.

THE RECORDING PROCESS

In the earlier section we entered Biwheels' transactions 1, 2, and 3 directly in the ledger. In actual practice the recording process does not start with the ledger. The sequence of steps in recording transactions is as follows:



The recording process begins with **source documents.** These are the original records of any transaction. Examples of source documents include sales slips or invoices, check stubs, purchase orders, receiving reports, cash receipt slips, and minutes of the board of directors. As soon as a transaction occurs, it generates a source document. For example, when a company sells a product to a customer, a receipt is made for the sale. Source documents are kept on file so they can be used to verify the details of a transaction and the accuracy of subsequent records if necessary.

source documents The supporting original records of any transaction.

In the second step of the recording process, an analysis of the transaction, based on the source documents, is placed in a **book of original entry,** which is a formal chronological listing of each transaction and how it affects the balances in particular accounts. The most common example of a book of original entry is the **general journal.** The general journal is basically a diary of all of the events (transactions) in an entity's life. Each transaction is listed in its entirety in one place in the journal.

book of original entry A formal chronological record of how the entity's transactions affect the balances in pertinent accounts.

general journal The most common example of a book of original entry; a complete chronological record of transactions.

When transactions are entered into the ledger, which is the third step of the recording process, they are not entered in a single place. Instead, as we have seen, they are divided up into components that affect the various accounts and entered under the appropriate accounts. Information in the ledger is updated periodically by recording each piece of each transaction from the journal in the ledger account where it belongs. This process might occur weekly, or even less frequently in very small organizations. The timing of the steps will differ. Transactions occur constantly and source documents are prepared continuously. Depending on the size and nature of the organization, the accounting operation may be very large and transaction analysis may also occur continuously or the operation may be small and the analysis of transactions and recording in the journal may be less frequent. Basically, the timing of the steps in the recording process must conform to the needs of the users of the data.

The fourth step of the recording process is the preparation of the **trial balance,** which is a simple listing of the accounts in the general ledger together with their balances. This listing aids in verifying clerical accuracy and in preparing financial statements. Thus it occurs as needed, perhaps each month or each quarter as the firm prepares its financial statements. The final step, the preparation of financial statements, occurs at least once a quarter, every three months, for publicly traded companies in the United States. Although they are required to produce financial statements only once a quarter for external reporting, some companies prepare financial statements more frequently for management's

trial balance A list of all accounts in the general ledger with their balances.

benefit. For example, Springfield ReManufacturing Corp. in the Ozark Mountains of southern Missouri prepares monthly financial statements. Springfield is a leader in "open-book management," which refers to the open availability of the company's accounting results. Management and all employees meet monthly to examine the results in detail. Extensive training is provided to employees on how the accounting process works and what the numbers mean. This new management process increased efficiency and profitability at Springfield.

Journalizing Transactions

journalizing The process of entering transactions into the journal.

journal entry An analysis of the effects of a transaction on the accounts, usually accompanied by an explanation.

Objective 2
Analyze and journalize transactions.

The process of entering transactions into the journal is called **journalizing.** A **journal entry** is an analysis of all the effects of a single transaction on the various accounts, usually accompanied by an explanation. For each transaction, this analysis identifies the accounts to be debited and credited. The top of Exhibit 3-1 shows how the opening three transactions for Biwheels are journalized.

The conventional form for recording in the general journal includes the following:

1. The date and identification number of the entry make up the first two columns.
2. The accounts affected are shown in the next column, Accounts and Explanation. The title of the account or accounts to be debited is placed flush left. The title of the account or accounts to be credited is indented in a consistent way. The journal entry is followed by the narrative explanation of the transaction, which can be brief or extensive. The length of the explanation depends on the complexity of the transaction and whether management wants the journal itself to contain all relevant information. Most often, explanations are brief because details are available in the file of supporting documents.
3. The Post Ref. (posting reference) column contains the number that is assigned to each account and is used for cross-referencing to the ledger accounts.
4. The debit and credit columns are for recording the amounts that are to be debited (left) or credited (right) for each account. No dollar signs are used.

Chart of Accounts

chart of accounts A numbered or coded list of all account titles.

To make recording and understanding recordings easier, organizations have a **chart of accounts,** which is normally a numbered or coded list of all account titles. These numbers are used as references in the Post Ref. column of the journal, as Exhibit 3-1 demonstrates. The following is the chart of accounts for Biwheels:

Account Number	Account Title	Account Number	Account Title
100	Cash	202	Note payable
120	Accounts receivable	203	Accounts payable
		300	Paid-in capital
130	Merchandise inventory	400	Retained income
		500	Sales revenues
140	Prepaid rent	600	Cost of goods sold
170	Store equipment	601	Rent expense
170A	Accumulated depreciation, store equipment (explained later)	602	Depreciation expense

Although an outsider will not know what each code means without referring to the chart of accounts, accounting employees become so familiar with the various codes that

General Journal

Date	Entry No.	Accounts and Explanation	Post Ref.	Debit	Credit
19X1					
12/31	1	Cash	100	400,000	
		Paid-in capital	300		400,000
		Capital stock issued to Smith			
12/31	2	Cash	100	100,000	
		Note payable	202		100,000
		Borrowed at 9% interest on a one year note			
19X2					
1/2	3	Merchandise Inventory	130	150,000	
		Cash	100		150,000
		Acquired inventory for cash			

General Ledger

CASH — Account No. 100

Date	Explanation	Journ. Ref.	Debit	Date	Explanation	Journ. Ref.	Credit
19X1				19X2			
12/31	(often blank because the explanation is already in the journal)	1	400,000	1/2		3	150,000
12/31		2	100,000				

MERCHANDISE INVENTORY — Account No. 130

Date	Explanation	Journ. Ref.	Debit	Date	Explanation	Journ. Ref.	Credit
19X2 1/2		3	150,000				

NOTE PAYABLE — Account No. 202

Date	Explanation	Journ. Ref.	Debit	Date	Explanation	Journ. Ref.	Credit
				19X1 12/31		2	100,000

PAID-IN CAPITAL — Account No. 300

Date	Explanation	Journ. Ref.	Debit	Date	Explanation	Journ. Ref.	Credit
				19X1 12/31		1	400,000

Exhibit 3-1

Journal Entries—Recorded in General Journal and Posted to General Ledger Accounts

they think, talk, and write in terms of account numbers instead of account names. Thus an outside auditor may find Biwheels' entry 3, the acquisition of Merchandise Inventory (Account 130) for Cash (Account 100), journalized as follows:

			dr.	cr.
19X2				
Jan. 2	130	.....	150,000	
	100	.....		150,000

This journal entry was made using the employee's shorthand, which uses codes and does not bother with account names. Its brevity and lack of explanation would hamper any outsider's understanding of the transaction, but the entry's meaning would be clear to anyone within the organization.

Posting Transactions to the Ledger

posting The transferring of amounts from the journal to the appropriate accounts in the ledger.

Objective 3
Post journal entries to the ledgers.

Posting is the transferring of amounts from the journal to the appropriate accounts in the ledger. To demonstrate, consider transaction 3 for Biwheels. Exhibit 3-1 shows with bold arrows how the credit to cash is posted using the information and values from the journal entry. Note that the sample of the general ledger in Exhibit 3-1 uses fairly complete structures for the account rather than the simplified T-accounts format. Dates, explanations and journal references are provided in detail on paper formatted with special columns. The structure is repeated for debits on the left side of the page and for credits on the right side.

Because posting is strictly a mechanical process of moving numbers from the journal to the ledger, many accountants feel it is most efficiently done by a computer. In such cases, the accountant would journalize a transaction in an electronic general journal, and the computer would automatically transfer the information to an electronic version of the ledger. Note how cross-referencing occurs between the journal and the ledger. The date is recorded in the journal and the ledger, and the journal entry number for each transaction is placed in the reference column of the ledger. The process of using numbering, dating, and/or some other form of identification to relate each posting to the appropriate journal entry is known as the **keying of entries,** or **cross-referencing.** Transactions from the journal are often posted to several different accounts, but keying allows users to find all the components of the transactions in the ledger no matter where they start. It also helps auditors to find and correct errors and reduces the frequency of initial errors.

keying of entries (cross-referencing) The process of numbering or otherwise specifically identifying each journal entry and each posting.

Running Balance Column

Ledger entries do not always take the form of a T-account. Exhibit 3-2 shows another popular ledger account format, one that adds an additional column to the presentation to

CASH Account No. 100

Date	Explanation	Journ. Ref.	Debit	Credit	Balance
19X1					
12/31	(often blank because the explanation is already	1	400,000		400,000
12/31	in the journal)	2	100,000		500,000
19X2					
1/2		3		150,000	350,000

Exhibit 3-2
Ledger Account with Running Balance Column

provide a *running balance* of the account holdings. This format should look familiar to you because it is very similar to the format found in a checkbook. The running balance feature is a nice addition because it provides a status report for an account at a glance. Although it can certainly be tallied manually, the running balance is most easily tracked by computers.

Note that regardless of the account format used—T-account (Exhibit 3-1) or running balance (Exhibit 3-2)—the same journal information is reflected in the posting.

ANALYZING, JOURNALIZING, AND POSTING THE BIWHEELS TRANSACTIONS

We have seen that the accountant reviews source documents about a transaction, mentally analyzes the transaction, records that analysis in a journal entry, and then posts the result to the general ledger where all transactions affecting an account are grouped together. We can now apply this process to additional transactions from the Biwheels company.

4. Transaction: Acquired inventory on credit, $10,000.
Analysis: The asset **Merchandise Inventory** is increased.
The liability **Accounts Payable** is increased.
Entry: In the journal (explanation omitted):

Merchandise inventory	10,000	
Accounts payable		10,000

Post to the ledger (postings are indicated by circled amounts):

Merchandise Inventory*				Accounts Payable			
(3)	150,000				(4)		(10,000)
(4)	(10,000)						

*If it is the only type of inventory account, it is often simply called Inventory.

Transaction 4, like transactions 1, 2, and 3, is a **simple entry** in that only the two accounts shown are affected by the transaction. Note that the balance sheet equation always remains in balance.

simple entry An entry for a transaction that affects only two accounts.

5. Transaction: Acquired store equipment for $4,000 cash plus $11,000 trade credit.
Analysis: The asset **Cash** is decreased.
The asset **Store Equipment** is increased.
The liability **Accounts Payable** is increased.
Entry: In the journal:

Store equipment	15,000	
Cash		4,000
Accounts payable		11,000

Post to the ledger:

Cash				Accounts Payable			
(1)	400,000	(3)	150,000		(4)		10,000
(2)	100,000	(5)	(4,000)		(5)		(11,000)

Store Equipment			
(5)	(15,000)		

Transaction 5 is a **compound entry,** which means that more than two accounts are affected by a single transaction. Whether transactions are simple (like transactions 1 through 4) or compound, the total of all left-side entries always equals the totals of all right-side entries. The net effect is always to keep the accounting equation in balance:

compound entry An entry for a transaction that affects more than two accounts.

Assets	=	Liabilities	+	Stockholders' equity
15,000 − 4,000	=		+	11,000

6. Transaction: Sold unneeded showcase to neighbor for $1,000 on open account.
Analysis: The asset **Accounts Receivable** is increased.
The asset **Store Equipment** is decreased.
Entry: In the journal:

Accounts receivable	1,000	
Store equipment		1,000

Post to the ledger:

Accounts Receivable			
(6)	(1,000)		

Store Equipment			
(5)	15,000	(6)	(1,000)

In transaction 6, one asset goes up, and another asset goes down. Only one side of the accounting equation is involved because no liability or owners' equity account is affected.

7. Transaction: Returned inventory to supplier for full credit, $800.
Analysis: The asset **Merchandise Inventory** is decreased.
The liability **Accounts Payable** is decreased.
Entry: In the journal:

Accounts payable	800	
Merchandise inventory		800

Post to the ledger:

Merchandise Inventory				Accounts Payable			
(3)	150,000	(7)	(800)	(7)	(800)	(4)	10,000
(4)	10,000					(5)	11,000

8. Transaction: Paid cash to creditors, $4,000.
Analysis: The asset **Cash** is decreased.
The liability **Accounts Payable** is decreased.
Entry: In the journal:

Accounts payable	4,000	
Cash		4,000

Post to the ledger:

Cash				Accounts Payable			
(1)	400,000	(3)	150,000	(7)	800	(4)	10,000
(2)	100,000	(5)	4,000	(8)	(4,000)	(5)	11,000
		(8)	(4,000)				

9. Transaction: Collected cash from debtors, $700.
Analysis: The asset **Cash** is increased.
The asset **Accounts Receivable** is decreased.
Entry: In the journal:

Cash	700	
Accounts receivable		700

Post to the ledger:

Cash			
(1)	400,000	(3)	150,000
(2)	100,000	(5)	4,000
(9)	(700)	(8)	4,000

Accounts Receivable			
(6)	1,000	(9)	(700)

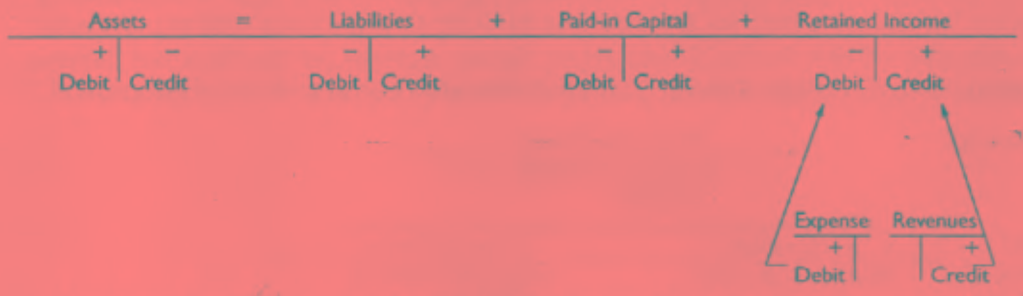
Transactions 7, 8, and 9 are all simple entries. In transactions 7 and 8, an asset and a liability both go down. In transaction 9, one asset goes up while another asset goes down.

Revenue and Expense Transactions

Revenue and expense transactions deserve special attention because their relation to the balance sheet equation is less obvious. To help focus on this relationship, you should review how the owners' equity section of the balance sheet equation can be broken down

Assets = Liabilities + Stockholders' equity (1)
Assets = Liabilities + (Paid-in capital + Retained income) (2)

Recall from Chapter 2 that if we ignore dividends, retained income is merely accumulated revenue less expenses. Therefore the T-accounts can be grouped as follows:



You may wonder why we do not simply increase the Retained Income account directly. To do so would make it harder to prepare an income statement because revenue and expense items would be mixed together in the Retained Income account. By accumulating information separately for categories of revenue and expense, a more meaningful income statement can be easily prepared.

Expense and Revenue accounts are part of Retained Income. You can think of them as separate compartments within the larger Retained Income account. Expense and Revenue accounts are types of accounts, just as an asset account is a type. Cash is a specific asset account and we will discuss a variety of specific revenue and expense accounts. A Revenue account collects items that increase retained income. Thus, any credit to Revenue is essentially a credit to Retained Income (both revenue and retained income are increased by such a credit entry). Sales revenue is an example of a revenue account. The Expense account collects items that decrease retained income. Thus, a debit to Expense is essentially a debit to Retained Income. Although a debit entry increases expenses, it results in a decrease in retained income. Wage expense is an example of an expense account. Revenue and expense accounts are really "little" stockholders' equity accounts. That is, they are fundamentally a part of stockholders' equity.

We can now examine a few transactions involving revenues and expenses. Consider Biwheels' transactions 10a and 10b in detail:

10a. Transaction: Sales on credit, $160,000.
Analysis: The asset **Accounts Receivable** is increased.
The stockholders' equity **Sales Revenues** is increased.
Entry: In the journal:

Accounts receivable	160,000	
Sales revenues		160,000

Post to the ledger:

Accounts Receivable				Sales Revenues			
(6)	1,000	(9)	700			(10a)	(160,000)
(10a)	(160,000)						

The Sales Revenues account is increased by a credit, or right-side, entry in this transaction, essentially increasing the stockholders' equity account, Retained Income.

10b. Transaction: Cost of merchandise inventory sold, $100,000.
Analysis: The asset **Merchandise Inventory** is decreased.
The stockholders' equity is decreased by creating an expense account, **Cost of Goods Sold**, which is essentially a negative stockholders' equity account.
Entry: In the journal:

Cost of goods sold	100,000	
Merchandise Inventory		100,000

Post to the ledger:

Merchandise Inventory					Cost of Goods Sold		
(3)	150,000	(7)	800	(10b)	(100,000)		
(4)	10,000	(10b)	(100,000)				

In this transaction, the expense account, Cost of Goods Sold, is increased by a debit, or left-side, entry. The effect is to decrease the stockholders' equity account, Retained Income.

Before proceeding, reflect on the logic illustrated by transactions 10a and 10b. These transactions illustrate the general relationship of revenue and expense to retained income using actual journal entries and showing the effects on the ledger accounts. Revenues increase stockholders' equity because the revenue accounts and the stockholders' equity accounts are right-side balance accounts. Expenses decrease stockholders' equity because expenses are left-side balance accounts. They are offsets to the normal right-side balances of stockholders' equity. Therefore increases in expenses are decreases in stockholders' equity. The following analysis shows that the $100,000 Cost of Goods Sold expense could be recorded directly in the Stockholders' Equity Account, in the Retained Income account, or in an expense account. This third alternative captures the most information.

If only a lone stockholder's equity account is used:

Stockholders' Equity	
Decreases	Increases
(100,000)	

If two stockholders' equity accounts are used without a revenue or expense account:

Paid-in Capital		Retained Income	
Decreases	Increases	Decreases	Increases
		(100,000)	

If revenue and expense accounts are created that will eventually be summarized into a single net effect on retained income:

Expenses	Revenues
Increases	Increases
(100,000)	

Exhibit 3-3 presents the rules of debit and credit and the normal balances of the accounts discussed in this section. It demonstrates the basic principles of the balance sheet equation and the double-entry accounting system:

Left side = Right side
Debit = Credit

Exhibit 3-3

Rules of Debit and Credit and Normal Balances of Accounts

RULES OF DEBIT AND CREDIT

ASSETS	=	LIABILITIES	+	OWNERS' EQUITY

Assets		=	Liabilities		+	Paid-in Capital		+	Retained Income	
+	−		−	+		−	+		−	+
Increase	Decrease		Decrease	Increase		Decrease	Increase		Decrease	Increase
Debit	Credit		Debit	Credit		Debit	Credit		Debit	Credit
Left	Right		Left	Right		Left	Right		Left	Right
Normal Bal.				Normal Bal.			Normal Bal.			Normal Bal.

Revenues	
−	+
Decrease	Increase
Debit	Credit
Left	Right
	Normal Bal.

Expenses	
+*	−
Increase	Decrease
Debit	Credit
Left	Right
Normal Bal.	

Normal Balances

Assets	Debit	
Liabilities		Credit
Owners' Equity (overall)		Credit
Paid-in Capital		Credit
Revenues		Credit
Expenses	Debit	

*Remember that *increases* in expenses *decrease* retained income.

The exhibit also emphasizes that revenues increase stockholders' equity; hence they are recorded as credits while expenses decrease stockholders' equity and are recorded as debits. Keeping revenues and expenses, which are changes in retained income resulting from operations, in separate accounts makes it easier to prepare an income statement. Revenues and expenses are summarized and used to calculate net income (or net loss) on the income statement providing a detailed explanation of how operations caused the retained income shown on the balance sheet to change during the period.

Prepaid Expenses and Depreciation Transactions

Recall from Chapter 2 that prepaid expenses, such as prepaid rent and depreciation expenses, relate to assets having a useful life that will expire some time in the future. Biwheels' transactions 11, 12, and 13 demonstrate the analysis for journalizing and posting of prepaid rent expenses and depreciation of store equipment.

11. Transaction: Paid rent for three months in advance, $6,000.
Analysis: The asset **Cash** is decreased.
The asset **Prepaid Rent** is increased.
Entry: In the journal:

Prepaid rent	6,000	
Cash		6,000

Post to the ledger:

Cash			
(1)	400,000	(3)	150,000
(2)	100,000	(5)	4,000
(9)	700	(8)	4,000
		(11)	(6,000)

Prepaid Rent	
(11)	(6,000)

Transaction 11 represents the prepayment of rent as the acquisition of an asset. It affects only asset accounts—Cash is decreased (credited) and Prepaid Rent is increased (debited). Transaction 12 represents the subsequent expiration of one-third of the asset as an expense.

12. Transaction: Recognized expiration of rental services, $2,000.
Analysis: The asset ***Prepaid Rent*** is decreased.
The negative stockholders' equity **Rent Expense** is increased.
Entry: In the journal:

Rent expense	2,000	
Prepaid rent		2,000

Post to the ledger:

Prepaid Rent			Rent Expense		
(11)	6,000	(12)	(2,000)	(12)	(2,000)

Remember that in this transaction, the effect of the $2,000 increase in Rent Expense is a decrease in stockholders' equity on the balance sheet.

13. Transaction: Recognized depreciation, $100.
Analysis: The asset-reduction account **Accumulated Depreciation, Store Equipment** is increased.
The negative stockholders' equity **Depreciation Expense** is increased.
Entry: In the journal:

Depreciation expense	100	
Accumulated depreciation, store equipment		100

Post to the ledger:

Accumulated Depreciation, Store Equipment			Depreciation Expense		
	(13)	(100)	(13)	(100)	

contra account A separate but related account that offsets or is a deduction from a companion account. An example is accumulated depreciation.

contra asset A contra account that offsets an asset.

book value (net book value, carrying amount, carrying value) The balance of an account shown on the books, net of any contra accounts. For example, the book value of equipment is its acquisition cost minus accumulated depreciation.

accumulated depreciation (allowance for depreciation) The cumulative sum of all depreciation recognized since the date of acquisition of the particular assets described.

In transaction 13, a new account, Accumulated Depreciation, is opened. While it is described as an *asset-reduction* account in our analysis and corresponding journal entry, a more popular term is *contra account*. A **contra account** is a separate but related account that offsets or is a deduction from a companion account. A contra account has two distinguishing features: (1) it always has a companion account, and (2) it has a balance on the opposite side than the companion account. In our illustration, accumulated depreciation is a **contra asset account** because it is a contra account offsetting an asset. While the normal balance of the asset account is a debit, the normal balance of accumulated depreciation is a credit. The asset and contra asset accounts on January 31, 19X2, are:

Asset:	Store equipment	$14,000
Contra asset:	Accumulated depreciation, equipment	100
Net asset:	Book value	$13,900

The **book value** or **net book value** or **carrying amount** or **carrying value** is defined as the balance of an account shown on the books, net of any contra accounts. In our example, the book value of Store Equipment is $13,900, the original acquisition cost less the contra account for accumulated depreciation.

A Note on Accumulated Depreciation

The balance sheet distinguishes between the store equipment's original cost and its accumulated depreciation. As the name implies, **accumulated depreciation** (sometimes called **allowance for depreciation**) is the cumulative sum of all depreciation recognized since the date of acquisition of the particular assets described. Published balance sheets routinely report both the original cost and accumulated depreciation.

Why is there an Accumulated Depreciation account? Why not reduce Store Equipment directly by $100? Conceptually, a direct reduction is indeed justified. However, accountants have traditionally preserved the original cost in the original asset account throughout the asset's useful life. Accountants can then readily refer to that account to learn the asset's initial cost. Such information may be sought for reports to management, government regulators, and tax authorities. Moreover the original $14,000 cost is the height of accuracy—it is a reliable, objective number. In contrast, the Accumulated Depreciation is an estimate, the result of a calculation whose accuracy depends heavily on the accountant's less reliable prediction of an asset's useful life. Recall that the $100 of depreciation was calculated by dividing the $14,000 cost by an assumed useful life of 140 months. We have no assurance regarding how long an asset will be useful. Some cars run for several hundred thousand miles over 20 years, while others become impossible to keep running after 10 years of use. In calculating depreciation, we must make estimates that are imperfect, but there is no other way to allocate the cost of the equipment over the periods that it benefits.

In practice investors can estimate the average age of the assets by computing the percentage of the original cost that has been depreciated. For example, Microsoft has accumulated depreciation of $314 million on an original cost of plant and equipment of $1,037 million, making it 30% depreciated. Most of Microsoft's assets must be quite young, which is what would be expected for a fast-growing company. In contrast, the German diversified industrial company VIAG Aktiengesellschaft has accumulated depreciation of DM 17.1 billion on an original cost of DM 24.5 billion (DM stands for the German currency deutsche marks). Therefore, its assets are 17.1 ÷ 24.5 = 70% depreciated.

BIWHEELS' TRANSACTIONS IN THE JOURNAL AND LEDGER

Exhibit 3-4 shows the formal journal entries for Biwheels' transactions 4 through 13 as analyzed in the previous section. The posting reference (Post Ref.) column uses the account numbers from the Biwheels chart of accounts on page 86. These account numbers also appear on each account in the Biwheels general ledger.

Exhibit 3-5 shows the Biwheels general ledger in T-account form. Pause and trace each of the following journal entries to its posting in the ledger:

1. Initial investment
2. Loan from bank
3. Acquire merchandise inventory for cash
4. Acquire merchandise inventory for credit.

Exhibit 3-4

General Journal of Biwheels Company

Date	Entry No.	Accounts and Explanation	Post Ref.	Debit	Credit
19X2	4	Merchandise inventory	130	10,000	
		Accounts payable	203		10,000
		Acquired inventory on credit.			
	5	Store Equipment	170	15,000	
		Cash	100		4,000
		Accounts payable	203		11,000
		Acquired store equipment for cash plus credit.			
		(This is an example of a *compound journal entry*,			
		whereby more than two accounts are affected by			
		the same transaction.)			
	6	Accounts receivable	120	1,000	
		Store equipment	170		1,000
		Sold store equipment to business neighbor.			
	7	Accounts payable	203	800	
		Merchandise inventory	130		800
		Returned some inventory to supplier.			
	8	Accounts payable	203	4,000	
		Cash	100		4,000
		Payments to creditors.			
	9	Cash	100	700	
		Accounts receivable	120		700
		Collections from debtors.			
	10a	Accounts receivable	120	160,000	
		Sales	500		160,000
		Sales to customers on credit.			
	10b	Cost of goods sold	600	100,000	
		Merchandise inventory	130		100,000
		To record the cost of inventory sold.			
	11	Prepaid rent	140	6,000	
		Cash	100		6,000
		Payment of rent in advance.			
	12	Rent expense	601	2,000	
		Prepaid rent	140		2,000
		Recognize expiration of rental service.			
	13	Depreciation expense	602	100	
		Accumulated depreciation, store equipment	170A		100
		Recognize depreciation for January.			

Exhibit 3-5

General Ledger of Biwheels Company

Assets

(Increases on left, decreases on right)

Cash — Account No. 100

(1)	400,000	(3)	150,000
(2)	100,000	(5)	4,000
(9)	700	(8)	4,000
		(11)	6,000
1/31 Bal.	336,700		

Accounts Receivable — 120

(6)	1,000	(9)	700
(10a)	160,000		
1/31 Bal.	160,300		

Merchandise Inventory — 130

(3)	150,000	(7)	800
(4)	10,000	(10b)	100,000
1/31 Bal.	59,200		

Prepaid Rent — 140

(11)	6,000	(12)	2,000
1/31 Bal.	4,000		

Store Equipment — 170

(5)	15,000	(6)	1,000
1/31 Bal.	14,000		

Accumulated Depreciation, Store Equipment — 170A

		(13)	100

Liabilities and Stockholders' Equity

(Decreases on left, increases on right)

Note Payable — 202

		(2)	100,000

Accounts Payable — 203

(7)	800	(4)	10,000
(8)	4,000	(5)	11,000
		1/31 Bal.	16,200

Paid-in Capital — 300

		(1)	400,000

Retained Income — 400

		1/31 Bal.	57,900*

Expense and Revenue Accounts

Cost of Goods Sold — 600

(10b)	100,000		

Rent Expense — 601

(12)	2,000		

Depreciation Expense — 602

(13)	100		

Sales Revenues — 500

		(10a)	160,000

*The details of the revenue and expense accounts appear in the income statement. Their net effect is then transferred to a single account, Retained Income, in the balance sheet. In this case, $160,000 − $100,000 − $2,000 − $100 = $57,900.

Note: An ending balance is shown on the side of the account with the larger total.

5. Acquire store equipment for cash plus credit
6. Sale of equipment on credit
7. Return of merchandise inventory for credit
8. Payments to creditors
9. Collections from debtors
10a. Sales on credit
10b. Cost of merchandise inventory sold
11. Pay rent in advance
12. Recognize expiration of rental services
13. Recognize depreciation

It is customary not to use dollar signs in either the journal or the ledger. You should also note that negative numbers are never used in the journal or the ledger to show the effect of a given transaction on an account. Instead the effect on the account is conveyed by the side on which the number appears. Debits and credits tell the whole story in the recording process, so be sure you understand them fully.

In the ledgers that do not keep a running balance column, the account balance may be updated from time to time as desired. There are many acceptable techniques for updating, and accountants' preferences vary. The double horizontal lines in Exhibit 3-5 signify that these accounts have been updated. (Many accountants prefer to use single horizontal lines instead of the double lines used in this book.) All postings above the double lines are summarized as a single balance immediately below the double lines. Accountants would use this single balance as a starting point for computing the next updated balance.

The accounts in Exhibit 3-5 that contain only one lone number do not have a double line. Why? If there is only one number in a given account, this number automatically serves also as the ending balance. For example, the Note Payable entry of $100,000 also serves as the ending balance for the account.

PREPARING THE TRIAL BALANCE

Objective 4
Prepare and use a trial balance.

Once journal entries have been posted to the ledger, the next step in the process of recording transactions is the preparation of a trial balance. A trial balance is a list of all of the accounts with their balances. It is prepared as a test or check—a trial as the name says—before proceeding further. Thus the purpose of the trial balance is twofold: (1) to help check on accuracy of posting by proving whether the total debits equal the total credits, and (2) to establish a convenient summary of balances in all accounts for the preparation of formal financial statements. Basically, you can think of the trial balance as a kind of worksheet for checking the figures when preparing financial statements, much like a worksheet you might use when preparing a math exam. Just as your professor gets only your exam and not your worksheet, the public sees only the published financial statements, not the trial balance.

A trial balance may be taken at any time the accounts are up to date. For example, we might take a trial balance for Biwheels on January 2, 19X2, after the company's first three transactions:

Biwheels Company
Trial Balance January 2, 19X2

		Balance	
Account Number	*Account Title*	*Debit*	*Credit*
100	Cash	$350,000	
130	Merchandise inventory	150,000	
202	Note payable		$100,000
300	Paid-in capital		$400,000
	Total	$500,000	$500,000

Obviously, the more accounts there are, the more detailed (and the more essential for checking multiple figures) the trial balance becomes.

Exhibit 3-6 shows the trial balance of the general ledger in Exhibit 3-5. As shown, the trial balance is normally prepared with the balance sheet accounts listed first, in the order of assets, liabilities, and stockholders' equity. These are followed by the income statement accounts, Revenues and Expenses. Note that the last stockholders' equity account listed, Retained Income, has no balance here because it was zero at the start of the period in our example. The revenues and expenses for the current period that are on the list constitute the change in retained income for the current period. When the accountant prepares a formal balance sheet, the revenue and expense accounts will be deleted and their net effect will be added to the Retained Income account.

Deriving Financial Statements from the Trial Balance

As you can see, the trial balance assures the accountant that the debits and credits are equal. It is also the springboard for the preparation of the balance sheet and the income statement, as shown in Exhibit 3-7. The income statement accounts are summarized later as a single number, net income, which then becomes part of Retained Income in the formal balance sheet. Note that the retained income in the balance sheet in Exhibit 3-7 is $57,900 although the retained income in the trial balance is $0. This is because the balance sheet shows the ending balance in retained income, the beginning balance of zero plus net

Exhibit 3-6

Biwheels Company

Trial Balance January 31, 19X2

	Debits	Credits
Cash	$336,700	
Accounts receivable	160,300	
Merchandise inventory	59,200	
Prepaid rent	4,000	
Store equipment	14,000	
Accumulated depreciation, store equipment		$ 100
Note payable		100,000
Accounts payable		16,200
Paid-in capital		400,000
Retained income		0*
Sales revenues		160,000
Cost of goods sold	100,000	
Rent expense	2,000	
Depreciation expense	100	
Total	$676,300	$676,300

*If a Retained income balance existed at the start of the accounting period, it would appear here. However, in our example Retained Income was zero at the start of the period.

income during the period. In future periods when the trial balance is prepared, the beginning balance will be the ending balance of the previous period. The beginning balance for next period will be $57,900.

Although the trial balance helps alert the accountant to possible errors, a trial balance may balance even when there are recording errors. For example, an accountant may misread a $10,000 cash receipt on account as a $1,000 receipt and erroneously record that amount in both the Cash and Accounts Receivable accounts. Then both Cash and Accounts Receivable would be in error by offsetting amounts of $9,000. Another example would be the recording of a $10,000 cash receipt on account as a credit to Sales Revenues rather than as a credit reducing Accounts Receivable. Sales Revenues and Accounts Receivable would both be overstated by $10,000. Nevertheless, the trial balance would still show total debits equal to total credits.

EFFECTS OF ERRORS

Objective 5
Correct erroneous journal entries and describe how errors affect accounts.

When a journal entry contains an error, the entry can be erased or crossed out and corrected—if the error is discovered immediately. However, if the error is detected later, typically after posting to ledger accounts, the accountant makes a correcting entry, as distinguished from a correct entry. Basically, the idea behind correcting entries is to counteract the erroneous entries into the incorrect accounts and to make sure that all correct accounts are either credited or debited. The correcting entry is recorded in the general journal and posted to the general ledger exactly as regular entries are. But the end result is that the balances in the accounts are corrected to what they should have been originally. The focus is on the final balances, not on the flow of entries through the accounts. The balances are used in preparing the financial statements and therefore it is the balances that must be correct.

Exhibit 3-7

Trial Balance, Balance Sheet, and Income Statement

Biwheels Company
Trial Balance
January 31, 19X2

	Debits	Credits
Cash	$336,700	
Accounts receivable	160,300	
Merchandise inventory	59,200	
Prepaid rent	4,000	
Store equipment	14,000	
Accumulated depreciation, store equipment		$ 100
Note payable		100,000
Accounts payable		16,200
Paid-in capital		400,000
Retained income		0
Sales revenue		160,000
Cost of goods sold	100,000	
Rent expense	2,000	
Depreciation expense	100	
Total	$676,300	$676,300

Biwheels Company
Balance Sheet
January 31, 19X2

Assets			Liabilities and Stockholders' Equity		
			Liabilities:		
Cash		$336,700	Note payable		$100,000
Accounts receivable		160,300	Accounts payable		16,200
Merchandise inventory		59,200	Total liabilities		$116,200
Prepaid rent		4,000	Stockholders' equity:		
Store equipment	14,000		Paid-in capital	$400,000	
Less accumulated depreciation	100	13,900	Retained income	57,900	
Total assets		$574,100	Total stockholders' equity		457,900
			Total liabilities and stockholders' equity		$574,100

Biwheels Company
Income Statement
For the Month Ended January 31, 19X2

Sales revenues		$160,000
Deduct expenses:		
Cost of goods sold	$100,000	
Rent	2,000	
Depreciation	100	
Total expenses		102,100
Net income		$ 57,900

Consider the following examples:

1. A repair expense was erroneously debited to Equipment on December 27. The error is discovered on December 31:

CORRECT ENTRY

12/27 Repair Expense	500	
Cash		500

ERRONEOUS ENTRY

12/27 Equipment	500	
Cash		500

CORRECTING ENTRY

12/31 Repair Expense	500	
Equipment		500

The correcting entry shows a credit to Equipment to cancel or offset the erroneous debit to Equipment. Moreover, the entry debits Repair Expense correctly. Notice that the credit to Cash was correct and therefore was not changed.

2. A collection on account was erroneously credited to Sales on November 2. The error is discovered on November 28:

CORRECT ENTRY

11/2 Cash	3,000	
Accounts Receivable		3,000

ERRONEOUS ENTRY

11/2 Cash	3,000	
Sales		3,000

CORRECTING ENTRY

11/28 Sales	3,000	
Accounts Receivable		3,000

The debit to Sales in the correcting entry offsets the incorrect credit to Sales in the erroneous entry. The credit to Accounts Receivable in the correcting entry places the collected amount where it belongs. The correcting entry moves the 3,000 from the Sales account to the Accounts Receivable account where it belongs. The correct debit to Cash in the erroneous entry is unaffected by the correcting entry.

Some Errors Are Counterbalanced

Accountants' errors that are undetected can affect a variety of items, including revenues and expenses for a given period. Some errors are counterbalanced by offsetting errors in the ordinary bookkeeping process in the next period. Such errors misstate net income in both periods, but by the end of the second period the errors counterbalance or cancel each other out, and they affect the balance sheet of only the first period, not the second.

Consider a payment of $1,000 in December 19X1 for rent. Suppose this was for January 19X2's rent. Instead of recording it as prepaid rent, the payment was listed as Rent Expense:

INCORRECT ENTRY

12/X1 Rent expense	1,000	
Cash		1,000
One month's rent.		

CORRECT ENTRY

12/X1	Prepaid rent	1,000	
	Cash		1,000
	Payment for January 19X2's rent.		
1/X2	Rent Expense	1,000	
	Prepaid rent		1,000
	Expiration of January's rent.		

The effects of this recording error would be to (1) overstate rent expense (which understates pretax income) and understate year-end assets by $1,000 (because the prepayment would not be listed as an asset waiting to be expired) for the first year and (2) understate rent expense (which overstates income by $1,000) for the second year. These errors have no effect on the second year's ending assets because the same *total* assets exist whether the rent is recorded as paid in January of that year or recorded as paid in full the previous year. The total of the incorrect pretax incomes for the two years would be identical with the total of the correct pretax incomes for the two years because the first year's understatement of $1,000 would counterbalance the second year's overstatement of $1,000. The retained income balance at the end of the second year would thus be correct on a pretax basis.

Some Errors Are Not Counterbalanced

Errors that are not counterbalanced in the ordinary bookkeeping process will keep subsequent balance sheets in error until specific correcting entries are made. For example, overlooking a depreciation expense of $2,000 in only one year would (1) overstate pretax income, assets, and retained income by $2,000 in that year, and (2) continue to overstate assets and retained income on successive balance sheets for the life of the fixed asset. But observe that pretax income for each subsequent year would not be affected unless the same error is committed again.

INCOMPLETE RECORDS

Objective 6
Use T-accounts to analyze accounting relationships.

A company's accounting records are not always perfect. Records may be stolen, destroyed, or lost, and accountants are left to make journal and ledger entries and create financial statements with incomplete records. Luckily, T-accounts can help accountants to discover unknown amounts. For example, suppose the proprietor of a local sports shop asks you for help in calculating her sales for 19X5. She provides the following accurate but incomplete information:

List of customers who owe money:	
December 31, 19X4	$ 4,000
December 31, 19X5	6,000
Cash receipts from customers during 19X5 appropriately credited to customer's accounts	280,000

She further tells you that all sales were on credit, not cash. How can you use T-accounts to solve for the missing credit sales figure? There are two basic steps to follow:

Step 1: Enter all known items into the key T-account. Of course, you need to understand this account and all of its components to properly work the problem. In this case, we are looking for credit sales, which are debited to Accounts Receivable. Substituting S for the unknown credit sales, we get the following T-account values:

Accounts Receivable			
Bal. 12/31/X4	4,000	Collections	280,000
Sales	S		
Total debits	(4,000 + S)	Total credits	280,000
Bal. 12/31/X5	6,000		

Step 2: Solve for the unknown. Finding this solution is usually just a simple arithmetic exercise. However, we can also use the debit and credit relationships we have just learned to solve our problem:

$$\begin{aligned} \text{Total debits} - \text{Total credits} &= \text{Balance} \\ (4{,}000 + S) - 280{,}000 &= 6{,}000 \\ S &= 6{,}000 + 280{,}000 - 4{,}000 \\ S &= 282{,}000 \end{aligned}$$

Obviously, the analyses of missing data become more complicated if there are more entries in a particular account and if there is more than one unknown value. Nevertheless, the key idea is to fill in the account with all known debits, credits, and balances, and then solve for the unknown.

DATA PROCESSING AND COMPUTERS

data processing The totality of the procedures used to record, analyze, store, and report on chosen activities.

Objective 7
Explain how computers have transformed processing of accounting data.

Data processing is a general term referring to the procedures used to record, analyze, store, and report on chosen activities. An accounting system is a data-processing system. Computers have been refining data-processing systems for the last decade, and the accounting system is no exception. (Although for simplicity's sake we focus on manual methods for record keeping.) Today almost all organizations use advanced technology, ranging from a simple cash register to bar-code scanners at grocery store checkouts to massive computer systems that automatically record and bill billions of telephone transactions per month.

Today journals and ledgers are more likely to be computerized than they are to be in the traditional paper book format. Regardless of their *format*, journals and ledgers still maintain the same *form* and still require the same inputs. So, whether you enter them into a book or into a computer, the transaction data in ledgers and journals remains the same. Of course, if you enter journal amounts into a computerized accounting program, the computer can automatically generate the subsequent ledger postings.

The personal computer has enabled small organizations to process data more efficiently than ever. In fact, managers can get computers to produce daily financial statements. However, the benefits of computers affect not only the outputs of a recording system, but the inputs as well. When you check out at a CVS drug store or The Limited clothing store, the cash register often does more than just record a sale. It may be linked to a computer that also records a decrease in inventory. It may activate an order to a supplier if the inventory level is low. If a sale is on credit, the computer may check a customer's credit limit, update the accounts receivable, and eventually prepare monthly statements for mailing to the customer. Most importantly, the computer can automatically enter each and every transaction into the journal as each transaction occurs, thereby reducing the amount of source document paperwork and moving from step 2 of the recording process to step 3 in the blink of an eye.

Because computers reduce the need for paperwork and for accountants to analyze every transaction, data processing costs have plummeted recently. Consider the oil companies. Amoco Oil Company once received 650,000 separate sales slips daily. But today most credit sales are recorded by computers reading the magnetic strips on credit cards. Many gas stations have the card-reading equipment built into the gasoline pumps, eliminating the need for sales clerks. Information about each credit sale is electronically submitted to a central computer, which prepares all billing documents and financial statements. Millions of transactions are recorded automatically into the general journal without any paperwork or keyboard entry, producing huge savings in time and money while increasing accuracy.

SUMMARY PROBLEMS FOR YOUR REVIEW

Problem One

Do you agree with the following statements? Explain.

1. To charge an account means to credit it.
2. One person's debit is another person's credit.
3. A charge account may be credited.
4. My credit is my most valuable asset.
5. When I give credit, I debit my customer's account.

Solution to Problem One

Remember that in accounting, debit means left side and credit means right side.

1. No. Charge and debit and left side are synonyms.
2. Yes, in certain situations. The clearest example is probably the sale of merchandise on open account. The buyer's account payable would have a credit (right) balance, and the seller's account receivable would have a debit (left) balance.
3. Yes. When collections are received, Accounts Receivable is credited (right).
4. Note that "charge" as used in "charge account" is not a synonym for debit. As used in this statement, "my credit" refers to "my ability to borrow," not which side of a balance sheet is affected. "My ability to borrow" may indeed be a valuable right, but the accountant does not recognize that ability (as such) as an asset to be measured and reported in the balance sheet. When borrowing occurs, the borrower's assets are increased (debited, increased on the left side) and the liabilities are increased (credited, increased on the right side).
5. Yes. Accounts Receivable is debited (left). "Give credit" in this context means that the seller is allowing the customer to defer payment. The corresponding account payable on the customer's accounting records will be increased (credited, right).

Problem Two

The trial balance of Hassan Used Auto Co. on March 31, 19X1, follows:

	Balance	
Account Title	*Debit*	*Credit*
Cash	$ 10,000	
Accounts receivable	20,000	
Automobile inventory	100,000	
Accounts payable		$ 3,000
Notes payable		70,000
Hassan, owner's equity		57,000
Total	$130,000	$130,000

The Hassan business is only a proprietorship, thus the equity account used here is Hassan, Owner's Equity. In practice, it is often called Hassan, Capital.

Hassan rented operating space and equipment on a month-to-month basis. During April, the business had the following summarized transactions:

a. Invested an additional $20,000 cash in the business.
b. Collected $10,000 on accounts receivable.

c. Paid $2,000 on accounts payable.
d. Sold autos for $120,000 cash.
e. Cost of autos sold was $70,000.
f. Replenished inventory for $60,000 cash.
g. Paid rent expense in cash, $14,000.
h. Paid utilities in cash, $1,000.
i. Paid selling expense in cash, $30,000.
j. Paid interest expense in cash, $1,000.

Required

1. Journalize transactions a–j and post the entries to the ledger. Key entries by transaction letter.
2. Open the following T-accounts in the general ledger: cash; accounts receivable; automobile inventory; accounts payable; notes payable; Hassan, owners' equity; sales; cost of goods sold; rent expense; utilities expense; selling expense; and interest expense. Enter the March 31 balances in the appropriate accounts.
3. Prepare the trial balance at April 30, 19X1.
4. Prepare an income statement for April. Ignore income taxes.

Solution to Problem Two

The solutions to requirements 1 through 4 are in Exhibits 3-8 through 3-11. The journal entries are prepared in Exhibit 3-8 and posted to the ledger in Exhibit 3-9. Opening balances are placed in the appropriate accounts in Exhibit 3-9. A trial balance is prepared in Exhibit 3-10, and the income statement is shown in Exhibit 3-11.

Problem Three

An annual report of Kobe Steel, Ltd., one of the world's largest producers of iron and steel, showed (in billions of Japanese yen):

Property, plant, and equipment, at cost	¥2,062	
Accumulated depreciation	1,051	¥1,011

1. Open T-accounts for (a) Property, Plant, and Equipment, (b) Accumulated Depreciation, and (c) Depreciation Expense. Enter the above amounts therein.
2. Assume that during the ensuing month no additional property, plant, and equipment were acquired, but depreciation expense of ¥80 billion was incurred. Prepare the journal entry, and post to the T-accounts.
3. Show how Kobe Steel would present its property, plant, and equipment accounts in its balance sheet after the journal entry in requirement 2.

Solution to Problem Three

1. Amounts are in billions of Japanese yen.

Property, Plant, and Equipment		Accumulated Depreciation, Property Plant, and Equipment	
2,062			1,051
		(2)	80
		Bal.	1,131

Depreciation Expense	
(2)	80

2. Depreciation expense 80
   Accumulated depreciation, property, plant, and equipment 80
3. The plant and equipment section would appear as follows:

Property, plant, and equipment, at cost	¥2,062	
Accumulated depreciation	1,131	¥931

Exhibit 3-8

Hassan Used Auto Co.
General Journal

ENTRY	ACCOUNTS AND EXPLANATION	POST REF.*	DEBIT	CREDIT
a.	Cash	✓	20,000	
	Hassan, owners' equity	✓		20,000
	Investment in business by Hassan.			
b.	Cash	✓	10,000	
	Accounts receivable	✓		10,000
	Collected cash on accounts.			
c.	Accounts payable	✓	2,000	
	Cash	✓		2,000
	Disbursed cash on accounts owed to others.			
d.	Cash	✓	120,000	
	Sales (or Sales Revenue)	✓		120,000
	Sales for cash.			
e.	Cost of goods sold	✓	70,000	
	Automobile inventory	✓		70,000
	Cost of inventory that was sold to customers.			
f.	Automobile inventory	✓	60,000	
	Cash	✓		60,000
	Replenished inventory.			
g.	Rent expense	✓	14,000	
	Cash	✓		14,000
	Paid April rent.			
h.	Utilities expense	✓	1,000	
	Cash	✓		1,000
	Paid April utilities.			
i.	Selling expense	✓	30,000	
	Cash	✓		30,000
	Paid April selling expenses.			
j.	Interest expense	✓	1,000	
	Cash	✓		1,000
	Paid April interest expense.			

* Ordinarily, account numbers are used to denote specific posting references. Otherwise check marks are used to indicate that the entry has been posted to the general ledger.

Highlights to Remember

Two very important steps in the accountant's recording process involve the journal and the general ledger. The journal provides a chronological record of transactions, whereas the general ledger provides a dated summary of the effects of the transactions on all accounts, account by account. This book uses a simplified version of general ledger accounts called T-accounts. Accountants at all levels use T-accounts to help think through complex transactions.

Accountants use the terms *debit* and *credit* repeatedly. Remember that debit simply means "left side" and credit means "right side."

Journal entries are a convenient, simple way to analyze a transaction. Journal entries are always posted to the general ledger.

Exhibit 3-9

Hassan Used Auto Co.

General Ledger

Cash

Bal.*	10,000	(c)	2,000
(a)	20,000	(f)	60,000
(b)	10,000	(g)	14,000
(d)	120,000	(h)	1,000
	160,000	(i)	30,000
		(j)	1,000
			108,000†
Bal.	52,000		

Accounts Receivable

Bal.*	20,000	(b)	10,000
Bal.	10,000		

Automobile Inventory

Bal.*	100,000	(e)	70,000
(f)	60,000		
Bal.	90,000		

Accounts Payable

(c)	2,000	Bal.*	3,000
		Bal.	1,000

Notes Payable

		Bal.*	70,000

Cost of Goods Sold

(e)	70,000

Selling Expense

(i)	30,000

Utilities Expense

(h)	1,000

Hassan, Owners' Equity

		Bal.*	57,000
		(a)	20,000
		Bal.	77,000

Sales

		(d)	120,000

Rent Expense

(g)	14,000

Interest Expense

(j)	1,000

*Balances denoted with an asterisk are as of March 31; balances without asterisks are as of April 30. A lone number in any account also serves as an ending balance.

†Subtotals are included in the Cash account. They are not an essential part of T-accounts. However, when an account contains many postings, subtotals ease the checking of arithmetic.

Exhibit 3-10

Hassan Used Auto Co.

Trial Balance April 30, 19X1

Account Title	Balance Debit	Balance Credit
Cash	$ 52,000	
Accounts receivable	10,000	
Automobile inventory	90,000	
Accounts payable		$ 1,000
Notes payable		70,000
Hassan, owners' equity		77,000
Sales		120,000
Cost of goods sold	70,000	
Rent expense	14,000	
Utilities expense	1,000	
Selling expense	30,000	
Interest expense	1,000	
Total	$268,000	$268,000

Exhibit 3-11

Hassan Used Auto Co.

Income Statement For the Month Ended April 30, 19X1

Sales		$120,000
Deduct expenses:		
Cost of goods sold	$70,000	
Rent expense	14,000	
Utilities expense	1,000	
Selling expense	30,000	
Interest expense	1,000	116,000
Net Income		$ 4,000

Trial balances are internal reports that are used for detecting errors in the accounts and to aid in preparing financial statements. Trial balances that fail to balance are inevitably the result of careless or rushed journalizing or posting. The good news is that the out-of-balance condition lets you know that an error has been made.

Despite precautions, errors sometimes occur in accounting entries. Such errors should be corrected when discovered, adjusting account balances so that they equal the amounts that would have existed if the correct entry had been made.

T-accounts help organize thinking and aid in the discovery of unknown amounts. The key idea is to fill in the related accounts with all known debits, credits, and balances, and then solve for the unknown amounts.

Accounting Vocabulary

accumulated depreciation, p. 94
allowance for depreciation, p. 94
balance, p. 83
book of original entry, p. 85
book value, p. 94
carrying amount, p. 94
carrying value, p. 94
charge, p. 84
chart of accounts, p. 86
compound entry, p. 89
contra account, p. 94
contra asset, p. 94
credit, p. 84
cross-referencing, p. 86
data processing, p. 102
debit, p. 84
double-entry system, p. 82
general journal, p. 85
general ledger, p. 83
journal entry, p. 86
journalizing, p. 86
keying of entries, p. 88
ledger, p. 83
net book value, p. 94
posting, p. 88
simple entry, p. 89
source documents, p. 85
T-account, p. 83
trial balance, p. 85

Assignment Material

Questions

3-1. "Double entry means that amounts are shown in the journal and ledger." Do you agree? Explain.

3-2. "Increases in cash and stockholders' equity are shown on the right side of their respective accounts." Do you agree? Explain.

3-3. "Debit and credit are used as verbs, adjectives, or nouns." Give examples of how debit may be used in these three meanings.

3-4. Name three source documents for transactions.

3-5. "The ledger is the major book of original entry because it is more essential than the journal." Do you agree? Explain.

3-6. "Revenue and expense accounts are really little stockholders' equity accounts." Explain.

3-7. "Accumulated depreciation is the total depreciation expense for the year." Do you agree? Explain.

3-8. Give two synonyms for book value.

3-9. "A trial balance assumes that the amounts in the financial statements are correct." Do you agree? Explain.

3-10. "If debits equal credits in a trial balance, you can be assured that no errors were made." Do you agree? Explain.

3-11. "In double-entry accounting, errors are not a problem because they are self-correcting." Do you agree? Explain.

3-12. Are all data processing systems computerized? Explain.

Exercises

3-13 Debits and Credits

For each of the following accounts, indicate whether it normally possesses a debit or a credit balance. Use *Dr.* or *Cr.*:

1. Sales
2. Accounts payable
3. Accounts receivable
4. Supplies expense
5. Supplies inventory
6. Retained income
7. Depreciation expense
8. Dividends payable
9. Paid-in capital
10. Subscription revenue

3-14 Debits and Credits

Indicate for each of the following transactions whether the account *named in parentheses* is to be debited or credited:

3-44 Financial Statement Research

Select the financial statements of any company.

Required

1. Prepare an income statement in the following format:

   Total sales (or revenues)
   Cost of goods sold
   Gross margin
   Other expenses
   Income before income taxes

   Be sure that all revenues are included in the first line and that all expenses (except income taxes) are included in either Cost of goods sold or Other expenses.
2. Prepare three summary journal entries for the income statement data you prepared. Use the given account titles and label your entries *a*, *b*, and *c*. Omit explanations. For simplicity, assume that all "Other expenses" were paid in cash.
3. Post to a ledger for all affected accounts. Key your postings by transaction letter.

COLLABORATIVE LEARNING EXERCISE

3-45 Income Statement and Balance Sheet Accounts

Form teams of two persons each. Each person should make a list of 10 account names, with approximately half being income statement accounts and half being balance sheet accounts. Give the list to the other member of the team, who is to write beside each account name the financial statement (*I* for income statement or *B* for balance sheet) on which it belongs. If there are errors or disagreements in classification, discuss the account and come to an agreement about which financial statement it belongs to.

PHLIP

3-46 Internet Case

Go to **http://www.sbaonline.sba.gov/** to find the U.S. Small Business Administration's home page.

Answer the following questions about the services provided by this government entity to anyone interested in starting or running a small business:

1. Select *Starting* from the main menu, then *Your First Steps.* Starting a new business goes beyond just the ability to create and sell a product or service. What are the four steps of a business plan? How does accounting fit in?
2. Select *Business Plans* from the *Starting Your Business* menu. A business plan involves projections of amounts that will later appear on financial statements. What three financial statements are projected? How could this information be helpful?
3. Select *Business Plans* from the *Starting Your Business* menu. Is it necessary for a business to plan the type of accounting system before operations begin? Why or why not?
4. Select *Business Plans* from the *Starting Your Business* menu. Go to *Appendix 2.* Where does a company find the accounts used on the balance sheet in its accounting records? What accounts given for the balance sheet have normal credit balances? What does the account name, "net worth," mean?
5. Select *Shareware Programs* from the *Starting Your Business* menu. Over 500 free, public-domain software programs are available for starting, running, or expanding a business. Select *Table of Contents,* then select the listing of programs called,

Files for Financing Your Business. Write the titles/names of three programs that would probably contain a general ledger.

6. Download and install one of the programs you selected in part 5 above. Open the program and make sure it does contain a general ledger system. Enter two or three transactions from your text. How does this software program refine your data processing as compared to a manual system? How will the output of data from the journals and ledgers in the software program differ from a manual system? (Note: If you are using a networked computer lab, consult your instructor prior to doing this.)

Chapter

4

Using Financial Statements

Lands' End rugby shirts symbolize comfortable fashion and fit, by mail order, at a profit.

Learning Objectives

After studying this chapter, you should be able to

1. *Make adjustments for the expiration or consumption of assets.*
2. *Make adjustments for the earning of unearned revenues.*
3. *Make adjustments for the accrual of unrecorded expenses.*
4. *Make adjustments for the accrual of unrecorded revenues.*
5. *Describe the sequence of the final steps in the recording process and relate cash flows to adjusting entries.*
6. *Prepare a classified balance sheet and use it to assess solvency.*
7. *Prepare single- and multiple-step income statements and use ratios to assess profitability.*
8. *Relate Generally Accepted Accounting Principles (GAAP) to the accounting practices we have learned.*

Chances are you or someone you know is one of the eight million customers who have purchased something from Lands' End, the Wisconsin-based mail-order company. Selling clothes from socks to winter coats, from business suits and dresses to rain boots, Lands' End has built up a great reputation based on quality, affordable prices, and excellent customer service—factors that concern, and have won over, discerning shoppers. Lands' End managers are also concerned about these factors, and they take pride in their high ratings for customer satisfaction. But customer satisfaction alone doesn't pay their salaries, so managers also want to know whether the company is making a profit. Do managers have to turn to complicated equations and formulas to figure out the company's profit? No, they can turn to Lands' End's financial statements—just as we can.

Information in Lands' End financial statements comes straight from the company's financial accounting system. Lands' End has a financial accounting system that provides information about the company's financial success. And most important to managers, it also provides detailed information about the financial results of each product. As Don Hughes, Lands' End Vice President of Finance, says, "We record all the activities [of Lands' End] in the financial statements. We make decisions primarily from the financial information about individual products."

Suppose you want to buy Lands' End stock instead of their clothes. Then you, too, would be interested in the company's financial statements. You would want to know the

company's financial position and prospects to judge whether it is wise to invest in Lands' End stock. You need to understand the fundamentals of financial accounting if you want to read and understand Lands' End financial statements and compare them to the statements of other companies.

Entities as large as IBM or Exxon and as small as Rosa Mexicana use accrual accounting and must make adjusting entries before preparing financial statements. Accountants in nonprofit as well as for-profit organizations, and accountants in France, Kenya, China, and every other country in the world, must be able to apply the adjustment procedures and techniques discussed in this chapter.

ADJUSTMENTS TO THE ACCOUNTS

Objective 1
Make adjustments for the expiration or consumption of assets.

We have already seen how most transactions are normally recorded in journals and ledgers. The majority of a company's transactions are recorded when they occur. However, some transactions are just a little trickier to handle. In fact, they might not even seem like transactions at all and are recognized only at the end of an accounting period. The difference between these transactions and normal transactions stems from how obvious or explicit they are.

explicit transactions Events such as cash receipts and disbursements, credit purchases, and credit sales that trigger nearly all day-to-day routine entries.

Explicit transactions are obvious events, such as cash receipts and disbursements, credit purchases, and credit sales. For every explicit transaction, you can easily show that something has happened and must be recorded in a routine day-to-day entry. Recording explicit transactions is straightforward. Entries for such transactions are supported by source documents (for example, sales slips, purchase invoices, and employee payroll checks) or other tangible evidence. Note that some explicit transactions do not involve actual exchanges of goods and services between the entity and another party. For instance, the losses of assets from fire or theft are also explicit transactions even though no market exchange occurs. In all cases, though, explicit transactions involve events that you know have happened.

implicit transactions Events (such as the passage of time) that are temporarily ignored in day-to-day recording procedures and are recognized via end-of-period adjustments.

Conversely, the events that trigger implicit transactions are not so obvious. **Implicit transactions** are events (such as the passage of time) that do not generate source documents or any visible evidence that the event actually happened. Because bookkeepers do not receive specific notification to record such events they are not formally recognized in the accounting records until the end of an accounting period. For example, entries for depreciation expense and expiration of prepaid rent are prepared at the end of an accounting period from special schedules or memorandums, not because an explicit event occurred. You cannot point to an actual event that used up part of the rent asset, yet at the end of the month you must make an entry showing the expiration of a month's worth of rent.

adjustments (adjusting entries) End of period entries that assign the financial effects of implicit transactions to the appropriate time periods.

The end-of-period entries used to acknowledge these implicit events are known as adjustments. These **adjustments** (also called **adjusting entries,**) help assign the financial effects of implicit transactions to the appropriate time periods. Thus, adjustments are made at periodic intervals, usually when the financial statements are about to be prepared. The adjustments are made in the form of journal entries that are recorded in the general journal and then posted to the general ledger. After recognizing these adjustments for implicit transactions, the balances in the general ledger accounts will be updated through the end of the period and can be used for preparing financial statements.

accrue To accumulate a receivable or payable during a given period even though no explicit transaction occurs.

Adjusting entries are at the heart of accrual accounting. **Accrue** means to accumulate a receivable (asset) or payable (liability) during a given period even though no explicit

transaction occurs. The receivables or payables grow as the clock ticks, but nothing changes hands and no events are causing changes. Examples of accruals are the wages earned by employees for partial payroll periods and the interest earned on borrowed money before the interest payment date. Usually wage expense is recognized when wages are paid. But if wages are paid every Friday and the accounting period ends on Wednesday, a problem arises. Three days of wages have been earned but not recorded. The accrual adjusting entry for wages payable corrects this. Because accruals are not based on explicit transactions, they are not recorded on a day-to-day basis. Thus adjusting entries need to be made at the end of each period to recognize unrecorded, but relevant accruals.

Adjustments are essential for understanding the logic behind accounts because they help in the matching of revenues and expenses to a particular period. For example, consider the $5 million annual contract of a baseball star, such as Ken Griffey, Jr., or Barry Bonds, for the 1999 season. If all $5 million is paid in cash in 1999, it is an obvious explicit transaction. But suppose only $2 million is paid in cash and $3 million is deferred until 2000 or later. The $2 million cash payment is an explicit transaction and is recorded as an expense when the payment is made. Because no explicit transaction for the $3 million occurs during the period, it is not routinely entered into the accounting record. However, the entire $5 million contract was incurred for the benefit of the 1999 season, so the $3 million deferred payment is an expense for 1999 that arises because of an implicit transaction for the period. Thus, at the end of the period, when the 1999 financial statements are being prepared, an adjustment is necessary to record the deferred $3 million payment as an expense and to record a $3 million liability for its payment.

The principal adjustments arise from four basic types of implicit transactions:

I. Expiration of unexpired costs
II. Earning of revenues received in advance
III. Accrual of unrecorded expenses
IV. Accrual of unrecorded revenues

Let us now examine each of these categories in detail.

I. EXPIRATION OF UNEXPIRED COSTS

As you should recall from previous chapters, some costs expire because of the passage of time. For example, prepaid rent is used up in increments at the end of every month, until it is completely used (expires). As we have already seen, adjustments are made at the end of each month to mark the gradual expiration of these costs. Other examples of adjusting for asset expirations include the write-offs to expense of such assets as Office Supplies Inventory, Prepaid Fire Insurance, and even Depreciation Expense. Originally cash is paid and an asset is created. The adjustment recognizes an expense (debit an expense account) and reduces the corresponding asset (credits the account). The key characteristic of unexpired items is that an explicit transaction in the past has created an asset, and a subsequent implicit transaction serves to adjust the value of this asset.

Objective 2
Make adjustments for the earning of unearned revenues.

II. EARNING OF REVENUES RECEIVED IN ADVANCE

Just as some assets are acquired and then expire over time, some revenue is received and then earned over time. **Unearned revenue** (also called **revenue received in advance, deferred revenue** or **deferred credit**) is revenue that is received and recorded before it is earned. That is, payment is received in exchange for a commitment to provide services (or goods) at a later date.

unearned revenue (revenue received in advance, deferred revenue, deferred credit) Revenue received and recorded before it is earned.

The analysis of adjusting entries for unearned revenue is easier to understand if we visualize the financial positions of both parties to a contract. For example, recall the

Biwheels Company's January advance payment of $6,000 for three months' rent. Compare the financial impact on Biwheels Company with the impact on the owner of the property, who received the rental payment:

	Owner of Property (Landlord, Lessor)				Biwheels Company (Tenant, Lessee)				
	A	=	*L*	+ *SE*	*A*		=	*L*	+ *SE*
	Cash		*Unearned Rent Revenue*	*Rent Revenue*	*Cash*	*Prepaid Rent*			*Rent Expense*
(a) Explicit transaction (advance payment of three months' rent)	+6,000	=	+6,000		−6,000	+6,000	=		
(b) January adjustment (for one month's rent). .		=	−2,000	+2,000		−2,000	=		−2,000
(c) February adjustment (for one month's rent)		=	−2,000	+2,000		−2,000	=		−2,000
(d) March adjustment (for one month's rent)		=	−2,000	+2,000		−2,000	=		−2,000

The journal entries for (a) and (b) follow:

OWNER (LANDLORD)

(a) Cash	6,000	
Unearned rent revenue		6,000
(b) Unearned rent revenue	2,000	
Rent revenue		2,000

BIWHEELS CO. (TENANT)

(a) Prepaid rent	6,000	
Cash		6,000
(b) Rent expense	2,000	
Prepaid rent		2,000

(Entries for (c) and (d) are the same as for (b).)

We are already familiar with the analysis from Biwheels' point of view. The $2,000 monthly entries for Biwheels are examples of the first type of adjustments, the expiration of a prepaid asset. From the viewpoint of the owner of the rental property, though, transaction (a) recognizes the receipt of unearned revenue. The balancing amount for the increase in cash is recorded in a liability account because the lessor is now obligated to deliver the rental services (or to refund the money if the services are not delivered). Sometimes this account is called Rent Collected in Advance rather than Unearned Rent Revenue, as in our example. Regardless of its title, it is an unearned revenue type of liability account. That is, it is revenue collected in advance that has not yet been earned.

Notice that transaction (a) does not affect stockholders' equity because it does not recognize any revenue. The revenue is recognized (earned) only when the adjusting entries are made in transactions (b), (c), and (d). That is, as the liability Unearned Rent Revenue is decreased (debited), the stockholders' equity account Rent Revenue is increased (credited). The net effect is an increase in stockholders' equity at the time the revenue is recognized.

By looking at both sides of the Biwheels rent contract, you should see that adjustment categories I and II are really mirror images of each other. If a contract causes one party to have a prepaid expense, it must cause the other party to have an unearned revenue. This basic relationship holds for any prepayment situation, from a three-year fire insurance policy to a three-year magazine subscription. The buyer—we will use the mag-

to account for the accrual of these unrecorded wages, which are owed but not paid in January. Transaction (a) shows the total of the routine entries in the journal for the explicit wage payments made to employees, and transaction (b) shows the entries for the accrued wages.

(a) Wages expense	20,000	
Cash		20,000
(b) Wages expense	3,000	
Accrued wages payable		3,000

The total effect of wages on the balance sheet equation for the month of January, including transactions (a) and (b), are as follows:

	A	=	L	+	SE
	Cash		*Accrued Wages Payable*		*Wages Expense*
(a) Routine entries for explicit transactions	−20,000	=			−20,000
(b) Adjustment for implicit transaction, the accrual of unrecorded wages		=	+3,000		− 3,000
Total effects	−20,000	=	+3,000		−23,000

The adjustment in entry (b) is the first adjusting entry we have examined that shows an expense that is offset by an increase in a liability instead of a decrease in an asset. You can see that the accountant's problem is different for this type of accrual than for prepaid rent for example. With prepaid rent, there is a record in the accounts of an asset and the accountant might recognize the necessity for an adjustment by asking, is the balance shown on the books correct or is an adjustment required to reduce it? With accrued wages, the accountant's question is a little harder. Is there something that does not appear in the records at all that should appear there? Of course, most adjustments at the end of the period are routine. We know to check for used up rent and for accrued wages because we experience these items every period.

On February 2, the liability will be paid off, together with the wages expense for February 1 and 2:

Wages expense (February 1 and 2)	2,000	
Accrued wages payable	3,000	
Cash		5,000
(To record wages expense for February 1 and 2 and to pay wages for the week ended February 2.)		

These entries clearly demonstrate the matching principle. The routine entries and the adjusting entries match the wage expenses to the periods in which they help generate revenues.

Accrual of Interest

Other examples of accrued expenses include sales commissions, property taxes, income taxes, and interest paid on borrowed money. You can think of interest as "rent" paid for the use of money, just as rent is paid for the use of buildings. The interest accumulates (accrues) as time unfolds, regardless of when the actual cash for interest is paid.

Suppose Calvin Corporation borrowed $100,000 on December 31, 19X1. The loan is for one year with interest at 9%. This means that on December 31, 19X2, Calvin must

III. ACCRUAL OF UNRECORDED EXPENSES

Objective 3
Make adjustments for the accrual of unrecorded expenses.

It is awkward and unnecessary to make hourly, daily, or even weekly formal recordings in the accounts for many accrued expenses. Remember, these expenses continually grow over the length of a given period, so the cost of such frequent recording would certainly exceed the benefits. This is true, even though computers can perform these tasks somewhat effortlessly. The costs of computing may be small, but the benefits are even smaller. These balances are only important when we prepare financial statements and this rarely needs to be done hourly or daily. Consequently, adjustments are made to bring each accrued expense (and corresponding liability) account up to date at the end of the period, just before the formal financial statements are prepared in order to match the expense to the period.

Accounting for Payment of Wages

Consider wages. Most companies pay their employees at predetermined times. Here is a sample calendar for January:

January

S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

The Calvin Corporation, for example, pays its employees each Friday for services rendered during that week. Thus, wages paid on January 26 are compensation for the week ended January 26 and wage expense accrues for an entire week before it is finally paid. The cumulative total wages paid on the four Fridays during January amount to $20,000, or $5,000 per five-day workweek, or $1,000 per day. Calvin Corp. would make routine entries for wage payments at the end of each week in January. As wages were paid, wage expense would be recorded while cash was decreased. During the January shown in the preceding calendar, wages would be paid on the 5th, 12th, 19th, and 26th. These events were explicit transactions, driven by writing a payroll check. At the end of January, the balance sheet shows the summarized amounts and their effect on the accounting equation:

	Assets A	=	Liabilities L	+	Stockholders' Equity SE
	Cash				*Wages Expense*
(a) Routine entries for explicit transactions	−20,000	=			−20,000

Accounting for Accrual of Wages

Suppose that Calvin's accountant wishes to prepare financial statements at the end of January. In addition to the $20,000 actually paid to employees during the month, Calvin owes $3,000 for employee services rendered during the last three days of the month. The employees will not be paid for these services until Friday, February 2. To ensure an accurate accounting of wage expenses for the month of January, adjustments must be made

Income before provision for income taxes	$2,251,000,000
Provision for income taxes	678,400,000
Net income	$1,572,600,000

IV. ACCRUAL OF UNRECORDED REVENUES

Objective 4
Make adjustments for the accrual of unrecorded revenues.

Just as the realization of unearned revenues was the mirror image of the expiration of unexpired costs, the accrual of unrecorded revenues is the mirror image of the accrual of unrecorded expenses. The adjusting entries show the recognition of revenues that have been earned but not yet received. Because no payment has occurred, nothing has been entered in the accounts. According to the revenue recognition principle, revenues affect stockholders' equity in the period they are earned, not the period in which they are received. Thus an adjustment is required.

Suppose First National Bank had loaned the $100,000 to Calvin. As of January 31, First National Bank has earned $750 on the loan. The following tabulations show the mirror-image effect:

	First National Bank, as a Lender				Calvin, as a Borrower			
	A	= L	+	SE	A	= L	+	SE
	Accrued Interest Receivable			*Interest Revenue*		*Accrued Interest Payable*		*Interest Expense*
January interest	+750	=		+750		= +750		−750

Other examples of accrued revenues and receivables include "unbilled" fees. For example, attorneys, public accountants, physicians, and advertising agencies may earn hourly fees during a particular month but not send out bills to their clients until the completion of an entire contract or engagement. Under the accrual basis of accounting, such revenues should be recorded in the month in which they were earned rather than at a later time. Suppose an attorney renders $10,000 of services during January, but will not bill for these services until March 31. Before the attorney's financial statements can be prepared for January, an adjustment for unrecorded revenue for the month must be made:

	A	=	L	+	SE
	Accrued (Unbilled) Fees Receivable				*Fee Revenue*
Adjustment for fees earned	+10,000	=			+10,000

Utility companies often recognize unbilled revenues for services provided but not yet billed. In fact, American Water Works Company, a utility that provides water supply services to more than 1.6 million customers in 20 states, includes more unbilled revenues than accounts receivable among its current assets:

Customer accounts receivable	$46,795,000
Unbilled revenues	57,298,000

repay the lender the $100,000 that was borrowed plus interest. Interest for one year is calculated as follows:

Principal	×	interest rate	×	fraction of a year	=	interest
$100,000	×	.09	×	1	=	$9,000

Principal is the amount borrowed ($100,000). The interest rate is expressed as an annual percentage (.09). The time is recorded as the fraction of a year (1 for a full year).

As of January 31, Calvin has had the benefit of a $100,000 bank loan for one month. Calvin owes the bank for the use of this money, and the amount owed has been accruing for the entire month of January. The amount owed is 1/12 × 0.09 × $100,000 = $750. (Note: We multiply the interest rate and the principal by 1/12 because the interest rate is for an entire year, and here we are calculating the interest paid for one month, or 1/12 of a year.) The monthly benefit from the loan, is $750. Because it has already been acquired and used up for January, an adjusting entry is required for the month of January. The interest is not actually due to be paid until December 31, 19X1, but at the end of January, there is a liability for one month of Accrued Interest Payable. The adjustment is analyzed and recorded in a fashion similar to the adjustment for accrued wages:

	A	=	L	+	SE
			Accrued Interest Payable		*Interest Expense*
Adjustment to accrue January interest not yet recorded		=	+750		−750

The adjusting journal entry is:

Interest expense	750	
Accrued interest payable		750

At the end of January, Calvin Corporation owes the bank $100,750, not $100,000. The adjusting entry matches the $750 interest expense with the period in which it occurred. If the adjusting entry is omitted, liabilities will be understated for January.

Accrual of Income Taxes

As income is generated, income tax expense is accrued. Income taxes exist worldwide, although rates and details differ from country to country and from state to state. Corporations in the United States are subject to federal and state corporate income taxes. For many corporations, the federal-plus-state income tax rates hover around 40%. Thus, for every dollar of income a company makes, it accrues forty cents worth of income tax expense. Of course, this forty cents is not paid out as each dollar comes in. Instead, it accrues over the period, and an adjustment is made at the end of the period when the financial statements are prepared.

Companies use various labels to denote income taxes on their income statements: income tax expense, provision for income taxes, and just plain income taxes are found most frequently. For multinational firms, income tax expense may include tax obligations in every country in which they operate. In preparing their income statements, about 85% of publicly held U.S. companies calculate a subtotal called income before taxes and then show income taxes as a separate income statement item just before net income. This arrangement is logical because income tax expense is based on income before taxes. **Pretax income** is a synonym for income before taxes. In contrast, the other 15% list income taxes along with other operating expenses such as wages. The 1996 McDonald's annual report contains the format adopted by the vast majority of companies:

pretax income Income before income taxes.

Franchises and Revenue Recognition

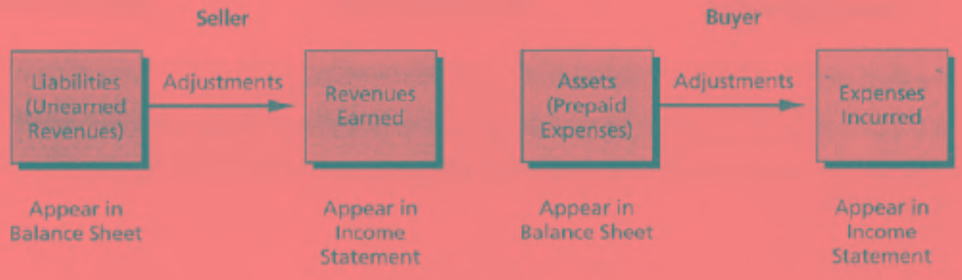
In a franchise arrangement, a central organization, such as McDonald's or the National Basketball Association, sells the right to use the company name and company products to a franchisee. The franchisee also receives the benefit of advertising through the larger company, along with management assistance and product development. There are more than 500,000 franchise outlets of various types in the United States, with sales totaling more than $700 billion.

Franchising raises an interesting accounting problem. How does the central organization account for the franchise fees? At first glance, it might seem clear that such fees should be recorded as revenue. However, under accrual accounting, revenue should be recorded only after two conditions have been satisfied: (1) The "work" has been completed (that is, it has been earned), and (2) there is reasonable assurance the fee can be collected (it is realized in cash or will be collectible).

Jiffy Lube, a subsidiary of Pennzoil Company, is a franchisor of fast oil-change centers and provides an example of receipt of franchise fees before the related work is performed. Jiffy Lube sells its franchisees area development rights, which grant the franchisee the exclusive right to develop Jiffy Lube outlets in a certain area. In return for these rights, Jiffy Lube receives an upfront fee. Should Jiffy Lube record the fee as revenue? No, because Jiffy Lube's work is not done until the franchisee actually opens the outlets. In the interim, Jiffy Lube must report the fees as unearned revenue.

Porta-John, which acquires chemical toilets and sells the right to service the toilets to franchisees, illustrates the second condition. The franchisees agree to pay Porta-John an upfront fee. However, only 10% of the fee is collected in cash, and historically, franchisees have taken up to 10 years to pay the remainder of the fee. The fact is that many of the franchisees don't stick with the portable toilet business for very long (their money goes down the toilet, as it were), so there is no assurance that the total fee can be collected. Accordingly, Porta-John is required to account for the fees using the cash basis, reporting revenue only as the franchise fees are actually received in cash.

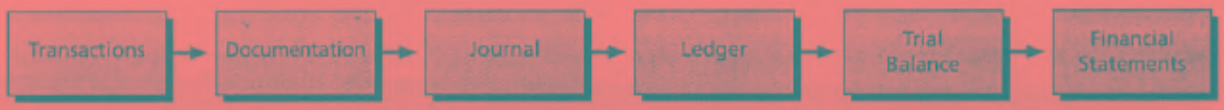
azine buyer here—recognizes a prepaid expense (asset) and uses adjustments to spread the initial cost to an expense account over the useful life of the subscription. In turn, the seller, the magazine publisher, must initially record its liability, Unearned Subscription Revenue, on receipt of payment for the three-year subscription. For example, the publisher of *Time* magazine showed a liability of more than $670 million as of January 1, 1998, calling it Unearned Portion of Paid Subscriptions. The unearned revenue of this liability is then systematically recognized as earned revenue when magazines are delivered throughout the life of the subscription. The following diagrams show that the initial explicit cash transactions in such situations are recorded as balance sheet items but, thanks to periodic adjustments for the implicit transactions, are later transformed into income statement items:



Unearned revenues are essentially advances from customers who have paid for goods or services to be delivered at a future date. For instance, airlines often require advance payments for special-fare tickets. American Airlines showed a recent balance of more than $2.0 billion in an unearned revenue account labeled Air Traffic Liability.

THE ADJUSTING PROCESS IN PERSPECTIVE

Chapter 3 presented the various steps in the recording process as follows:



This process has a final aim: the preparation of accurate financial statements prepared on the accrual basis. To accomplish this goal, the process must include adjusting entries to record implicit transactions. When we consider the adjustments, the final steps in the recording process can be divided further as follows:

Objective 5
Describe the sequence of the final steps in the recording process and relate cash flows to adjusting entries.

Each adjusting entry affects at least one income statement account—a revenue or an expense—and one balance sheet account—an asset or a liability. No adjusting entry debits or credits cash. Why? Because cash transactions are explicit transactions that are routinely recorded as they happen. The end-of-period adjustment process is reserved for the implicit transactions that must be recognized by the accrual basis of accounting. Exhibit 4-1 summarizes the major adjusting entries.

Cash flows (that is, explicit transactions of cash receipts or disbursements) may precede or follow the adjusting entry that recognizes the related revenue or expense. The accompanying diagrams underscore the basic differences between the cash flows and the accrual accounting entries.

Entries for adjustments I and II, expiration of unexpired costs and realization of unearned revenues, are usually made subsequent to the cash flows. For example, the cash received or disbursed for rent had an initial impact on the balance sheet. The adjustment process was used to show the later impact on the income statement.

I. Expiration of Unexpired Costs.

II. Earning of Revenues Received in Advance.

Entries for adjustments III and IV, accrual of unrecorded expenses and accrual of unrecorded revenues, are made before the related cash flows. The income statement is affected before the cash receipts and disbursements occur. The accounting entity must compute the amount of goods or services provided or received prior to any cash receipt or payment.

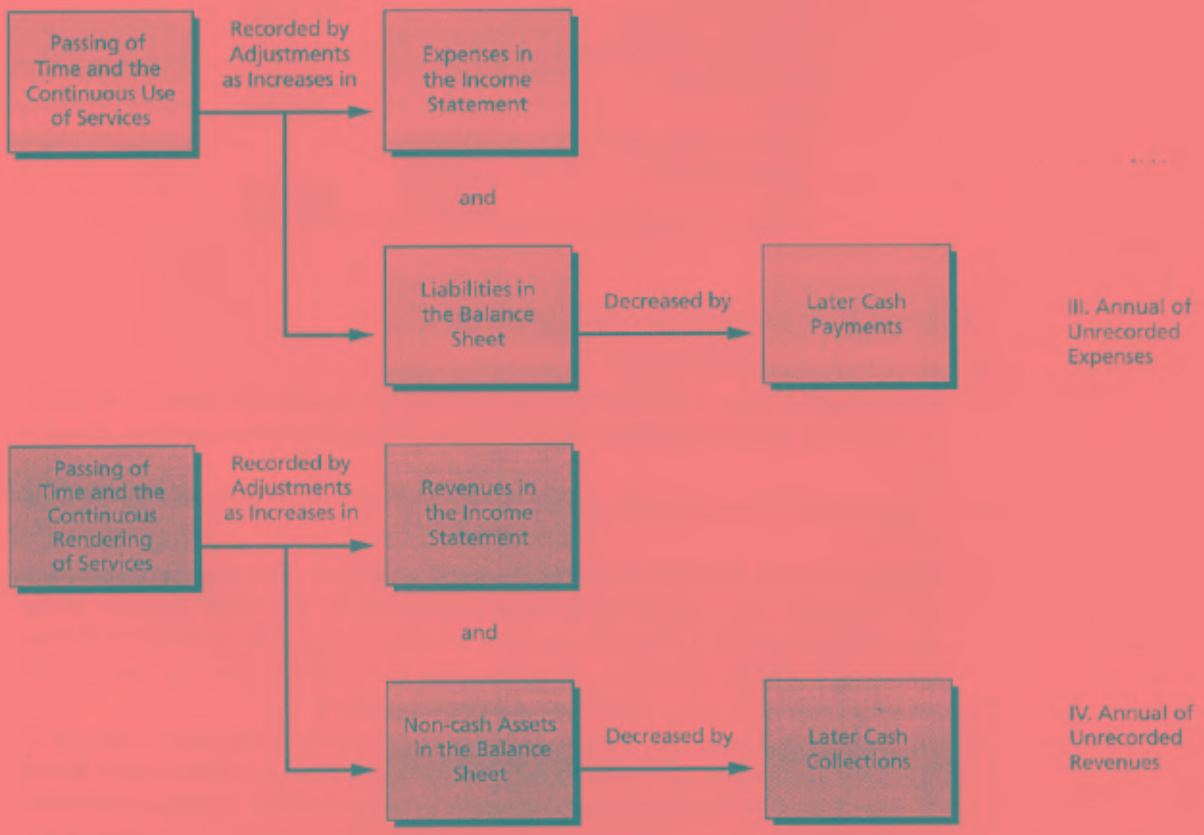


Exhibit 4-I

Summary of Adjusting Entries

Adjusting Entry	Type of Account Debited	Type of Account Credited
I. Expiration of unexpired costs	Expense	Prepaid Expense, Accumulated Depreciation
II. Earning of revenues received in advance	Unearned Revenue	Revenue
III. Accrual of unrecorded expenses	Expense	Payable
IV. Accrual of unrecorded revenues	Receivable	Revenue

SUMMARY PROBLEM FOR YOUR REVIEW

Problem One

Chan Audio Co. is a retailer of stereo equipment. Chan Audio has been in business one month. The company's unadjusted trial balance, January 31, 19X2, has the following accounts:

Cash	$ 71,700	
Accounts receivable	160,300	
Note receivable	40,000	
Merchandise inventory	250,200	
Prepaid rent	15,000	
Store equipment	114,900	
Note payable		$100,000
Accounts payable		117,100
Unearned rent revenue		3,000
Paid-in capital		400,000
Sales		160,000
Cost of goods sold	100,000	
Wages expense	28,000	
Total	$780,100	$780,100

Consider the following adjustments on January 31:

a. January depreciation, $1,000.

b. On January 2, rent of $15,000 was paid in advance for the first quarter of 19X2, as shown by the debit balance in the Prepaid Rent account. Adjust for January rent.

c. Wages earned by employees during January but not paid as of January 31 were $3,750.

d. Chan borrowed $100,000 from the bank on January 1. This explicit transaction was recorded when the business began, as shown by the credit balance in the Note Payable account. The principal and 9% interest are to be paid one year later (January 1, 19X3). However, an adjustment is necessary now for the interest expense of $1/12 \times 0.09 \times \$100{,}000 = \$750$ for January.

e. On January 1, a cash loan of $40,000 was made to a local supplier, as shown by the debit balance in the Note Receivable account. The promissory note stated that the loan is to be repaid one year later (January 1, 19X3), together with interest at 12% per annum. On January 31, an adjustment is needed to recognize the interest earned on the note receivable.

f. On January 15, a nearby corporation paid $3,000 cash to Chan Audio Co. as an advance rental for Chan's storage space and equipment to be used temporarily from January 15 to April 15 (three months). This $3,000 is the credit balance in the Unearned Revenue account. On January 31, an adjustment is needed to recognize the rent revenue earned for one-half month.

g. Income tax expense was accrued on January income at a rate of 50% of income before taxes.

Required

1. Enter the trial-balance amounts in the general ledger. Set up the new asset account, Accrued Interest Receivable, and the new asset-reduction account, the contra account, Accumulated Depreciation, Store Equipment. Set up the following new liability accounts: Accrued Wages Payable, Accrued Interest Payable, and Accrued Income Taxes Payable. Set up the following new expense and revenue accounts: Depreciation Expense, Rent Expense, Interest Expense, Interest Revenue, Rent Revenue, and Income Tax Expense.
2. Journalize adjustments a–g and post the entries to the ledger. Key entries by transaction letter.
3. Prepare an adjusted trial balance as of January 31, 19X2.

Exhibit 4-2

Chan Audio Co.

Journal Entries

(a)	Depreciation expense	1,000	
	Accumulated depreciation, store equipment		1,000
	Depreciation for January.		
(b)	Rent expense	5,000	
	Prepaid rent		5,000
	Rent expense for January.		
(c)	Wages expense	3,750	
	Accrued wages payable		3,750
	Wages earned but not paid.		
(d)	Interest expense	750	
	Accrued interest payable		750
	Interest for January.		
(e)	Accrued interest receivable	400	
	Interest revenue		400
	Interest earned for January:		
	$\frac{1}{3} \times \$40{,}000 \times .12 = \$400$.		
(f)	Unearned rent revenue	500	
	Rent revenue		500
	Rent earned for January. Rent per month is		
	$3,000 ÷ 3 = $1,000; for one-half month, $500.		
(g)	Income tax expense	11,200	
	Accrued income taxes payable		11,200
	Income tax on January income:		
	$.50 \times [160{,}000 + 400 + 500 - 100{,}000 - 31{,}750 - 1{,}000 - 5{,}000 - 750]$		

Solution to Problem One

The solutions to requirements 1 through 3 are in Exhibits 4-2, 4-3, and 4-4. Accountants often refer to the final trial balance, Exhibit 4-4, as the adjusted trial balance. Why? Because all the necessary adjustments have been made, thus the trial balance provides the data necessary for creating the formal financial statements.

CLASSIFIED BALANCE SHEET

Objective 6
Prepare a classified balance sheet and use it to assess solvency.

As we have seen throughout this book thus far, accounts are listed on the balance sheet according to the major categories of assets, liabilities, and owners' equity. A **classified balance sheet** further groups the accounts into subcategories to help readers quickly gain a perspective on the company's financial position. The classifications help to draw attention to certain amounts or groups of accounts. Assets are frequently classified into two groupings: current assets and long-term assets. Liabilities are similarly classified into current liabilities and long-term liabilities. This distinction is useful in assessing the company's ability to meet obligations as they fall due. For the most part, current assets will give rise to the cash needed to pay current liabilities, so the relationship between these categories is important. In this section we concentrate on these current elements and on a ratio that is useful in analyzing them.

classified balance sheet A balance sheet that groups the accounts into subcategories to help readers quickly gain a perspective on the company's financial position.

Current Assets and Liabilities

Current assets are cash and those other assets that are expected to be converted to cash, sold, or consumed during the next twelve months (or within the normal operating cycle if longer than a year). Similarly, **current liabilities** are those liabilities that fall due within the coming year (or within the normal operating cycle if longer than a year).

Exhibit 4-3

Chan Audio Co.

General Ledger

Assets = Liabilities + Stockholders' Equity

(Increases Left, Decreases Right) | (Decreases Left, Increases Right)

Cash

Bal.	71,700		

Accounts Receivable

Bal.	160,300		

Note Receivable

Bal.	40,000		

Merchandise Inventory

Bal.	250,200		

Prepaid Rent

Bal.	15,000	(b)	5,000
Bal.	10,000		

Store Equipment

Bal.	114,900		

Accumulated Depreciation, Store Equipment

		(a)	1,000

Accrued Interest Receivable

(e)	400		

Note Payable

		Bal.	100,000

Accounts Payable

		Bal.	117,100

Unearned Rent Revenue

(f)	500	Bal.	3,000
		Bal.	2,500

Accrued Wages Payable

		(c)	3,750

Accrued Interest Payable

		(d)	750

Accrued Income Tax Payable

		(g)	11,200

Paid-in Capital

		Bal.	400,000

Sales

		Bal.	160,000

Cost of Goods Sold

Bal.	100,000		

Wages Expense

Bal.	28,000		
(c)	3,750		
Bal.	31,750		

Depreciation Expense

(a)	1,000		

Rent Expense

(b)	5,000		

Interest Expense

(d)	750		

Interest Revenue

		(e)	400

Rent Revenue

		(f)	500

Income Tax Expense

(g)	11,200		

current assets Cash plus assets that are expected to be converted to cash or sold or consumed during the next twelve months or within the normal operating cycle if longer than a year.

current liabilities Liabilities that fall due within the coming year or within the normal operating cycle if longer than a year.

Exhibit 4-5 shows the classified balance sheet for Chan Audio Company, which is prepared from the adjusted trial balance for the company (shown in Exhibit 4-4). On the classified balance sheet, the current asset accounts are generally listed in the order in which they will be converted to cash during the coming year. Cash is thus listed first because it is, obviously, already in the form of cash. Accounts Receivable are listed next because cash payments for these accounts should be received within weeks or months. Note Receivable and Accrued Interest Receivable, which are listed as the third and fourth accounts, will be converted to cash by the end of the year. Nonmonetary assets, such as inventories and prepaid expenses (in this case, Merchandise Inventory and Prepaid Rent) are usually listed last in the current assets section of the balance sheet. Prepaid Rent is never expected to be converted to cash, but it is a current asset in the sense that it reduces the obligation to pay cash within the next year.

Exhibit 4-4

Chan Audio Co.

Adjusted Trial Balance January 31, 19X2

Account Title	Balance		
	Debit	*Credit*	
Cash	$ 71,700		
Accounts receivable	160,300		
Note receivable	40,000		
Merchandise inventory	250,200		
Prepaid rent	10,000		
Store equipment	114,900		
Accumulated depreciation, store equipment		$ 1,000	Balance Sheet Exhibit 4-5
Accrued interest receivable	400		
Note payable		100,000	
Accounts payable		117,100	
Unearned rent revenue		2,500	
Accrued wages payable		3,750	
Accrued interest payable		750	
Accrued income taxes payable		11,200	
Paid-in capital		400,000	
Sales		160,000	
Cost of goods sold	100,000		
Wages expense	31,750		
Depreciation expense	1,000		
Rent expense	5,000		Income Statement, Exhibit 4-8
Interest expense	750		
Interest revenue		400	
Rent revenue		500	
Income tax expense	11,200		
Total	$797,200	$797,200	

As shown in Exhibit 4-5, current liability accounts are also listed in the approximate order in which they will draw on, or decrease, cash during the coming year. Wages tend to be paid weekly or monthly, while interest tends to be paid monthly, quarterly or annually and taxes are also paid monthly, quarterly or annually.

The excess of current assets over current liabilities is known as **working capital.** In the case of the Chan Audio Company, the working capital on January 31, 19X2, is $297,300 ($532,600 − $235,300). The number is important because it connects assets and liabilities. Working capital should be proportional to the size of the firm and is normally evaluated with the current ratio.

working capital The excess of current assets over current liabilities.

Current Ratio

Current assets tell you how much cash a company will have on hand in the near future, current liabilities tell you how much debt the company will have to pay off with that cash in the near future. Comparing the two amounts can help readers of financial statements assess a business entity's **solvency,** which is its ability to meet its immediate financial obligations with cash and near-cash assets as those obligations become due. The **current ratio** (also called the **working capital ratio**), which is calculated by dividing current assets by current liabilities, is widely used to evaluate solvency. Chan Audio's current ratio, for example, is:

$$\text{Current ratio} = \frac{\text{Current assets}}{\text{Current liabilities}} = \frac{\$532,600}{\$235,300} = 2.3$$

solvency An entity's ability to meet its immediate financial obligations as they become due.

current ratio (working capital ratio) Current assets divided by current liabilities.

Exhibit 4-5

Chan Audio Co.
Balance Sheet, January 31, 19X2

Assets			Liabilities and Owners' Equity		
Current assets:			Current liabilities:		
Cash		$ 71,700	Note payable		$100,000
Accounts receivable		160,300	Accounts payable		117,100
Note receivable		40,000	Unearned rent revenue		2,500
Accrued interest receivable		400	Accrued wages payable		3,750
Merchandise inventory		250,200	Accrued interest payable		750
Prepaid rent		10,000	Accrued income taxes payable		11,200
Total current assets		$532,600	Total current liabilities		$235,300
Long-term asset:			Stockholders' equity:		
Store equipment	$114,900		Paid-in capital	$400,000	
Accumulated depreciation	1,000	113,900	Retained income	11,200	411,200
Total		$646,500	Total		$646,500

Other things being equal, the higher the current ratio, the more assurance creditors have about being paid in full and on time. Conversely, a current ratio that is too high may indicate excessive holdings of cash, accounts receivable, or inventories. Excessive holdings of this nature are bad for a company because it ties up money that could be more effectively used elsewhere. Analysts will compare a company's current ratio with those of past years and with those of similar companies to make judgments about the company's solvency.

An old rule of thumb was that the current ratio should be greater than 2.0. However, today current ratios are more commonly close to one. One useful assessment can be made by comparing a company's current ratio with the average in its industry. For example, recently IBM's ratio was 1.2, compared with an industry average of 1.7. While below the average, IBM's ratio is certainly not a cause for concern. Microsoft's current ratio of 5.1 was more than four times as large as IBM's. Microsoft is a rapidly growing firm that continues to use cash to fund acquisitions of other firms. This high current ratio in Microsoft's case just emphasizes the fact that Microsoft generates high volumes of cash and tends to use it to grow the business by investing in new technology and buying other companies. Utilities often have low current ratios because of low inventories and stable cash flows. For example, NYNEX, the telephone company in New York and New England, has a current ratio of only 0.6.

Although the current ratio is widely used as a measure of short-term debt-paying ability, a budget (prediction) of cash receipts and disbursements is more useful. Whether a company's level of cash is too low or too high really depends on the predictions of operating requirements over the coming months. For example, a company such as a small comic book and baseball card retailer might need very little cash on hand because upcoming debts and operating needs will be small in the next few months. Conversely, Marvel Comics, the corporation that produces the comic books sold at the small retailer, might need hundreds of thousands of dollars worth of cash to meet upcoming debt and short-term operating needs. As a rule, companies should try to keep as little cash as possible on hand because intelligent management calls for trying to invest any temporary excess cash to generate additional income.

Formats of Balance Sheets

The particular details and formats of balance sheets and other financial statements vary among companies. Yet, all balance sheets contain the same basic information, regardless

Managing Working Capital

The traditional view is that large amounts of working capital and high current ratios are good—they show that a company is likely to remain solvent. However, maintaining solvency is not as big a problem for most companies as is generating profits. Large amounts of working capital may needlessly tie up funds that could profitably be used elsewhere in the company.

The main components of working capital for the typical company are accounts receivable plus inventories less accounts payable. In the 1990s, building inventories and accounts receivable fell out of fashion. Each dollar not invested in working capital is a dollar of free cash available for investing in value-adding activities—activities that actually create and deliver products or services to customers. In addition, there is another downside to large accounts receivable or inventories. Receivables may grow because of increasing sales, but they can also zoom upward when collection of receivables slows down. Soaring inventories may mean increased ability to deliver orders on time. They may also mean that sales are not keeping up with production or that the company is incurring excessive storage and handling costs for inventory. Companies with large inventories may also lack the ability to adapt products quickly to customers' wishes.

You can see that there are mixed signals in measures such as working capital and current ratio. In the 1990s many companies have made a concerted effort to reduce working capital and hence lower their current ratios. For example, in the fiscal year ending February 1, 1997 The Gap reduced its working capital by $174 million. This meant that The Gap had an extra $174 million to invest in new products, corporate acquisitions, or whatever other opportunity presented itself. A food company, Quaker Oats, reduced its working capital by $200 million, primarily by smoothing out its production runs. Instead of building inventories and then offering huge discounts to entice customers to take delivery, Quaker now produces its cereals and other products just in time to ship them. Each product is produced once a week instead of once every six weeks or so. Of course, this requires more time resetting machines to produce a different product. By streamlining its procedures, one Quaker Oats factory spent only $20,000 a year on the extra machine setups compared with the annual savings of $500,000 from lowering inventories.

A measure of working capital that is increasingly popular is working capital per dollar of sales. The Fortune 500 firms have an average ratio of $.20 for every dollar of sales. Recent figures for Quaker Oats and The Gap are $.07 and $.10, respectively.

Reduction of working capital is not just a U.S. phenomenon. Consider Wabco UK, the British auto products manufacturer. In the 1990's, its working capital has gone from $13 million to a negative $154,000. Currently, payables exceed receivables by $2.35 million and inventories are only $2.2 million. How did it accomplish this? Partly by cutting cycle time—the time from receipt of an order to delivery of the product. For example, a vacuum pump that formerly took three weeks to build can now be built in six minutes. Wabco is also collecting receivables more quickly—42 days compared with 54 days five years ago.

Many companies have set a target of zero working capital and therefore a current ratio of 1.0. As these efforts prove to be successful, the rule of thumb of a desirable current ratio of 2.0 is being revised. Companies with twice as many current assets as current liabilities may be solvent but may lose out in the long run. Why? Because they may not be using their capital as profitably as possible.

of format. For example, consider the reproduction of the balance sheet of Walgreen Co., the drugstore chain, as shown in Exhibit 4-6. The format and classifications are those actually used by Walgreen. Note the "non-current" terminology used to denote long-term items. Headings such as long-term assets and long-term liabilities might be used instead of non-current assets and non-current liabilities, respectively. Some accountants prefer to omit a general heading for noncurrent items when there are only one or two items within a specific class.

Exhibit 4-6 presents a classified balance sheet in the **report format** (assets at top) in contrast to the **account format** (assets at left) that has previously been illustrated (Exhibit 4-5). Either format is acceptable. A recent survey of six hundred U.S. companies indicated that 70% use the report format and 30% use the account format.

Non-U.S. companies may use other formats than those presented in Exhibits 4-5 and 4-6. Exhibit 4-7 shows a condensed balance sheet for British Petroleum Company. Notice

report format A classified balance sheet with the assets at the top.

account format A classified balance sheet with the assets at the left.

Exhibit 4-6

Walgreen Co.

At August 31, 1997 and 1996 (Dollars in Millions)

Assets	1997	1996
Current Assets:		
Cash and cash equivalents	$ 73	$ 9
Accounts receivable	376	288
Inventories	1,733	1,632
Other current assets	144	90
Total Current Assets	2,326	2,019
Non-Current Assets		
Property and equipment, at cost, less accumulated depreciation and amortization	1,754	1,449
Other non-current assets	127	166
Total Assets	$4,207	$3,634
Liabilities and Shareholders' Equity		
Current Liabilities:		
Trade accounts payable	$ 813	$ 692
Accrued expenses and other liabilities	554	467
Income taxes	72	23
Total Current Liabilities	1,439	1,182
Non-Current Liabilities		
Deferred income taxes	113	145
Other non-current liabilities	282	264
Total Non-Current Liabilities	395	409
Shareholders' Equity		
Preferred stock, $.125 par value; authorized 16 million shares; none issued		
Common stock, $.15625 par value; authorized 1.6 billion shares; issued and outstanding 493, 789, 966 in 1997 and 492, 282, 144 in 1996	77	77
Paid-in capital	30	
Retained earnings	2,266	1,966
Total Shareholders' Equity	2,373	2,043
Total Liabilities and Shareholders' Equity	$4,207	$3,634

Exhibit 4-7

British Petroleum Company Balance Sheet

December 31, 1996 (in millions)

Fixed assets		£21,820
Current assets	£10,752	
Current liabilities	10,617	
Net current assets		135
Total assets less current liabilities		£21,955
Long-term liabilities		9,160
Shareholders' interests		£12,795

that fixed assets (that is, long-term assets) are listed before current assets. Current liabilities are deducted from current assets to give a direct measure of working capital (called net current assets by British Petroleum). Again, regardless of the format, balance sheets will always contain the same basic information. Note that British Petroleum has working capital of £135 million. Current assets and current liabilities are essentially equal. As sug-

gested in the preceding boxed example, Managing Working Capital, zero or negative working capital is becoming more common as companies reduce their inventories and accounts receivable.

INCOME STATEMENT

Objective 7
Prepare single- and multiple-step income statements and use ratios to assess profitability.

As we have just seen, balance sheets can provide decision makers with information about a company's ability to meet its short-term operating and debt needs. However, most investors are much more concerned about a company's ability to produce long-run earnings and dividends—information that can be gleaned from the income statement. In this regard, income statements are often considered to be much more important than are balance sheets. To be most informative, income statements, like balance sheets, may be prepared with subcategories that help focus attention on certain accounts or groups of accounts.

Single- and Multiple-Step Income Statements

The adjusted trial balance for Chan Audio Company (Exhibit 4-4) provides the data for the two formats of income statements shown in Exhibit 4-8. The statement in Part A of the exhibit is called a **single-step income statement** because it groups all revenues together (sales plus interest and rent revenues) and then lists and deducts all expenses together without drawing any intermediate subtotals.

single-step income statement An income statement that groups all revenues together and then lists and deducts all expenses together without drawing any intermediate subtotals.

Another major form of income statement is the **multiple-step income statement.** It contains one or more subtotals that highlight significant relationships. For example, Exhibit 4-8, Part B, shows a gross profit figure. **Gross profit** (also called **gross margin**) is the excess of sales revenue over the cost of the inventory that was sold. Most multiple-step income statements start with this section.

multiple-step income statement An income statement that contains one or more subtotals that highlight significant relationships.

The next section of a multiple-step income statement usually contains the operating expenses, which is a group of recurring expenses that pertain to the firm's routine, ongoing operations. Examples of such expenses are wages, rent, depreciation, and various other operation-oriented expenses, such as telephone, heat, and advertising. These operating expenses are deducted from the gross profit to obtain **operating income,** which is also called **operating profit.**

gross profit (gross margin) The excess of sales revenue over the cost of the inventory that was sold.

operating income (operating profit) Gross profit less all operating expenses.

The next grouping in the multiple-step income statement is usually called other revenue and expense (or other income or other expense, or nonoperating items, or some similar catchall title). These categories are not directly related to the mainstream of a firm's operations. The revenues are usually minor in relation to the revenues shown at the top of the income statement. The expenses are also minor, with one likely exception—interest expense. There is no theoretical or practical reason to prefer one of these alternatives over another. Experienced readers of financial statements can easily adjust from one to another. For the newcomer to accounting it can seem confusing. As you begin to read and evaluate actual statements, do not let the superficial differences between one structure and the other confuse you.

Accountants have usually regarded interest revenue and interest expense as "other" items because they arise from lending and borrowing money—activities that are distinct from most companies' ordinary operations of selling of goods or services. Of course, the exceptions are companies in the business of lending and borrowing money; banks, credit unions, insurance companies and other financial intermediaries. Some operating companies make heavy use of debt, which causes high interest expenses, whereas other companies incur little debt and have low interest expenses. Because interest revenue and expense appear in a separate category, comparisons of operating income between years and between companies can be made easily. Comparisons of operating income focus attention on selling the product and controlling the costs of doing so. Success in this arena is the ultimate test of a company. Recently many analysts have noted that corporate earnings are significantly

Exhibit 4-8, Part A

Chan Audio Co.
Single-Step Income Statement
Income Statement for the Month Ended January 31, 19X2

Sales		$160,000
Rent revenue		500
Interest revenue		400
Total sales and other revenues		$160,900
Expenses:		
Cost of goods sold	$100,000	
Wages	31,750	
Depreciation	1,000	
Rent	5,000	
Interest	750	
Income taxes	11,200	
Total expenses		149,700
Net income		$ 11,200

Exhibit 4-8, Part B

Chan Audio Co.
Multiple-Step Income Statement
Income Statement for the Month Ended January 31, 19X2

Sales		$160,000
Cost of goods sold		100,000
Gross profit		$ 60,000
Operating expenses:		
Wages	$31,750	
Depreciation	1,000	
Rent	5,000	37,750
Operating income		$ 22,250
Other revenues and expenses:		
Rent revenue	$ 500	
Interest revenue	400	
Total other revenue	$ 900	
Deduct: Interest expense	750	150
Income before income taxes		$ 22,400
Income taxes (at 50%)		11,200
Net income		$ 11,200

improving. But these analysts make a major distinction between those whose earnings are growing because interest cost is falling or because production costs are being aggressively reduced and those whose earnings are growing because sales are soaring. The first two sources of earnings growth depend on outside forces or one-time changes. But when more and more people want to buy your product, the long-term potential for growth is better.

Examples of Actual Income Statements

Exhibits 4-9 and 4-10 demonstrate how two different companies use assorted terminology and formats for their individual income statements. Note that extremely condensed income statement information is provided in both of these published reports. This level of detail is appropriate for external analysts and investors. In contrast, firms also prepare income statements to be used by managers inside the firm. Suppose you were the person responsible for managing inventory at a Gap store. You would want a very detailed financial statement for your store. You would want to know what the inventory was for spring

Exhibit 4-9

H. J. Heinz Co.

Statement of Income (in thousands) for the Year Ended April 30, 1996

Sales	$9,357,007
Cost of products sold	6,385,091
Gross profit	2,971,916
Selling, general and administrative expenses	2,215,645
Operating income	756,271
Interest income	39,359
Interest expense	274,746
Other expenses, net	41,820
Income before income taxes	479,064
Provision for income taxes	177,193
Net income	$ 301,871

Exhibit 4-10

Wm. Wrigley Jr. Company

Consolidated Statement of Earnings for the Year Ended December 31, 1996

	(in thousands)
Revenues:	
Net sales	$1,835,987
Investment and other income	14,614
Total revenues	1,850,601
Costs and expenses:	
Cost of sales	814,483
Factory closure and related costs	19,436
Selling, distribution and general administrative	656,473
Interest	1,097
Total costs and expenses	1,491,489
Earnings before income taxes	359,112
Income taxes	128,840
Net earnings	$ 230,272

merchandise and for summer merchandise, for men's wear and ladies' wear, and for clothing and accessories. You would need detail about the balance sheet. And the same is true for the income statement. You would want sales and cost information for all of those categories. You need this detail to manage your operation and to evaluate your performance against that of other Gap stores. But outside investors are more concerned with the overall performance of Gap as a whole relative to competing retailers, so summarized companywide information is sufficient.

The H. J. Heinz income statement in Exhibit 4-9 uses a multiple-step format, as do 65% of all corporate external reports in the United States. The multiple-step format highlights significant relationships, especially two key measures of performance, gross profit and operating income. In all financial statements, accountants use the label net to denote that some amounts have been deducted in computing the final result. Thus "other expenses, net" in the Heinz statement, means that some revenue items and some expense items have been combined into one number. Wm. Wrigley Jr. Company, maker of chewing gum, uses a single-step format for its income statement in Exhibit 4-10, as do 35% of corporate external reports in the United States. Wrigley follows the single-step model and groups all revenues together and all expenses together without drawing subtotals within revenue and expense categories.

Note where income taxes appear in both of these income statements. Most companies follow this practice of showing income taxes as a separate item immediately above net income regardless of the grouping of other items on the income statement.

As the Wrigley income statement shows, the term costs and expenses is sometimes used in statements instead of just the phrase expenses. Of course, expenses would be an adequate description here. Why? Because the "costs" listed on the income statement are expired costs, such as cost of sales, and thus are really expenses of the current period.

PROFITABILITY EVALUATION RATIOS

We have learned to construct an income statement and a balance sheet. But they may seem a bit like tables of numbers without much meaning. In fact, for managers who work with them all of the time these statements are the "language of business." These managers know what last month and last year looked like; they know their competitors' financial statements inside and out, and they know that earnings of $2 million will cause them to earn a big bonus. How can we create meaning in these financial statements for individuals who do not have this deep company and industry knowledge? How can we use the data in these statements to enhance our understanding of these companies? What creates a context for interpreting them.

Earlier in this chapter, we saw that ratios can help give meaning to the numbers in the balance sheet. The same is true for the income statement. Income statements are most useful in evaluating a company's profitability. In its ultimate sense, **profitability** is the ability of a company to provide its investors with a particular rate of return on their investment. Return on investment refers to the amount of money an investor receives because of a prior investment. If Mary invests $100 in Calvin Corporation and receives $10 every year as a result, $10 is her return on investment. But absolute amounts are hard to evaluate. Had Mary given Calvin Corporation $200, a return of $10 would not be nearly as attractive. Thus it is common to express the return as a rate of return, a return per dollar invested. In this case for a $100 investment, a $10 return is a 10% rate of return ($10 ÷ $100). For a $200 investment, a $10 return is a 5% rate of return ($10 ÷ $200).

profitability The ability of a company to provide investors with a particular rate of return on their investment.

Profitability measures are useful decision-making tools for company managers. Investors use profitability measures to distinguish between different investment opportunities they are considering. Managers know that the profitability measures on their company will affect investors and that good profitability makes it easier to raise capital by selling stock or issuing debt securities. Managers are also often faced with a decision to buy another company, a division of a company, or a machine that makes a new product. In every such case, the manager will evaluate the profitability of the project as part of making the decision.

Profitability comparisons through time and within and among industries are thus used as a basis for predictions and decisions by both external and internal users of financial statements. By far, the easiest way to analyze a company's profitability is through three popular ratios:

1. A ratio based on gross profit (sales revenues minus cost of goods sold) is particularly useful to a retailer in choosing a pricing strategy and in judging its results. This measure, the **gross profit percentage,** or **gross margin percentage,** is defined as gross profit divided by sales. The Chan Audio gross profit percentage for January was:

gross profit percentage (gross margin percentage) Gross profit divided by sales.

$$\begin{aligned}\text{Gross profit percentage} &= \text{Gross profit} \div \text{Sales} \\ &= \$60{,}000 \div \$160{,}000 \\ &= 37.5\%\end{aligned}$$

These relationships can also be presented as follows:

	Amount	Percentage
Sales	$160,000	100.0%
Cost of goods sold	100,000	62.5
Gross profit	$ 60,000	37.5%

Gross profit percentages vary greatly by industry. Software companies have high gross profit percentages (Microsoft's is 90%). Why? Because most costs in that industry are in research and development and sales and marketing, not in cost of goods sold. In contrast, retail companies have lower gross margin percentages because product costs are their main expense. For example, the gross profit percentage for Safeway is 27%. Other gross margin percentages fall between the extremes, such as General Mills at 47% and Nike at 39%.

2. A ratio based on a comparison of expenses and sales will be carefully followed by managers from month to month. The **return on sales ratio** shows the relationship of net income to sales revenue. Chan Audio's return on sales ratio is computed as follows:

return on sales ratio Net income divided by sales.

$$\begin{aligned}\text{Return on sales} &= \text{Net income} \div \text{sales}\\ &= \$11{,}200 \div \$160{,}000\\ &= 7\%\end{aligned}$$

3. The **return on stockholders' equity ratio** also uses net income but compares it with invested capital (as measured by average stockholders' equity) instead of sales. This ratio is widely regarded as the ultimate measure of overall accomplishment. The return on stockholders' equity calculation for Chan Audio is:

return on stockholders' equity ratio Net income divided by invested capital (measured by average stockholders' equity).

$$\begin{aligned}\text{Return on stockholders' equity} &= \text{Net income} \div \text{Average stockholders' equity}\\ &= \$11{,}200 \div 1/2\ (\text{January 1 balance, } \$400{,}000 + \text{January 31 balance, } \$411{,}200)\\ &= \$11{,}200 \div \$405{,}600\\ &= 2.8\%\ (\text{for one month})\end{aligned}$$

Some recent examples of actual annual return on sales and return on stockholders' equity ratios are:

	Return on Sales	Return on Stockholders' Equity
Microsoft	30%	32%
Nike	9%	25%
McDonald's	15%	18%
Bell Atlantic	14%	26%
Walgreens	3%	18%
British Petroleum (United Kingdom)	5%	21%
Nordstrom	9%	22%
Kobe Steel (Japan)	1%	1%

Chan Audio's 37.5% gross profit is relatively low compared with the usual 40% to 45% for the retail stereo industry. However, Chan Audio has maintained excellent expense control because its 7% return on sales and its 33.6% return on stockholders' equity (a monthly rate of 2.8% × 12 = 33.6% as an annual rate) are higher than the 6% and 18% annual returns usually earned by the industry.

GENERALLY ACCEPTED ACCOUNTING PRINCIPLES AND BASIC CONCEPTS

Objective 8
Relate Generally Accepted Accounting Principles (GAAP) to the accounting practices we have learned.

generally accepted accounting principles (GAAP) A term that applies to the broad concepts or guidelines and detailed practices in accounting, including all the conventions, rules, and procedures that make up accepted accounting practice at a given time.

Financial Accounting Standards Board (FASB) A private-sector body that determines generally accepted accounting standards in the United States.

AICPA American Institute of Certified Public Accountants, the leading organization of the auditors of corporate financial reports.

FASB Statements The FASB's rulings on generally accepted accounting principles (GAAP).

Accounting Principles Board (APB) The predecessor to the Financial Accounting Standards Board.

APB Opinions A series of thirty-one opinions of the Accounting Principles Board, many of which are still the "accounting law of the land."

Financial statements are the result of a measurement process that rests on a set of principles. If every accountant used a different set of measurement rules, decision makers would find it difficult to use and compare financial statements. For example, consider the recording of an asset such as a machine on the balance sheet. If one accountant listed the purchase cost, another the amount for which the used machine could be sold, and others listed various other amounts, the readers of financial statements would be confused. It would be as if each accountant were speaking a different language. Therefore, accountants have agreed to apply a common set of measurement principles—that is, a common language—to record information on financial statements.

Generally accepted accounting principles (GAAP) is the term that applies to all of the broad concepts and detailed practices in accounting. It includes all the conventions, rules, and procedures that together make up accepted accounting practice. We will concentrate on the GAAP that exists today in the United States. However, we will frequently use practices from other countries and financial reports for non-U.S. firms to illustrate the extent of global diversity in practice. Although there is no single, perfect method for measuring an organization's performance, each country has found it useful to narrow the range of practices to a few acceptable ones.

Accounting principles become "generally accepted" by agreement. Such agreement is not influenced only by formal logical analysis. Experience, custom, usage, and practical necessity contribute to a set of principles. Therefore, it might be better to call them conventions. Why? Because "principles" erroneously connotes that GAAP is the product of airtight logic. Nevertheless, accountants use the term "principles" rather than "conventions" to describe the entire framework that guides their work.

Standard Setting Bodies

The existence of generally accepted accounting principles (GAAP) implies that someone must decide which principles are generally accepted and which are not. This decision is made by regulatory agencies or professional associations. In the United States, GAAP is set primarily in the private sector (with government oversight), but in many countries, such as France, the government sets the standards directly.

The **Financial Accounting Standards Board (FASB)** is responsible for establishing GAAP in the United States. The FASB is an independent creature of the private sector consisting of seven qualified individuals who work full-time. The board is supported by a large staff and an annual $16 million budget provided by various professional accounting associations (such as the leading organization of auditors, the American Institute of Certified Public Accountants, also known as the **AICPA**). The FASB's rulings on GAAP are called **FASB Statements.**

The FASB, established in 1973, replaced the **Accounting Principles Board (APB),** a group of eighteen accountants (mostly partners in large accounting firms) who worked part-time. The APB issued a series of 31 **APB Opinions** during 1962 to 1973, many of which are still the "accounting law of the land."

The U.S. Congress has charged the **Securities and Exchange Commission (SEC)** with the ultimate responsibility for authorizing the generally accepted accounting principles for companies whose stock is held by the general investing public. However, the SEC has informally delegated much rule-making power to the FASB. This public sector/private sector authority relationship can be sketched as follows:

Issues pronouncements on various accounting issues. These pronouncements govern the preparation of typical financial statements.

Take a careful look at the preceding three-tiered structure. Note that Congress can overrule both the SEC and the FASB, and the SEC can overrule the FASB. Such undermining of the FASB occurs rarely, but pressure is exerted on all three tiers by corporations if they think an impending pronouncement is "wrong." Thus the setting of accounting principles is a complex process involving heavy interactions among the affected parties: public regulators (Congress and the SEC), private regulators (FASB), companies, the public accounting profession, representatives of investors, and other interested groups.

Recent years have seen a growing interest in developing a common set of accounting principles throughout the world. Often called harmonization of accounting standards, the movement seeks to eliminate differences in accounting principles that are not caused by cultural or environmental differences between countries. Leading the way is the **International Accounting Standards Committee (IASC),** which represents more than 100 accountancy bodies from 82 countries. Like the FASB, the IASC is a private-sector body that issues standards—so far more than 30 of them. Although compliance with IASC standards is voluntary, a growing number of countries and multinational companies are adopting the methods advocated by the IASC.

Also affecting international accounting standards is the European Union (EU). Via a series of Directives, which have the force of law, the EU is reducing the variations in financial statements of companies in its 15 member nations.

Securities and Exchange Commission (SEC) The agency designated by the U.S. Congress to hold the ultimate responsibility for authorizing the generally accepted accounting principles for companies whose stock is held by the general investing public.

International Accounting Standards Committee (IASC) An organization representing over one hundred accountancy boards from over seventy five countries that is developing a common set of accounting standards to be used throughout the world.

Concepts and Conventions of GAAP

The FASB sets some fairly detailed rules in place, and they are part of GAAP. Some of the most difficult issues in accounting center on when an unexpired cost expires and becomes an expense. For example, some accountants believe that research and development costs should be accounted for as unexpired costs, shown on balance sheets among the assets, and written off to expense in some systematic manner over a period of years. After all, companies engage in research and product development activities because they expect them to create future benefits. But the FASB in the United States and regulators in many other countries have ruled that such costs have vague future benefits that are difficult to measure reliably. Therefore, research and development costs are treated as expenses. In such cases, research costs are not found on balance sheets. In contrast, Italy

and Spain allow research and development costs to be recognized initially as an asset and to be shown on the balance sheet. In addition to such a specific pronouncement by regulators such as the FASB, there are a number of concepts and conventions that guide our accounting process.

THE ENTITY CONCEPT The first basic concept or principle in accounting is the entity concept. An accounting entity is an organization or a section of an organization that stands apart from other organizations and individuals as a separate economic unit. Accounting draws sharp boundaries around each entity to avoid confusing its affairs with those of other entities.

An example of an entity is General Motors Corporation, an enormous entity that encompasses many smaller entities such as the Chevrolet Division and the Buick Division. In turn, Chevrolet encompasses many smaller entities such as a Michigan assembly plant and an Ohio assembly plant. Managers want accounting reports that are confined to their particular entities.

The key point here is that the entity concept helps the accountant relate events to a clearly defined area of accountability. For example, business entities should not be confused with personal entities. A purchase of groceries for merchandise inventory is an accounting transaction of a grocery store (the business entity), but the store owner's purchase of a stereo set with a personal check is a transaction of the owner (the personal entity).

THE RELIABILITY CONCEPT Users of financial statements want assurance that the numbers are not fabricated by management. Consequently, accountants regard reliability as an essential characteristic of measurement. **Reliability** is a quality of information that assures decision makers that the information captures the conditions or events it purports to represent. Reliable data are supported by convincing evidence that can be verified by independent accountants.

reliability The quality of information that assures decision makers that the information captures the conditions or events it purports to represent.

The accounting process focuses on reliable recording of events that affect an organization. Although many events may affect a company—including wars, elections, and general economic booms or depressions—the accountant recognizes only specified types of events as being reliably recorded as accounting transactions.

Suppose the president of Exxon is killed in an airplane crash, and the company carries no life insurance for him or her. The accountant would not record this event. Suppose further that Exxon discovers that an employee has embezzled $1,000 in cash, and the company carries no employee theft insurance. The accountant would record this event. The death of the president may have considerably more economic or financial significance for Exxon than does the embezzlement, but the monetary effect is hard to measure in any objective way. Accountants measure the impact of events in a systematic, reliable manner.

GOING CONCERN CONVENTION The **going concern convention (continuity convention)** is the assumption that ordinarily an entity persists indefinitely. This notion implies that a company's existing resources, such as plant assets, will be used to fulfill the general business needs of the company rather than be sold in tomorrow's real estate or equipment markets. For a going concern it is reasonable to use historical cost to record long-lived assets. Also, for a going concern it is reasonable to report liabilities at the amount to be paid at maturity.

going concern convention (continuity convention) The assumption that in all ordinary situations an entity persists indefinitely.

The opposite view of this going concern convention is an immediate-liquidation assumption whereby all items on a balance sheet are valued at the amounts appropriate if the entity were to be liquidated in piecemeal fashion within a few days or months. This liquidation approach to valuation is usually used only when the probability is high that the company will be liquidated.

MATERIALITY CONVENTION How does an accountant know what to include on financial statements? Well, there are a lot of rules and regulations about what must

appear in those statements. But what about items that aren't covered by the rules? The **materiality convention** asserts that an item should be included in a financial statement if its omission or misstatement would tend to mislead the reader of the financial statements under consideration.

materiality convention The concept that states that a financial statement item is material if its omission or misstatement would tend to mislead the reader of the financial statements under consideration.

Most large items, such as cars and machinery, are clearly material. Smaller items, though, may not be so clear cut. Many acquisitions that should theoretically be recorded as assets are immediately written off as expenses because of their insignificance. For example, coat hangers may last indefinitely but never appear in the balance sheet as assets. Many corporations require the immediate write-off to expense of all outlays under a specified minimum, such as $100, regardless of the useful life of the asset acquired. The resulting $100 understatement of assets and stockholders' equity is considered too trivial to worry about. In general, GAAP need not be applied to immaterial items. The FASB regularly includes the following statement in its standards: "The provisions of this statement need not be applied to immaterial items."

When is an item material? There will probably never be a universal, clear-cut answer. What is trivial to General Motors may be material to Evelyn's Boutique. A working rule is that an item is material if its proper accounting would probably affect the decision of a knowledgeable party. In sum, materiality is an important convention. But it is difficult to use anything other than prudent judgment to tell whether an item is material.

Cost-Benefit Criterion Accounting systems vary in complexity—from the minimum crude records kept by a small business to satisfy government authorities, to the sophisticated budgeting and feedback schemes that are required to manage a huge, multinational corporation. Of course, a system can start out small and get much bigger as is necessary. But when are changes to an accounting system necessary? The **cost-benefit criterion** states that a system should be changed when the expected additional benefits of the change exceed its expected additional costs. Often the benefits are difficult to measure, but this criterion should always underlie the decisions about the design and change of accounting systems. In fact, the FASB uses a cost-benefit criterion in judging new standards. It safeguards the cost-effectiveness of its standards by (1) assuring that a standard does not "impose costs on the many for the benefit of a few," and (2) seeking alternative ways of handling an issue that are "less costly and only slightly less efficient."

cost-benefit criterion As a system is changed, its expected additional benefits should exceed its expected additional costs.

Stable Monetary Unit The monetary unit (called the dollar in the United States, Canada, Australia, New Zealand, and elsewhere) is the principal means for measuring assets and equities. It is the common denominator for quantifying the effects of a wide variety of transactions. Accountants record, classify, summarize, and report in terms of the monetary unit. The ability to use historical cost accounting depends on a stable monetary unit. A stable monetary unit is simply one that is not expected to change in value significantly over time.

ACCOUNTING FOR NONPROFIT ORGANIZATIONS

Most examples thus far have focused on profit-seeking organizations, but balance sheets and income statements are also used by nonprofit organizations. For example, hospitals and universities have income statements, although they are called statements of revenue and expense. The "bottom line" is frequently called "excess of revenue over expense" or "net financial result" rather than "net income."

The basic concepts of assets, liabilities, revenue, expense, and operating statements are applicable to all organizations, whether they be utilities, symphony orchestras, private, public, American, or Asian. However, some nonprofit organizations have been slow to adopt some ideas that are widely used in progressive companies. For example, many government organizations used only the cash basis of accounting, not the accrual basis. This

practice hampered the evaluation of the performance of such organizations. A recent annual report of the New York Metropolitan Museum of Art stated: "As the Museum's financial operations have begun to resemble in complexity those of a corporation, it has become necessary to make certain changes in our accounting. . . . Operating results are reported on an accrual rather than the previously followed cash basis. Thus, revenue and expenses are recorded in the proper time period."

An article in *Forbes* commented:

> *Shoddy, misleading accounting has not been the cause of our cities' problems but it has prevented us from finding solutions. Or even looking for solutions until it's too late. Chicago's schools, for example, suddenly found themselves unable to pay their teachers. Had the books been kept like any decent corporation's, that could never have happened. The most basic difference is in the common use of cash accounting rather than the accrual method that nearly all businesses use.*

In response to concerns such as these, regulators are bringing greater discipline to reporting by not-for-profit entities and governmental entities. The FASB now requires that financial statements for large not-for-profit firms include essentially equivalent financial statements to those required for businesses. A parallel organization that regulates governmental reporting is considering a requirement that governmental units such as cities and states use accrual-based accounting and the basic financial statements that businesses use.

SUMMARY PROBLEM FOR YOUR REVIEW

Problem Two

Johnson & Johnson (maker of Tylenol, Band-Aids, and other health care and personal use products) uses a statement of earnings and retained earnings, as follows:

Johnson & Johnson
Statement of Earnings as of December 31, 1996

(dollars in millions except per share figures)	
Sales to customers	$21,620
Cost of products sold	7,018
Selling, marketing, and administrative expenses	8,394
Research expense	1,905
Interest income	(139)
Interest expense	125
Other expense, net	284
	17,587
Earnings before provision for taxes on income	4,033
Provision for taxes on income	1,146
Net earnings	2,887
Net earnings per share	$ 2.17

1. Is this a single-step or a multiple-step income statement? Explain your answer.
2. What term would Wm. Wrigley Jr. use as a label for the line in Johnson and Johnson's statements having the $17,587 figure? (Refer to the Wrigley income statement in Exhibit 4-10.)
3. Suggest an alternative term for interest income.
4. Compute the gross profit.
5. What is the amount of the famous "bottom line" that is so often referred to by managers?

www. landsend.com. to find Lands' End's home page.

6. Net earnings per share is defined as net earnings divided by the average number of common shares outstanding. Compute the average number of common shares outstanding during the year.

Solution to Problem Two

1. As is often the case, Johnson & Johnson uses a hybrid of single-step and multiple-step income statements. However, it is closer to a single-step than a multiple-step statement. A purebred single-step statement would place interest income with sales to obtain total revenues.
2. Wrigley would use "total costs and expenses" to describe the $17,587 figure.
3. Interest revenue is preferable to interest income.
4.

Sales to customers	$21,620	100%
Cost of products sold	7,018	32
Gross profit	$14,602	68%

5. The bottom line in total is net earnings of $2,887 million. The bottom line per average common share outstanding is $2.17.
6. As Chapter 2 explains, net earnings per share is required to be shown on the face of the income statement.

$$\text{Earnings per share (EPS)} = \frac{\text{Net earnings}}{\text{Average number of common shares outstanding}}$$

$$2.17 = \frac{\$2,887,000,000}{\text{Average shares}}$$

$$\text{Average shares} = \$2,887,000,000 \div 2.17$$

$$\text{Average shares} = 1,330,414,747$$

Highlights to Remember

At the end of each accounting period, adjustments must be made so that financial statements can be presented on a full-fledged accrual basis. The major adjustments are for (1) the expiration of unexpired costs, (2) the earning of unearned revenues, (3) the accrual of unrecorded expenses, and (4) the accrual of unrecorded revenues. Frequently, accounting adjustments are clarified when they are seen as mirror images by looking at both sides of the adjustment simultaneously. For example, (a) the expiration of unexpired costs (the tenant's rent expense) is accompanied by (b) the earning of unearned revenues (the landlord's rent revenue). Similarly, (a) the accrual of unrecorded expenses (a borrower's interest expense) is accompanied by (b) the accrual of unrecorded revenues (a lender's interest revenue).

The adjusting entries can either precede or follow the related cash flows. Entries for the expiration of unexpired costs and the recognition (earning) of unearned revenues follow the cash flows, while entries for the accrual of unrecorded expenses and the accrual of unrecorded revenues precede the cash flows.

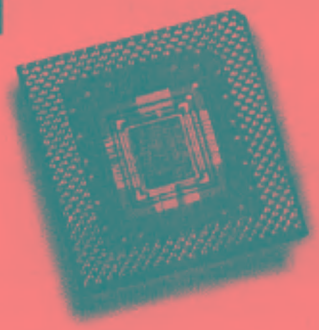
Classified balance sheets divide various items into subcategories. For example, assets and liabilities are separated into current and long-term. These subcategories are used in analysis. For example, current assets minus current liabilities is called working capital. The current ratio, defined as current assets divided by current liabilities, is used to help assess solvency.

Income statements may appear in single-step or multiple-step form. Regardless of the format, published income statements are highly condensed and summarized compared with reports used within an organization.

Chapter

5 ACCOUNTING FOR SALES

The odds are high that these are the chips inside your personal computer. "Intel inside" is a slogan and a practice that has transformed the company and the industry.



Learning Objectives

After studying this chapter, you should be able to

1. *Recognize revenue items at the proper time on the income statement.*
2. *Account for cash and credit sales.*
3. *Record sales returns and allowances, sales discounts, and bank credit card sales.*
4. *Manage cash and explain its importance to the company.*
5. *Estimate and interpret uncollectible accounts receivable balances.*
6. *Assess the level of accounts receivable.*
7. *Develop and explain internal control procedures.*

Would you like to invest in a stock whose price increases tenfold in just four years? Anyone who bought Intel's stock in 1993 already has. Intel stock purchased for $100 in 1993 sold for more than $1,000 before the end of 1997.

If you had been able to read and understand Intel's financial statements in 1993, could you have predicted this large increased in stock price? Unfortunately, probably not. If understanding financial statements were sufficient for making good investment decisions, there would be a lot of rich accountants in this world. But looking at Intel's financial statement from 1993 through 1996 will help explain why the company did so well over that period. And understanding what made Intel successful will help you predict whether that success will continue.

Intel's revenues increased from $8,782 million in 1993 to $20,847 million in 1996, a rate of growth of more than 33% per year. Meanwhile, income rose $2,277 million to $5,157 million. To support this growth in sales and profits, Intel's total assets increased from $11,384 million in 1993 to $23,735 million in 1996. Because of profitable operations, retained earnings soared from $5,306 million to $13,975 million between 1993 and 1996.

Will Intel continue to be this successful? No one knows for sure. But there are some clues in the company's 1997 balance sheet. For one thing, Intel has more than $4 billion in cash. That much cash can help Intel fund its expansion plans. Or it can provide a shot in the arm in case sales drop. The microprocessor industry is cyclical, which means that sales throughout the industry will rise and fall. Sales, of course, is the driving force behind any company's success. If Intel's sales remain strong, the company will continue to be successful. Even if the industry stumbles and Intel's sales fall, $4 billion makes a nice cushion.

When sales are recognized in the income statement, the firm receives either cash or the promise of cash, which is classified under accounts receivable. Both cash and accounts receivable are considered assets, so the recognition of sales directly affects the balance sheet. In this chapter we will examine sales revenue issues and explain their direct impact on both the income statement and balance sheet.

RECOGNITION OF SALES REVENUE

Objective 1
Recognize revenue items at the proper time on the income statement.

Why is the timing of revenue recognition important? Because it is critical to the measurement of net income. The revenue itself affects net income, both directly and indirectly. Under the matching principle, the cost of the items sold is reported in the same period in which revenue is recognized. Thus, not only does the recording of revenue affect net income directly, but it also determines the recognition of certain related expenses.

The timing of changes in net income might not seem so important until you realize that managers often receive higher salaries or greater bonuses for increasing sales and net income. Therefore, they prefer to recognize sales revenue as soon as possible. Owners and potential investors, however, want to be sure the economic benefits of the sale are guaranteed before recognizing revenue. In other words, they want to be sure that the company will actually receive payment before they recognize the accounting effects of a completed sale. Because of these different perspectives, accountants must carefully assess when revenue should be recognized.

A key feature of accrual-basis accounting is that recognition of revenue requires a two-pronged test: (1) goods or services must be delivered to the customers (that is, the revenue is *earned*), and (2) cash or an asset virtually assured of being converted into cash must be received (that is, the revenue is *realized*). Most revenue is recognized at the point of sale. Suppose you buy a compact disc at a local music store. Both revenue recognition tests are generally met at the time of purchase. You receive the merchandise, and the store receives cash, a check, or a credit card slip. Because both checks and credit card slips are readily converted to cash, the store can recognize revenue at the point of sale regardless of which of these three methods of payment you use.

Of course, the two revenue recognition tests are not always met at the same time. In such cases, revenue is generally recognized only when both tests are met. Consider magazine subscriptions. The realization test is met when the publisher receives cash. However, revenues are not earned until magazines are delivered. Therefore revenue recognition is delayed until the time of delivery.

Sometimes accountants must make a judgment call on when the recognition criteria are met. A classic example is accounting for long-term contracts. Suppose Lockheed signs a $40 million contract with the U.S. government to produce a part for the space shuttle. The contract is signed, and work begins on January 2, 19X1. The completion date is December 31, 19X4. Payment will be made upon delivery of the part. Lockheed expects to complete one-fourth of the project each year. When should the $40 million of revenue be recorded on the company's income statement?

The most common answer is that one-fourth of the revenue is earned each year, so $10 million of the revenue should be recognized annually. Generally, the government and major corporations can be counted on to make payments on their contracts. Therefore, revenues on such contracts are recognized as the work is performed. Because payment is virtually certain, revenues can be realized as they are gradually earned. Once the decision is made to recognize the revenue as production occurs, the matching principle requires that corresponding recognition be given to the associated expenses. When one-quarter of the revenue is recognized, one-quarter of the expected expenses are recorded as well.

Objective 2
Account for cash and credit sales.

After deciding when revenue is to be recognized, the accountant must determine how much revenue to record. In other words, how should accountants measure revenue?

A cash sale increases Sales Revenue, an income statement account, and increases Cash, a balance sheet account. A credit sale on open account is recorded much like a cash sale except that the balance sheet account Accounts Receivable is increased instead of Cash. Note that cash and accounts receivable represent the two accounts that both can be affected by sales and that both represent assets. To measure revenue, accountants approximate the net realizable value of the asset inflow from the customer. That is, the revenue is measured in terms of the cash equivalent value of the asset (either cash or accounts receivable) received.

Revenue is recorded equal to the asset received:

Cash	xxx	
Sales revenue		xxx
OR		
Accounts receivable	xxx	
Sales revenue		xxx

In fact, there are many ways in which prices are not what they appear and ultimately the revenue earned may not be equal to the original sales price. Merchants give discounts for prompt payment, or discounts for high volume purchases. Sometimes, the customer is unable or unwilling to pay the full amount owed. The accounting system must deal with all of these issues and the manager must have information to determine how company policy is affecting the relationship with the customer.

Merchandise Returns and Allowances

Objective 3
Record sales returns and allowances, sales discounts, and bank credit card sales.

Suppose revenue for a given sale is recognized at the point of that sale, but later the customer decides to return the merchandise. He or she may be unhappy with the product's color, size, style, or quality, or simply may have a change of heart. The supplier (vendor) calls these **sales returns;** the customer calls them **purchase returns.** Such merchandise returns are minor for manufacturers and wholesalers but are major for retail department stores. For instance, returns of 12% of gross sales are not abnormal for stores such as Marshall Field's or Macy's.

sales returns (purchase returns) Products returned by the customer.

Sometimes, instead of returning merchandise, the customer demands a reduction of the selling price (the original price previously agreed upon). For example, a customer may complain about finding scratches on a household appliance or about buying a cordless phone for $40 on Wednesday and seeing the same item for sale in the same store or elsewhere for $35 on Thursday. Such complaints are often settled by the seller's granting a **sales allowance** (or **purchase allowance**), which is essentially a reduction of the original selling price.

sales allowance (purchase allowance) Reduction of the original selling price.

Naturally, sales allowances and returns are going to have an effect on **net sales,** but not on gross sales. **Gross sales** are equal to the initial revenues or asset inflows based on the sales price, and they must be decreased by the amount of the returns and allowances to give the net sales. But instead of directly reducing the revenue (or sales) account, managers of retail stores typically use a contra account, Sales Returns and Allowances, which combines both returns and allowances in a single account. Managers use a contra account so they can watch changes in the level of returns and allowances. For instance, a change in the percentage of returns in fashion merchandise may give early signals about changes in customer tastes. Similarly, a buyer of fashion or fad merchandise may want to keep track of purchase returns to help assess the quality of products and services of various suppliers. Also, it is useful to track sales and returns separately so that sales figures for commissions or bonuses are properly interpreted. Another reason managers use separate accounts for sales and returns is that the returns happen after the sales, and separate tracking avoids going back and changing the original entries for the sale, a messy and unreliable process. Let's take a look at how a real retailer might adjust gross sales by accounting for sales returns and allowances. Suppose your

net sales Total sales revenue reduced by sales returns and allowances.

gross sales Total sales revenue before deducting sales returns and allowances.

local outlet of The Disney Store has $900,000 gross sales on credit and $80,000 sales returns and allowances. The analysis of transactions would show:

	A	=	L	+	SE
Credit sales on open account	+900,000 Increase Accounts Receivable				+900,000 Increase Sales
Returns and allowances	−80,000 Decrease Accounts Receivable	=			−80,000 Increase Sales Returns and Allowances

The journal entries (without explanations) are:

Accounts receivable	900,000	
Sales		900,000
Sales returns and allowances	80,000	
Accounts receivable		80,000

The income statement would begin:

Gross sales	$900,000
Deduct: Sales returns and allowances	80,000
Net sales	$820,000
or	
Sales, net of $80,000 returns and allowances	$820,000

Returns and allowances are not the only factors that affect gross and net sales figures. Discounts also affect the reported sales. There are two major types of sales discounts: trade and cash. **Trade discounts** offer one or more reductions to the gross selling price for a particular class of customers. These discounts are generally price concessions or purchase incentives. An example is a discount for large-volume purchases. The seller might offer no discount on the first $10,000 of merchandise purchased per year but a 2% discount on the next $10,000 worth of purchases and a discount of 3% to a customer on all sales in excess of $20,000.

trade discounts Reductions to the gross selling price for a particular class of customers.

Companies set trade discount terms for various reasons. If such discounts are offered by competing firms, the seller may offer trade discounts to be competitive. Discounts may also be used to encourage certain customer behavior. For example, manufacturers with seasonal products (gardening supplies, snow shovels, fans, Christmas gifts, and so on) might offer price discounts on early orders and deliveries to smooth out production throughout the year and minimize the manufacturer's cost of storing the inventory. In deciding to accept early delivery, the buyer must weigh the storage costs it will incur against the reduced price the discount provides. The gross sales revenue recognized from a trade discount sale is the price received after deducting the discount.

cash discounts Reductions of invoice prices awarded for prompt payment.

In contrast to trade discounts, **cash discounts** are rewards for prompt payment. The terms of the discount may be quoted in various ways on the invoice:

Credit Terms	Meaning
n/30	The full billed price (net price) is due on the thirtieth day after the invoice date.
1/5, n/30	A 1% discount can be taken for payment within five days of the invoice date; otherwise the full billed price is due in thirty days.
15 E.O.M.	The full price is due within fifteen days after the end-of-the-month of sale. An invoice dated December 20 is due January 15.

For example, a manufacturer sells $30,000 of computer games to Toys "Я" Us, a retailer, on terms 2/10, n/60. Therefore, Toys "Я" Us may remit $30,000 less a cash dis-

count of 0.02 × $30,000, or $30,000 − $600 = $29,400, if payment is made within 10 days after the invoice date. Otherwise the full $30,000 is due in 60 days.

Cash discounts entice prompt payment and reduce the manufacturer's need for cash. Early collection also reduces the risk of bad debts. Favorable credit terms with attractive cash discounts are also a way to compete with other sellers. That is, if one seller grants such terms, competitors tend to do likewise.

Should cash discounts be taken by purchasers? The answer is usually yes, but the decision depends on the relative costs of interest. Suppose Toys "Я" Us decides not to pay the $30,000 invoice for 60 days. It has the use of $29,400 for an extra 50 days (60 − 10) for an "interest" payment of $600. Think of this as if Toys "Я" Us had two choices. They could borrow the money from the bank and pay 10% interest per year. Interest for 50 days on $29,400 would be $402 ($29,400 × 10% × 50 ÷ 365). Alternatively, they could delay payment for 50 days and pay the higher invoice price. Notice that it is much cheaper to borrow the money, and that is what most companies should do. The total invoice is $600 higher than the discount price and the interest is only $402.

You could also calculate the annual interest rate equivalent of the discount using the following logic. If you pay $600 to use the money for 50 days, you are paying 2.04% for the 50 days ($600 ÷ $29,400). During a year there are 7.3 periods of 50 days (365 days ÷ 50 days). If the interest rate is 2.04% for 50 days, it will be 14.9% for the year (2.04% per period × 7.3 periods per year). Most well-managed companies, such as Toys "Я" Us, can obtain funds for less than 14.9% interest per year, so their accounting systems are designed to take advantage of all cash discounts automatically. However, some retailers pass up the discounts. Why? Because they have trouble getting loans or other financing at interest rates lower than the annual rates implied by the cash discount terms offered by their suppliers. Usage of cash discounts varies through time and from one industry to another. You may be familiar with some gas stations that offer a lower price for cash payment, while other stations do not.

Recording Charge Card Transactions

Cash discounts also occur when retailers accept charge cards such as Visa, MasterCard, American Express, Carte Blanche, or Diner's Club. Retailers accept these cards for three major reasons: (1) to attract credit customers who would otherwise shop elsewhere, (2) to get cash immediately rather than wait for customers to pay in due course, and (3) to avoid the cost of keeping track of many customers' accounts.

Retailers can deposit VISA slips in their bank accounts daily (just like cash). But this service costs money (in the form of service charges on every credit sale), and this cost must be included in the calculations to determine net sales revenue. Card companies impose a service charge for card sales of anywhere from 1% to 3% of gross sales, although large-volume retailers bear less cost as a percentage of sales. For example, JC Penney had an arrangement where it accepted charge cards other than its own branded card. It paid 4.3 cents per transaction plus only 1.08% of the gross sales using charge cards.

With the 3% rate, credit sales of $10,000 will result in cash of only $10,000 − 0.03 ($10,000), or $10,000 − $300, or $9,700. The $300 amount may be separately tabulated for management control purposes:

	A	=	L	+	SE
Sales using Visa	[+9,700 Increase Cash]	=			[+10,000 Increase Sales]
					[−300 Increase Cash Discounts for Bank Cards]

Cash	9,700	
Cash discounts for bank cards	300	
Sales		10,000

Accounting for Net Sales Revenue

Cash discounts and sales returns and allowances are recorded as deductions from Gross Sales. Consequently, a detailed income statement will often contain:

Gross sales		xxx
Deduct:		
Sales returns and allowances	x	
Cash discounts on sales	x	xx
Net sales		xxx

Reports to shareholders often omit details and show only net revenues. For example, when Nike shows "Revenues . . . $3,789,668,000" on its income statement, the number refers to its net revenues. Note also that in many countries outside the United States, the word **turnover** is used as a synonym for sales or revenues. Thus British Petroleum began its income statement with "Turnover . . . £34,950,000,000."

turnover A synonym for sales or revenues in many countries outside the United States.

An important feature of the income statement is the fact that returns, allowances, and most discounts are offsets to gross sales. Management may design an accounting system to use one account, Sales, or several accounts, as shown in the preceding sample income statement. If only one account is used, all returns, allowances, and cash discounts are direct decreases to the sales account. If a separate account is used for cash discounts on sales, the following analysis would be made for our Toys "Я" Us example:

	A	=	L +	SE
1. Sell at terms of 2/10, n/60	+30,000 [Increase Accounts Receivable]	=		+30,000 [Increase Sales]
Followed by either 2 or 3				
2. Either collect $29,400 ($30,000 less 2%)	+29,400 [Increase Cash]	=		−600 [Increase Cash Discounts on Sales]
	−30,000 [Decrease Accounts Receivable]			
or				
3. collect $30,000	+30,000 [Increase Cash]	=		(no effect)
	−30,000 [Decrease Accounts Receivable]			

The journal entries follow:

1.	Accounts receivable	30,000	
	Sales		30,000
2.	Cash	29,400	
	Cash discounts on sales	600	
	Accounts receivable		30,000
	OR		
3.	Cash	30,000	
	Accounts receivable		30,000

CASH

Objective 4
Manage cash and explain its importance to the company.

Many companies combine cash and cash equivalents on their balance sheets. **Cash equivalents** are highly liquid short-term investments that can easily and quickly be converted into cash. For example, the 1996 balance sheet of Chrysler begins with "Cash and equivalents . . . $5,158 million." Chrysler describes its cash equivalents as "highly liquid investments with a maturity of three months or less at the date of purchase."

cash equivalents Highly liquid short-term investments that can easily be converted into cash.

Cash has essentially the same meaning to organizations that it does to individuals. It isn't just paper money and coins, though. Instead, cash encompasses all the items that are accepted for deposit by a bank, notably paper money and coins, money orders, and checks. Banks do not accept postage stamps, IOUs, or postdated checks as cash. Of course, not all of the items a bank does accept for deposit are treated the same. For example, although all deposits may be credited to the accounts of bank customers on the date received, the bank may not provide the depositor with access to the funds from a deposited check until the check "clears" through the banking system (until payment is actually made from the check writer's account). If the check fails to clear because its writer has insufficient funds, its amount is deducted from the depositor's account.

Compensating Balances

compensating balances Required minimum cash balances on deposit when money is borrowed from banks.

There are other reasons that the entire cash balance in a bank account may not be available for unrestricted use. Banks frequently require companies to maintain **compensating balances**, which are required minimum balances on deposit to compensate the bank for providing loans. The size of the minimum balance may depend on the amount borrowed, the amount of credit available, or both.

Compensating balances increase the effective interest rate paid by the borrower. When borrowing $100,000 at 10% per year, annual interest will be $10,000. With a 10% compensating balance, the borrower can use only $90,000 of the loan, raising the effective interest rate on the usable funds to 11.1% ($10,000 ÷ $90,000).

To prevent any misleading information regarding cash, annual reports must disclose the state of any significant compensating balances. For example, a footnote in the annual report of North Carolina Natural Gas Corporation disclosed a requirement for keeping a compensating balance "of 10% of the annual average loan outstanding" in its bank account. Without such a disclosure, financial statement readers might think that a company has more cash available than it really does.

Management of Cash

Cash is usually a small portion of the total assets of a company. Yet, managers spend much time managing cash. Why? For many reasons. First, although the cash balance may be small at any one time, the flow of cash can be enormous. Weekly receipts and disbursements of cash may be many times as large as the cash balance. Second, because cash is the most liquid asset, it is enticing to thieves and embezzlers. If companies do not watch their cash, someone might walk off with it. Third, adequate cash is essential to the smooth functioning of operations. Companies need it for everything from routine purchases to major investments, from purchasing lunch for a visiting business partner to purchasing another

company. Finally, because cash itself does not earn income, it is important not to hold excess cash. The treasury department will be responsible for managing the levels of cash efficiently and for assuring that unneeded cash is deposited in income generating accounts.

reconcile a bank statement To verify that the bank balance for cash is consistent with the accounting records.

Most organizations have detailed, well-specified procedures for receiving, recording, and disbursing cash. It is usually placed in a bank account, and the company's books are periodically reconciled with the bank's records. To **reconcile a bank statement** means to verify that the bank balance and the accounting records are consistent. The two balances are rarely identical. A company accountant records a deposit when made and a payment when the check is written. The bank, however, may receive or record the deposit several days after the accountant recorded it because of postal delay, deposit on a bank holiday or weekend, and so on. The bank may also process a check days, weeks, or even months after it was issued.

In addition to reconciling the bank balance, other internal control procedures are set up to safeguard cash. Briefly, the major procedures include the following:

1. The individuals who receive cash do not also disburse cash.
2. The individuals who handle cash cannot access accounting records.
3. Cash receipts are immediately recorded and deposited and are not used directly to make payments.
4. Disbursements are made by serially numbered checks, only upon proper authorization by someone other than the person writing the check.
5. Bank accounts are reconciled monthly.

Why are such internal controls necessary? Consider a person who handles cash and makes entries into the accounting records. That person could take cash and cover it up by making the following entry in the books:

Operating expenses	xxx	
Cash		xxx

Besides guarding against dishonest actions, the listed procedures help ensure accurate accounting records. For example, suppose a check is written but not recorded in the books. Without serially numbered checks, there would be no way of discovering the error before receiving a bank statement showing that the check was paid. But if checks are numbered, an unrecorded check can be identified, and such errors can be discovered early.

CREDIT SALES AND ACCOUNTS RECEIVABLE

accounts receivable (trade receivables, receivables) Amounts owed to a company by customers as a result of delivering goods or services and extending credit in the ordinary course of business.

Credit sales on open account increase **accounts receivable,** which are amounts owed to the company by its customers as a result of delivering goods or services. Accounts receivable, sometimes called **trade receivables** or simply **receivables,** arise when the company grants credit to its customer on an ongoing basis. This means the company agrees to accept payment in the future for goods or services delivered today.

Uncollectible Accounts

uncollectible accounts (bad debts) Receivables determined to be uncollectible because debtors are unable or unwilling to pay their debts.

Granting credit entails cost and benefits. The main benefit is the boost in sales and profit that would otherwise be lost if credit were not extended. Many potential customers would not buy if credit were unavailable or they would buy from a competitor that offered credit. One cost is administration and collection of the credit amount. Another cost is the delay in receiving payment. The seller must finance its activities in other ways while awaiting payment. Perhaps the most significant cost is **uncollectible accounts** or **bad debts**—receivables that some credit customers are either unable or unwilling to pay. Accountants often label this major cost of granting credit that arises from uncollectible accounts as **bad debts expense.**

The extent of nonpayment of debts varies. It often depends on the credit risks that managers are willing to accept. For instance, many smaller, local establishments, will accept a higher level of risk than will larger, national stores, such as Sears. The small stores know their customers personally. The extent of a nonpayment can also depend on the industry. For example, the problem of uncollectible accounts is especially difficult in the health-care field. The Bayfront Medical Center of St. Petersburg, Florida, suffered bad debts equal to 21% of gross revenue.

bad debts expense The cost of granting credit that arises from uncollectible accounts.

Deciding When and How to Grant Credit

Competition and industry practice affect whether and how companies offer credit, and the final decision is based on cost-benefit trade-offs. In other words, companies offer credit only when the additional earnings on credit sales exceed the costs of offering credit. Suppose 5% of credit sales are bad debts, administrative costs of a credit department are $5,000 per year, and $20,000 of credit sales (with earnings of $8,000 before credit costs) are achieved. Assume that none of the credit sales would have been made without granting credit. Offering credit is worthwhile because the earnings of $8,000 exceeds the credit costs of $6,000 ((5% × $20,000) + $5,000).

Measurement of Uncollectible Accounts

Objective 5
Estimate and interpret uncollectible accounts receivable balances.

Uncollectible accounts require special accounting procedures and thus deserve special attention here. Consider an example. Suppose Compuport has credit sales of $100,000 (two hundred customers averaging $500 each) during 19X1. Collections during 19X1 were $60,000. The December 31, 19X1, accounts receivable of $40,000 includes the accounts of 80 different customers who have not yet paid for their 19X1 purchases. During 19X1 there was no bad debt, but it turns out that 40% of the year's sales are still unpaid at year end and some may never be paid. The outstanding balances are:

Customer	Amount Owed
1. Jones	$ 1,400
2. Slade	125
⋮	⋮
42. Monterro	600
⋮	⋮
79. Weinberg	700
80. Porras	11
Total receivables	$40,000

How should Compuport account for these receivables? Should we assume they will all be collected? Should we assume some will not be? If the latter, how do we decide which are collectible and which are not? Of course we would never have initially made a credit sale to someone we really believed would not pay us.

There are two basic ways to record uncollectibles: by waiting to see which ones are unpaid or by making estimates today of the portion that will not be collected. The methods are called the *specific write-off method* and the *allowance method.*

Specific Write-off Method

A company that rarely experiences a bad debt might use the **specific write-off method,** which assumes that all sales are fully collectible until proved otherwise. If uncollectibles are small and very infrequent, this practice will not misstate the economic situation in a

specific write-off method This method of accounting for bad debt losses assumes all sales are fully collectible until proved otherwise.

material way. When a specific customer account is later identified as uncollectible, the Account Receivable is reduced. Because no specific customer's account is deemed to be uncollectible at the end of 19X1, the December 31, 19X1, Compuport balance sheet would simply show an Account Receivable of $40,000.

Now assume that during the next year, 19X2, the retailer identifies Jones and Monterro as customers who are not expected to pay. When the chances of collection from specific customers become dim, the amounts in the particular accounts are recognized as bad debts expense:

Specific Write-Off Method	A	=	L +	SE
19X1 Sales	+100,000 [Increase Accounts Receivable]	=		+100,000 [Increase Sales]
19X2 Write-off	−2,000 [Decrease Accounts Receivable]	=		−2,000 [Increase Bad Debts Expense]

Unfortunately, the specific write-off method has been criticized justifiably because it fails to apply the matching principle of accrual accounting. The $2,000 bad debts expense in 19X2 is related to (or caused by) the $100,000 of 19X1 sales. Matching requires recognition of the bad debts expense at the same time as the related revenue, that is, in 19X1, not 19X2. As a result of not matching expenses to revenues, the specific write-off method produces two errors. First, 19X1 income is overstated by $2,000 because no bad debts expense is charged to that year. Second, 19X2 income is understated by $2,000. Why? Because 19X1's bad debts expense of $2,000 is charged in 19X2. Compare the specific write-off method with a correct matching of revenue and expense:

	Specific Write-off Method: Matching Violated		Matching Applied Correctly	
	19X1	*19X2*	*19X1*	*19X2*
Sales revenue	100,000	0	100,000	0
Bad debts expense	0	2,000	2,000	0

allowance method Method of accounting for bad debt losses using estimates of the amount of sales that will ultimately be uncollectible and a contra asset account, allowance for doubtful accounts.

The principal arguments in favor of the specific write-off method are based on cost-benefit concerns and materiality. Basically, the method is simple and extremely inexpensive to use. Moreover, no great error in measurement of income occurs if amounts of bad debts are small and similar from one year to the next.

Allowance Method

allowance for uncollectible accounts (allowance for doubtful accounts, allowance for bad debts, reserve for doubtful accounts) A contra asset account that measures the amount of receivables estimated to be uncollectible.

Most accountants do not use the specific write-off method because it violates the matching principle. Instead, they use an alternate method that estimates the amount of uncollectible accounts to be matched to the related revenue. This method, known as the **allowance method,** has two basic elements: (1) an estimate of the amount of sales that will ultimately be uncollectible and (2) a contra account, which records the estimate and is deducted from the accounts receivable. The contra account is usually called **allowance for uncollectible accounts** (or **allowance for doubtful accounts, allowance for bad debts,** or **reserve for doubtful accounts**). It measures the amount of receivables estimated to be uncollectible from as yet unidentified customers. In other words, it allows accountants to

recognize bad debts in general during the proper period, before specific uncollectible accounts are identified in the following period.

Returning to our example, suppose that Compuport knows from experience that 2% of sales is never collected. Therefore 2% × $100,000 = $2,000 of the 19X1 sales can be estimated to be uncollectible. However, the exact customer accounts that will not be collected are unknown at December 31, 19X1. (Of course, all $2,000 must be among the $40,000 of accounts receivable because the other $60,000 has already been collected.) Compuport can still acknowledge the $2,000 worth of bad debt in 19X1, before the specific accounts of Jones and Monterro are identified in 19X2. The effects of the allowance method on the balance sheet equation in the Compuport example follow:

	A	= L +	SE
Allowance Method:			
19X1 Sales	+100,000 [Increase Accounts Receivable]	=	+100,000 [Increase Sales]
19X1 Allowance	−2,000 [Increase Allowance for Uncollectible Accounts]	=	−2,000 [Increase Bad Debts Expense]
19X2 Write-off	+2,000 [Decrease Allowance for Uncollectible Accounts]		
	−2,000 [Decrease Accounts Receivable]	=	(No effect)

The associated journal entries are:

19X1			
Sales	Accounts receivable	100,000	
	Sales		100,000
19X1			
Allowances	Bad debts expense	2,000	
	Allowance for uncollectible accounts		2,000
19X2			
Write-offs	Allowance for uncollectible accounts	2,000	
	Accounts receivable, Jones		1,400
	Accounts receivable, Monterro		600

Note in the 19X2 journal entry that two credit entries are made, one for $1,400 due to Jones and one for $600 due to Monterro. For accounts receivable, records must be maintained for each individual customer. In a similar manner, the 19X1 increase of $100,000 to accounts receivable would actually be recorded as many (200 in this example) individual sales to specific customers.

The principal argument in favor of the allowance method is its superiority in measuring accrual accounting income in any given year. That is, under this method the $2,000 of 19X1 sales that is estimated never to be collected is recorded in 19X1, the period in which the $100,000 sales revenue is recognized.

The allowance method results in the following presentation in the Compuport balance sheet, December 31, 19X1:

Accounts receivable	$40,000
Less: Allowance for uncollectible accounts	2,000
Net accounts receivable	$38,000

Other formats for presenting the allowance method on recent balance sheets of actual companies include:

	1997
IBM (in millions):	
Notes and accounts receivable, trade, net of allowances	$ 16,850
Dow Jones & Company (in thousands):	
Accounts receivable—trade, net of allowance for doubtful accounts of $16,445	$295,250

The various approaches to the allowance method are based on historical experience and assume the current year is similar to prior years in terms of economic circumstances (growth versus recession, interest rate levels, and so on) and in terms of customer composition. Of course, estimates are revised when conditions change. For example, if a local employer closed or drastically reduced employment and many local customers were thus suddenly unemployed, Compuport might increase expected bad debts.

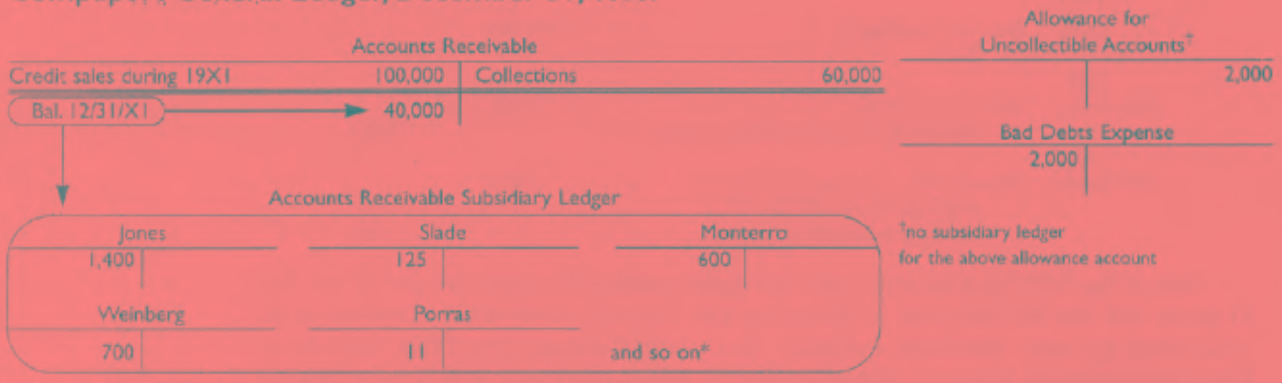
Applying the Allowance Method Using a Percentage of Sales

How do managers and accountants estimate the percentage of bad debt in the allowance method? In our example, Compuport managers determined a 2% rate of bad debt, for a total of $2,000 (2% × $100,000), based on experience. Expressing the amount of bad debt as a percentage of total sales is known as the **percentage of sales method,** which relies on historical relationships between credit sales and uncollectible debts.

percentage of sales method An approach to estimating bad debts expense and uncollectible accounts based on the historical relations between credit sales and uncollectibles.

The percentage of sales method is easier to understand if we look at the relationship between the general ledger item Accounts Receivable and its supporting detail. Each time a sale is made on account we record the amount in the general ledger but we also record it in a separate, supporting ledger called a subsidiary ledger. In the subsidiary ledger a separate page is maintained for each customer, recording both sales and payments. On December 31, 19X1, the sum of the balances of all the customer accounts in the subsidiary ledger must equal the accounts receivable balance in the general ledger.

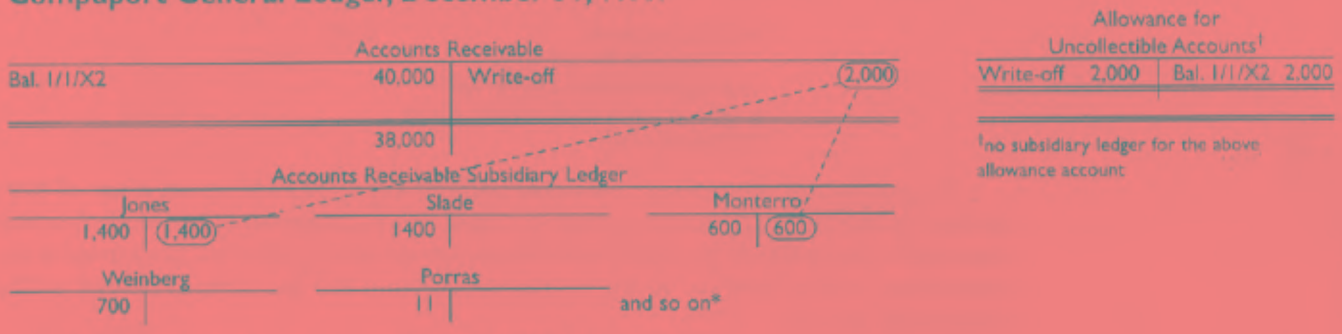
Compuport General Ledger, December 31, 19X1



*Total of these individual customer accounts must equal $40,000.

Note that the use of the allowance account enables us to record bad debt expense without identifying specific accounts that will be uncollectible. In 19X2, after exhausting all practical means of collection, the retailer decides the Jones and Monterro accounts are uncollectible. Recording the $2,000 write-off for Jones and Monterro in 19X2 has the following effect:

Compuport General Ledger, December 31, 19X1



*Total of these individual customer accounts must equal $38,000.

Convince yourself that the ultimate write-off has no effect on total assets:

	Before Write-off	After Write-off
Accounts receivable	$40,000	$38,000
Allowance for uncollectible accounts	2,000	—
Book value (net realized value)	$38,000	$38,000

Applying the Allowance Method Using a Percentage of Accounts Receivable

Like the percentage of sales method, the **percentage of accounts receivable method** uses historical experience, but the estimate of uncollectible accounts is based on the historical relations of uncollectibles to year-end gross accounts receivable, not to total sales made during the year.

percentage of accounts receivable method An approach to estimating bad debts expense and uncollectible accounts at year end using the historical relations of uncollectibles to accounts receivable.

The amount added to the Allowance for Bad Debts contra account is the approximate amount of bad debts contained in the end-of-period accounts receivable. Under the percentage of accounts receivable method, additions to the Allowance for Bad Debts are calculated to achieve a desired ending balance in the Allowance account. Consider the historical experience in the following table:

	Accounts Receivable at End of Year	Bad Debts Deemed Uncollectible and Written Off
19X1	$100,000	$ 3,500
19X2	80,000	2,450
19X3	90,000	2,550
19X4	110,000	4,100
19X5	120,000	5,600
19X6	112,000	2,200
Six-year total	$612,000	$20,400
Average (divide by 6)	$102,000	$ 3,400

Average percentage not collected = 3,400 ÷ 102,000 = 3.33%

At the end of 19X7, assume the accounts receivable balance is $115,000. The 19X7 addition to the Allowance for Bad Debts is computed as follows:

1. Divide average bad debt losses of $3,400 by average ending accounts receivable of $102,000 to calculate the historical average uncollectible percentage of 3.33%.
2. Apply the percentage from step 1 to the ending Accounts Receivable balance for 19X7 to determine the ending balance that should be in the Allowance account at the end of the year: 3.33% × $115,000 receivables at the end of 19X7 is $3,830.
3. Prepare an adjusting entry to bring the Allowance to the appropriate amount determined in step 2. Suppose the books show a $700 credit balance in the Allowance account at the end of 19X7. Then the adjusting entry for 19X7 is $3,830 − $700, or $3,130 to record the Bad Debts expense. The journal entry is:

Bad debts expense	3,130	
Allowance for bad debts		3,130
To bring the Allowance to the level justified by bad debt experience during the past six years.		

The percentage of accounts receivable method differs from the percentage of sales method in two ways: (1) the percentage is based on the ending accounts receivable balance rather than on sales, and (2) the dollar amount calculated using the percentage is the appropriate ending balance in the allowance account, not the amount added to the account for the year.

Applying the Allowance Method Using the Aging of Accounts Receivable

aging of accounts receivable An analysis that considers the composition of year-end accounts receivable based on the age of the debt.

A refinement on the percentage of accounts receivable approach is the **aging of accounts receivable method,** which considers the composition of the end-of-year accounts receivable based on the age of the debt. This method directly incorporates the customers' payment histories. The more time that elapses after the sale, the less likely collection becomes. The seller may send the buyer a late notice 30 days after the sale and a second reminder after 60 days, make a phone call after 90 days, and place the account with a collection agency after 120 days. Companies that analyze the age of their accounts receivable for credit management purposes naturally incorporate this information into estimates of the allowance for uncollectibles. For example, the $115,000 balance in Accounts Receivable on December 31, 19X7, for Compuport might be aged as follows:

Name	Total		1–30 Days		31–60 Days		61–90 Days		Over 90 Days
Oxwall Tools	$ 20,000		$20,000						
Chicago Castings	10,000		10,000						
Estee	20,000		15,000		$ 5,000				
Sarasota Pipe	22,000				12,000		$10,000		
Ceilcote	4,000						3,000		$1,000
Other accounts (each detailed)	39,000		27,000		8,000		2,000		2,000
Total	$115,000		$72,000		$25,000		$15,000		$3,000
Historical bad debt percentages			0.1%		1%		5%		90%
Bad debt allowance to be provided	$3,772	=	$ 72	+	$ 250	+	$ 750	+	$2,700

This aging schedule produces a different target balance for the Allowance account than the percentage of accounts receivable method did: $3,772 versus $3,830. Similarly, the journal entry is slightly different. Given the same $700 credit balance in the Allowance account, the journal entry to record the Bad Debts Expense is $3,772 − $700, or $3,072:

	Bad debts expense	$3,072	
	Allowance for uncollectible accounts		$3,072
	To bring the Allowance to the level justified by prior experience using the aging method.		

Whether the percentage of sales, percentage of accounts receivable, or aging method is used to estimate bad debts expense and the Allowance for Uncollectible Accounts, the subsequent accounting for write-offs is the same—a decrease in Accounts Receivable and a decrease in the allowance for Uncollectible Accounts.

Bad Debt Recoveries

A few accounts will be written off as uncollectible, but then collection will occur at a later date. When such **bad debt recoveries** occur, the write-off should be reversed, and the collection handled as a normal receipt on account. In this way, a company will be better able to keep track of the customer's true payment history. Return to the Compuport example and assume that Monterro's account for $600 is written off in February 19X2 and collected in October 19X2. The following journal entries produce a complete record of the transactions in Monterro's individual accounts receivable account.

bad debt recoveries Accounts receivable that were written off as uncollectible but then collected at a later date.

Feb. 19X2	Allowance for uncollectible accounts	600	
	Accounts receivable		600
	To write off uncollectible account of Monterro, a specific customer.		
Oct. 19X2	Accounts receivable	600	
	Allowance for uncollectible accounts		600
	To reverse February 19X2 write-off of account of Monterro.		
	Cash	600	
	Accounts receivable		600
	To record the collection on account.		

Note that these 19X2 entries have no effect on the level of bad debt expense estimated for 19X1. At the end of 19X1, using one of the three estimation methods we just examined, Compuport estimated bad debt expense based on the expected level of uncollectibles. These estimates are not changed whether future uncollectibles are greater or less than expected. The errors in estimate affect future periods but do not produce adjustments of prior periods. Briefly, in 19X2 Compuport thought that Monterro would be a nonpaying customer. This was not ultimately the case, and the records now reflect Monterro's payment.

ASSESSING THE LEVEL OF ACCOUNTS RECEIVABLE

Objective 6
Assess the level of accounts receivable.

You now know how to account for bad debts, but you should realize that the management issue is how to control bad debts at the proper level. The more credit a company provides, the greater the chances of bad debts occurring. Management and financial analysts like to monitor the firm's ability to control accounts receivable. Can the firm generate increasing sales without excessive growth in receivables? Do bad debt expenses rise sharply when sales grow, indicating a reduction in the credit quality of the store's customers? One measure of the ability to control receivables is the **accounts receivable turnover,** which is calculated by dividing the credit sales by the average accounts receivable for the period during which the sales were made:

accounts receivable turnover Credit sales divided by average accounts receivable.

$$\text{Accounts receivable turnover} = \frac{\text{Credit sales}}{\text{Average accounts receivable}}$$

This ratio indicates how rapidly collections occur. If the turnover were 12, it would indicate that receivables are collected after one month on average. Higher turnovers indicate that receivables are collected quickly—lower turnovers indicate slower collection cycles. The level of the ratio is often driven by competitive conditions in the industry. But changes in the ratio provide important guidance regarding changes in the company's policies, changes in the industry, or changes in the general economic environment. For example, a decline in the general level of economic activity will slow collections across the board and this turnover measure will tend to rise for all firms.

Suppose credit sales (or sales on account) for Compuport in 19X2 were $1 million, and beginning and ending accounts receivable were $115,000 and $112,000 respectively.

$$\text{Accounts receivable turnover} = \frac{1{,}000{,}000}{0.5\,(115{,}000 + 112{,}000)} = 8.81$$

days to collect accounts receivable (average collection period) 365 divided by accounts receivable turnover.

Receivables levels are also assessed in terms of how long it takes to collect them. This ratio is simply an alternative way to express the turnover ratio but it has an appealing direct interpretation. How long does it take to get my money after I make a sale? The **days to collect accounts receivable,** or **average collection period,** is calculated by dividing 365 by the accounts receivable turnover. For our example:

$$\begin{aligned}\text{Days to collect accounts receivable} &= \frac{365 \text{ days}}{\text{Accounts receivable turnover}} \\ &= \frac{365 \text{ days}}{8.81} \\ &= 41.4 \text{ days}\end{aligned}$$

The following illustrates the variability in accounts receivable turnover levels among industries.

	Median Levels	
Industry	*Accounts Receivable Turnover*	*Days to Collect Accounts Receivable*
Automobile Retailer	58.2	6.3
Department Stores	38.7	9.4
Furniture Retailer	60.5	6.0
Jewelry Retailer	3.4	107.4
Management Consulting Firms	4.5	81.1

Source: RMA, *Annual Statement Studies for 1996.*

The high accounts receivable turnovers for automobile retailers and department stores are a result of the way customers finance their purchases. For automobiles, customers generally finance through banks or through the credit arms of the automobile manufacturer. For department stores, credit is often provided by national credit cards, such as Visa and MasterCard. In both industries the seller receives cash quickly. The other three industries more frequently involve direct granting of credit by the selling firm. In other words, outside credit providers tend to pay off the sellers quickly, but when the sellers themselves provide the credit, payments come in much more slowly. In fact, if department stores provided their own credit to customers, as used to be the case, their accounts receivable turnover would drop sharply.

OVERVIEW OF INTERNAL CONTROL

Bank reconciliations and cash controls were discussed earlier, but internal control is broader than a focus on cash. The essence of **internal control** is the creation of a system of checks and balances that assures that all actions occurring within the company are in

accord with organizational objectives and have the general approval of top management. At one level, this means that a highly placed manager should not expose the company to unauthorized, speculative losses from, for example, trading exotic derivatives securities. Here internal control seeks to tie daily decisions to corporate strategy. At another level, it means that a salesperson at the clothing-store giant, The Gap, should not be able to walk out of the store with holiday gifts for the family without paying for them. Here internal control refers to the protection of firm assets from theft and loss. Therefore, an electronic tag on a leather coat is an internal control device and so is the requirement that checks over $200 have the approval of two people.

Objective 7
Develop and explain internal control procedures.

internal control System of checks and balances that assures that all actions occurring within the company are in accordance with organizational objectives.

In its broadest sense, internal control refers to both administrative control and accounting control:

1. **Administrative controls** include the plan of organization (for example, the formal organizational chart concerning who reports to whom) and all methods and procedures that facilitate management planning and control of operations. Examples are departmental budgeting procedures, reports on performance, and procedures for granting credit to customers.
2. **Accounting controls** include the methods and procedures for authorizing transactions, safeguarding assets, and ensuring the accuracy of the financial records. Good accounting controls help maximize efficiency, and they help minimize waste, unintentional errors, and fraud.

administrative controls All methods and procedures that facilitate management planning and control of operations.

accounting controls The methods and procedures for authorizing transactions, safeguarding assets, and ensuring the accuracy of the financial records.

Our focus is on internal accounting controls, which should provide reasonable assurance concerning:

1. *Authorization.* Transactions are executed in accordance with management's general or specific intentions.
2. *Recording.* All authorized transactions are recorded in the correct amounts, periods, and accounts. No fictitious transactions are recorded.
3. *Safeguarding.* Precautions and procedures appropriately restrict access to assets.
4. *Reconciliation.* Records are compared with other independently kept records and physical counts. Such comparisons help ensure that other control objectives are attained.
5. *Valuation.* Recorded amounts are periodically reviewed for impairment of values and necessary write-downs.

The first three general objectives–authorization, recording, and safeguarding—relate to establishing the system of accountability and are aimed at the prevention of errors and irregularities. The final two objectives—reconciliation and valuation—are aimed at detecting errors and irregularities. A sixth objective of an internal control system should be added—promoting operating efficiency. Management should recognize that an internal control system's purpose is as much a positive one (promoting efficiency) as a negative one (preventing errors and fraud).

The Accounting System

An entity's **accounting system** is a set of records, procedures, and equipment that routinely deals with the events affecting the entity's financial performance and position. The system maintains accountability for the firm's assets and liabilities.

accounting system A set of records, procedures, and equipment that routinely deals with the events affecting the financial performance and position of the entity.

Chapters 3 and 4 provided an overview of the heart of the accounting system—source documents, journal entries, postings to ledgers, trial balances, adjustments, and financial reports. The focus of the system is on repetitive, voluminous transactions, which almost always fall into four categories:

1. Cash disbursements
2. Cash receipts

3. Purchase of goods and services, including employee payroll
4. Sales or other rendering of goods and services

The magnitude of the physical handling of records is often staggering. For example, telephone companies and credit card companies process millions of transactions daily. Without computers and data-processing systems, most modern organizations would be forced to halt operations.

Well-designed and well-run accounting systems are positive contributions to organizations and the economy. Credit card companies use sophisticated systems to evaluate transactions on your credit card and may refuse credit transactions that seem likely to be fraudulent use of your card by an unauthorized party. While such refusals sometimes inconvenience a legitimate card-holder, they more frequently foil criminal use. Federal Express created a dominant position in the overnight delivery market by developing an efficient system for continuous tracking of an item from pickup to delivery. Wal-Mart's extraordinary success as a low-price retailer is partly due to their development of an integrated inventory control and ordering system that allows its computer to interact automatically with suppliers such as Procter & Gamble to generate orders and reduce delivery times.

Management's Responsibility

Although outside auditors attest to the financial reports of an entity, management bears the primary responsibility for a company's financial statements. Most annual reports of publicly held companies in the United States contain an explicit statement of management responsibility for its financial statements. These **management reports** state that management is responsible for all audited and unaudited information in the annual report, and they include a statement on the adequacy of internal control. They also include a description of the composition and duties of the audit committee as well as the duties of the independent auditor. You can review an example for the Gap in the appendix to the text.

management reports Explicit statements in annual reports of publicly held companies that management is responsible for all audited and unaudited information in the annual report.

The Audit Committee

Management's primary responsibility for the entity's financial statements extends upward to the board of directors. Most boards have an **audit committee,** which oversees the internal accounting controls, financial statements, and financial affairs of the corporation.

Audit committees typically have many "outside" board members who are not managers of the company. They are considered to be more independent than the "inside" directors—employees who serve as part of the corporation's management. Mobil Corporation, the oil company, has a typical board composition. Of fourteen directors in 1997, three are also members of management and eleven are "outside" directors. Five of the outside directors form the audit committee. The committee provides contact and communication among the board, the external auditors, the internal auditors, the financial executives, and the operating executives.

audit committee A committee of the board of directors that oversees the internal accounting controls, financial statements, and financial affairs of the corporation.

Checklist of Internal Control

All good systems of internal control have certain features in common. These features can be summarized in a checklist of internal control, which may be used to appraise any specific procedures for cash, purchases, sales, payroll, and the like. The following checklist summarizes the guidance that is found in much of the systems and auditing literature.

1. Reliable Personnel with Clear Responsibilities

The most important element of successful control is personnel. Incompetent or dishonest individuals can undermine a system, no matter how well it meets the other items on the checklist. Procedures to hire, train, motivate, and supervise employees are essential. Individuals must be given authority, responsibility, and duties commensurate with their abilities, interests, experience, and reliability. Yet, many employers use low-cost talent that may prove exceedingly expensive in the long run, not only because of fraud but because of poor productivity.

Assessing responsibility means tracking actions as far down in the organization as is feasible, so that results can be related to individuals. It means having salesclerks sign sales slips, inspectors initial packing slips, and workers sign time cards and requisitions. Grocery stores often assign each cashier a separate money tray; therefore, shortages can easily be traced to the person responsible. The psychological impact of fixing responsibility tends to promote care and efficiency.

The National Mass Retailing Institute estimates that retailers lose about 2% of sales to theft and mistakes. Shoplifting accounts for part of this, but employee theft causes much larger losses than shoplifting. The institute estimates that an average retail store loses $10 per shift per clerk.

2. Separation of Duties

The separation of duties not only helps ensure accurate compilation of data but also limits the chances for fraud. Separation of duties makes it hard for one person, acting alone, to defraud the company. It is difficult, although not impossible, for two or more employees to collude in a fraud. This is why movie theaters have a cashier selling tickets and an usher taking them. The cashier takes in cash, the usher keeps the ticket stubs, and in an audit step performed by a third person, the cash is compared with the number of stubs. But suppose they do collude. The ticket seller pockets the cash and issues a fake ticket. The usher accepts the fake ticket and allows entry. Separation of duties alone will not prevent collusive theft. Consider three additional examples where failure to separate duties allows easy theft.

In a computer system, a person with custody of assets should not have access to programming or any input of records. In a classic example, a programmer in a bank rounded transactions to the next lower cent rather than the nearest cent and had the computer put the fraction of a cent into his account. For example, a customer amount of $10.057 became $10.05, and the programmer's account received $.007. With millions of transactions, the programmers' account became very large.

The same individual should not authorize the payment of a supplier's invoice and also sign the check in payment of the bill. Nor should an individual who handles cash receipts have the authority to indicate which accounts receivable should be written off as uncollectible.

The latter separation of powers prevents such embezzlement as the following: A bookkeeper opens the mail, removes a $1,000 check from a customer, and somehow cashes it. To hide the theft, the bookkeeper prepares the following journal entry to write off an amount owed by a customer:

Allowance for bad debts	1,000	
Accounts receivable		1,000

An accounts payable clerk at a pharmaceuticals company embezzled $25,000 by writing checks to companies that he created. Following a standard practice, his employer had an executive authorize payments by initialing invoices. The resulting checks, for small amounts, were created by the clerk, mechanically signed, and mailed. The extra payments to the clerk's companies were detected one day when

the clerk called in sick and his coworker noted checks written to an unfamiliar vendor. In another case, a bookkeeper wrote fraudulent paychecks to seasonal employees and cashed them himself. The theft was revealed when a seasonal employee objected that the W-2 form, sent to the government at year end to report his annual earnings for income tax purposes, reported too much income. Good systems of internal control would reduce such losses.

3. Proper Authorization

   Authorization can be either general or specific. General authorization is usually found in writing. It often sets definite limits on what price to pay (whether to fly economy or first class), on what price to receive (whether to offer a sales discount), on what credit limits to grant to customers, and so forth. There may also be complete prohibitions (against paying extra fees or bribes or overtime premiums). Specific authorization usually means that a superior manager must permit (typically in writing) any particular deviations from the limits set by general authorization. For example, a manager may have to approve any overtime. The board of directors may have to approve expenditures for capital assets in excess of a specific limit.

4. Adequate Documents

   Documents and records vary considerably, from source documents such as sales invoices and purchase orders to journals and ledgers. Immediate, complete, and tamper-proof recording is the aim. It is encouraged by optical scanning of bar-coded data, by having all source documents prenumbered and accounted for, by using devices such as cash registers, and by designing forms for ease of recording. Immediate recording is especially important for handling cash sales. Devices used to ensure immediate recording include "rewards" to customers if they are not offered a receipt at the time of sale and forcing clerks to make change by pricing items at $1.99, $2.99, and $3.99 rather than at $2, $3, and $4. (Historically, such pricing was originally adopted to force clerks to make change as well as for its psychological impact on potential customers.) The need to access the change drawer forces the clerk to ring up the sale so the drawer will open.

5. Proper Procedures

   Most organizations use procedures manuals to specify the flow of documents and provide information and instructions to facilitate adequate recordkeeping. Routine and automatic checks are major ways of attaining proper procedures. In a phrase, this means doing things "by the numbers." The use of general routines permits specialization of effort, division of duties, and automatic checks on previous steps in the routine.

6. Physical Safeguards

   Obviously, losses of cash, inventories, and records are minimized by safes, locks, guards, and limited access. For example, many companies (such as Boeing and Hewlett-Packard) require all visitors to sign a register and wear a name tag. Often, employees will also wear name tags that are coded to show the facilities to which they have access. Doors to research areas or computer rooms often may be opened only with special keys or by use of a specific code.

   Sometimes small businesses are especially vulnerable to theft of physical assets. For example, retail stores use alarm systems, guard dogs, security guards, special lighting, and many other safeguards to protect their property.

7. Bonding, Vacations, and Rotation of Duties

   Key people may be subject to excessive temptation. Thus, top executives, branch managers, and individuals who handle cash or inventories should have understudies, be required to take vacations, and be bonded.

   Rotating employees and requiring them to take vacations ensures that at least two employees know how to do each job so that an absence due to illness

or a sudden resignation does not create major problems. Further, the practice of having another employee periodically perform their duties discourages employees from engaging in fraudulent activities that might be discovered when someone else has access to their records.

Rotation of duties is illustrated by the common practice of having employees such as receivables and payables clerks periodically exchange duties. A receivables clerk may handle accounts from A to C for three months, and then be rotated to accounts M to P for three months, and so forth.

Bonding or buying insurance against embezzlement is not a substitute for vacations, rotation of duties, and similar precautions. Insurance companies will pay only when a loss is proved; establishing proof is often difficult and costly in itself. Prevention of the loss is far better.

8. Independent Check

All phases of the system should be subjected to periodic review by outsiders (for example, by independent public accountants) and by internal auditors. Auditors have independence and a degree of objectivity that allows them to spot weaknesses overlooked by managers immersed in day-to-day operations. It is too costly for external auditors to examine all transactions, so they inspect a sample of the transactions. By first evaluating the system of internal control and testing the extent to which it is being followed, the auditor decides on the likelihood of undetected errors. If internal controls are weak, there is a greater probability of significant errors in the accounting records. Then the auditor must examine many transactions to provide reasonable assurance that existing errors will be found. If internal controls are strong, the auditor can use a smaller sample to develop confidence in the accuracy of the accounting records.

Internal auditors are company employees who help design control systems and assess the degree of compliance with the existing systems. Their main goal is to enhance efficiency of operations by promoting adherence to both administrative and accounting controls and to continuously improve the system.

9. Cost-Benefit Analysis

Highly complex systems tend to strangle people in red tape, impeding rather than promoting efficiency. Besides, the "cost of keeping the costs" sometimes gets out of hand. Investments in more costly systems must be compared with the expected benefits. Unfortunately, it is easier to relate new lathes or production methods to cost savings in manufacturing than to link a new computer to cost savings in inventory control, yet efforts must be made. For example, the accounting firm of KPMG Peat Marwick completed a study of office automation for a client. After examining the jobs of 2,600 white-collar workers, KPMG Peat Marwick quantified a cost-benefit relationship: "A single investment of $10 million would result in a productivity savings equal to $8.4 million every year."

Although many companies implement more complex procedures to improve internal control, a few have taken a reverse course. They have decided that the increased costs of additional scrutiny are not worth the expected savings from catching mistakes or crooks. For example, an aerospace manufacturer routinely pays the invoice amounts without checking supporting documentation except on a random-sampling basis. An aluminum company sends out a blank check with its purchase orders, and then the supplier fills out the check and deposits it.

No framework for internal control is perfect in the sense that it can prevent some shrewd individual from "beating the system" either by outright embezzlement or by producing inaccurate records. The task is not total prevention of fraud, nor is it implementation of operating perfection; rather, the task is the designing of a cost-effective tool that will help achieve efficient operations and reduce temptation.

SUMMARY PROBLEMS FOR YOUR REVIEW

Problem One

Hector Lopez, marketing manager for Fireplace Distributors, sold 12 wood stoves to Woodside Condominiums, Inc. The sales contract was signed on April 27, 19X1. The list price of each wood stove was $1,200, but a 5% quantity discount was allowed. The wood stoves were to be delivered on May 10, and a cash discount of 2% of the amount owed was offered if payment was made by June 10. Fireplace Distributors delivered the wood stoves as promised and received the proper payment on June 9.

1. How much revenue should be recognized in April? in May? in June? Explain.
2. Suppose Fireplace Distributors has a separate account titled "Cash Discounts on Sales." What journal entries would be made on June 9 when the cash payment is received?
3. Suppose Fireplace Distributors has another account titled "Sales Returns and Allowances." Suppose further that one of the wood stoves had a scratch, and Fireplace Distributors allowed Woodside to deduct $100 from the total amount due. What journal entries would be made on June 9 when the cash payment is received?

Solution to Problem One

1. Revenue of $13,680 (12 × $1,200 less a 5% quantity discount of $720) would be recognized in May and none in April or June. The key to recognizing revenue is whether the revenue is earned and the asset received from the buyer is realized. The revenue is not earned until the merchandise is delivered. Therefore, revenue cannot be recognized in April because nothing was delivered then. Provided that Woodside Condominiums has a good credit rating, the receipt of cash is reasonably ensured before the cash is actually received. Therefore recognition of revenue need not be delayed until June. On May 10 both revenue recognition tests were met, and the revenue would be recorded on May's income statement. However, if Woodside had a poor credit rating, the revenue would not be recognized and recorded until it was received in June.
2. The original revenue recorded was $13,680. The 2% cash discount is 2% × $13,680 = $273.60. Therefore the cash payment is $13,680 − $273.60 = $13,406.40:

Cash	13,406.40	
Cash discounts on sales	273.60	
Accounts receivable		13,680.00

3. The only difference from requirement 2 is a $100 smaller cash payment and a $100 debit to sales returns and allowances:

Cash	13,306.40	
Cash discounts on sales	273.60	
Sales returns and allowances	100.00	
Accounts receivable		13,680.00

Problem Two

H.J. Heinz Company sells many popular food products, including its best-selling Heinz ketchup. Its balance sheet showed the following (in thousands):

	April 30, 1997	May 1, 1996
Receivables	$1,137,808	$1,225,172
Less allowance for doubtful accounts	18,934	17,298
	$1,118,874	$1,207,874

Suppose a large grocery chain that owed Heinz $2 million announced bankruptcy on May 1, 1997. Heinz decided that chances for collection were virtually zero. The account was immediately written off. Show the balances as of May 1, 1997, after the write-off. Explain the effect of the write-off on income for the year beginning May 1, 1997.

Solution to Problem Two

Receivables ($1,137,808 − $2,000)	$1,135,808
Less allowance for doubtful accounts ($18,934 − $2,000)	16,934
	$1,118,874

Because Heinz has an account labeled allowance for doubtful accounts, it must use the allowance method. The write-off will not affect the net carrying amount of the receivables, which is still $1,118,874. Moreover, the income will be unaffected. Why? Because the estimated expense has already been recognized in prior periods. Under the allowance method, net assets and income are affected when the estimation process occurs, not when the write-off happens.

Highlights to Remember

Revenue is generally recognized when two tests are met: (1) the revenue is earned, and (2) the asset received in return is realized. Most often, revenue is recognized at the point of sale, when the product is delivered to the customer. In offering products for sale, many special practices produce differences between the price at which a product is offered and the final price that a customer is charged. The term net sales represents the final proceeds to the seller—gross sales less offsetting amounts for returns, allowances, and cash discounts.

Sales made for cash are the most easily recorded and valued. However, cash creates a number of procedural problems for the firm. Protecting cash from theft or loss, adequately planning for the availability of cash as needed, and reconciling the firm's accounting records with the bank's records are just some of these problems.

Potential uncollectible accounts reduce the amount of accounts receivable reported on the balance sheet. Reporting the uncollectible portion of credit sales requires estimates that may be based on a percentage of sales, a percentage of accounts receivable, or an aging of accounts receivable. These estimates permit the financial statements to (1) properly reflect asset levels on the balance sheet, and (2) properly match bad debts expense with revenue on the income statement.

Companies and analysts use ratios to assess the level of accounts receivable. The accounts receivable turnover ratio and the days to collect accounts receivable ratio both relate the average dollar value of accounts receivable to the level of sales activity during the year. Comparisons with other companies in the same industry or examination of a particular company over time draw attention to unusual circumstances and possible problems.

It is tempting to delegate internal control decisions to accountants. However, managers at all levels have a major responsibility for the success of internal controls. To help monitor internal control, boards of directors appoint audit committees, which oversee accounting controls, the financial statements, and general financial affairs of the company.

The following general characteristics form a checklist that can be used as a starting point for judging the effectiveness of internal control:

1. Reliable personnel with clear responsibilities
2. Separation of duties
3. Proper authorization

4. Adequate documents
5. Proper procedures
6. Physical safeguards
7. Bonding, vacations, and rotation of duties
8. Independent check
9. Cost-benefit analysis

Managers and accountants should recognize that the role of an internal control system is as much a positive one (enhancing efficiency) as a negative one (reducing errors and fraud).

Appendix 5A: Bank Reconciliations

Exhibit 5-1 displays a bank statement for account number 96848602, one of thousands of the bank's deposits. Together, these accounts form the subsidiary ledger that supports the bank's general ledger account *Deposits*, a liability.

The supporting documents for the detailed checks on the statement are canceled checks; for additional deposits, deposit slips. Notice that the minimum balance, $-33.39, is negative. This indicates an *overdraft*, which is a negative account balance arising from the bank's paying a check even though the depositor had insufficient funds available at the instant the check was presented. Overdrafts are permitted as an occasional courtesy by the bank, although the bank may levy a fee (e.g., $10 or $30) for each overdraft.

Exhibit 5-2 shows selected records for the depositor and the bank. The bank balance on December 31 is an asset (Cash) on the depositor's books and a liability (Deposits) on the bank's books. The terms *debit* and *credit* as used by banks may seem strange. Banks *credit* the depositor's account for additional deposits because the bank has a liability to the depositor. Banks *debit* the account for checks written by the depositor and paid by the bank. When the $2,000 check drawn by the depositor on January 5 is paid by the bank on January 8, the bank's journal entry would be:

Jan. 8 Deposits	$2,000	
Cash		$2,000
To decrease the depositor's account.		

A monthly *bank reconciliation* (see p. 000) is conducted by the depositor to make sure that all cash receipts and disbursements are accounted for. Bank reconciliations take many forms, but the objective is to explain all differences in the cash balances shown on the bank statement and in the depositor's general ledger at a given date. Using the data in Exhibit 5-2:

Bank Reconciliation, January 31, 19X2

Balance per books (also called *balance per check register, register balance*)	$ 8,000
Deduct: Bank service charges for January not recorded on the books (also include any other charges by the bank not yet deducted)*	20
Adjusted (corrected) balance per books	$ 7,980
Balance per bank (also called *bank statement balance, statement balance*)	$10,980
Add: Deposits not recorded by bank (also called *unrecorded deposits, deposits in transit*), deposit of 1/31	7,000
Total	$17,980
Deduct: Outstanding checks, check of 1/29	10,000
Adjusted (corrected) balance per bank	$ 7,980

*Note that new entries on the depositor's books are required for all previously unrecorded additions and deductions made to achieve the adjusted balance per books.

Exhibit 5-1

An Actual Bank Statement

SEAFIRST BANK
University Branch
4701 University Way NE
Seattle WA 98145

Richard B. Sandstrom 777
2420 Highline Rd.
Redmond WA 98110

Account Number
96848602
Statement Period
11-21-98 to 12-20-98

SUMMARY OF YOUR ACCOUNTS

CHECKING

First Choice Minimum Balance	96848602
Beginning Balance	368.56
Deposits	5,074.00
Withdrawals	3,232.92
Service Charges/Fees	16.00
Ending Balance	2,193.64
Minimum Balance on 12-9-98	**−33.39**

CHECKING ACTIVITY

Deposits

Posted	Amount	Description
11-21	700.00	Deposit
11-25	1,810.00	Payroll Deposit
12-10	1,810.00	Payroll Deposit
12-16	754.00	Deposit

Withdrawals

Ck No.	Paid	Amount
1606	12-02	1134.00
1607	11-28	561.00
1609*	12-09	12.00
1617*	12-05	7.00
1629*	11-26	10.00
1630	11-25	16.95
1639*	12-02	96.00
1641*	12-09	1025.00
1642	12-05	50.00
1643	12-15	236.25
1644	12-17	84.72

*** = Gap in check sequence**
Total number of checks = 11

The bank reconciliation indicates that an adjustment is necessary on the books of the depositor:

Jan. 31	Bank service charge expense	20	
	Cash		20
	To record bank charges for printing checks.		