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chapter 9

Reporting and Interpreting Liabilities

Each week, Starbucks serves customers more than 50 million times. The company, founded in 1985, has more than 17,000 coffeehouses and does business in 55 international markets. The mission statement for the company is "to establish Starbucks as the premier purveyor of the finest coffees in the world." After a brief period of slower growth, store closures, and cost reductions, the company recently reported an 11% increase in sales and a 43% increase in stock price. This success is the result of increased emphasis on the company's core values.

To achieve its goals, Starbucks must focus on a number of activities. The annual report identifies several of them:

- Serve the finest cup of coffee in the world.
- Grow the company one customer at a time based on exceptional customer service.
- Make someone's day with a relaxing in-store experience including music, art, and high-speed wireless Internet access.

In addition to these operating activities, management must focus on a number of critical financing activities to ensure that the company remains profitable and is able to generate sufficient resources to maintain liquidity and eventually open new coffeehouses. The financing activities for Starbucks serve two important purposes. They generate funds to (1) finance the current operating activities of the business and (2) acquire long-term assets that will permit the company to grow in the future.

Learning Objectives

After studying this chapter, you should be able to:

9-8 Apply present value concepts to liabilities. p. 469

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FOCUS COMPANY:

Starbucks

MANAGING FINANCING ACTIVITIES

www.starbucks.com

UNDERSTANDING THE BUSINESS

Businesses finance the acquisition of their assets from two external sources: funds supplied by creditors (debt) and funds provided by owners (equity). The mixture of debt and equity a business uses is called its *capital structure.* In addition to selecting a capital structure, management can select from a variety of sources from which to borrow money, as illustrated by the liability section of the balance sheet from Starbucks shown in Exhibit 9.1.

What factors do managers consider when they borrow money? Two key factors are risk and cost. From the firm's perspective, debt capital is more risky than equity because payments associated with debt are a company's legal obligation. If a company cannot meet a required debt payment (either principal or interest) because of a temporary cash shortage, creditors may force the company into bankruptcy and require the sale of assets to

satisfy the debt. As with any business transaction, borrowers and lenders attempt to negotiate the most favorable terms possible. Managers devote considerable effort to analyzing alternative borrowing arrangements.

Companies that include debt in their capital structure must also make strategic decisions concerning the balance between short-term and long-term debt. To evaluate a company's capital structure, financial analysts calculate a number of accounting ratios. In this chapter, we will discuss both short-term and long-term debt, as well as some important accounting ratios. We will also introduce present value concepts. In the next chapter, we discuss a special category of long-term debt, bonds payable.

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EXHIBIT 9.1

Starbucks Consolidated Balance Sheets

STARBUCKS

REAL WORLD EXCERPT
Annual Report

STARBUCKS CORPORATION
Consolidated Balance Sheets
(in millions, except per share data)

	Oct. 2, 2011	Oct. 3, 2010
Liabilities		
Current liabilities:		
Accounts payable	$ 540.0	$ 282.6
Accrued compensation and related costs	364.4	400.0
Accrued occupancy costs	148.3	173.2
Accrued taxes	109.2	100.2
Insurance reserves	145.6	146.2
Other accrued liabilities	319.0	262.8
Deferred revenue	449.3	414.1
Total current liabilities	2,075.8	1,779.1
Long-term debt	549.5	549.4
Other long-term liabilities	347.8	375.1
Total liabilities	$2,973.1	$2,703.6

ORGANIZATION of the Chapter

- Liabilities Defined and Classified
- Current Liabilities
  - Accounts Payable
  - Accounts Payable Turnover Ratio
  - Accrued Liabilities
  - Notes Payable
  - Current Portion of Long-Term Debt
  - Deferred Revenues
  - Estimated Liabilities Reported on the Balance Sheet
  - Estimated Liabilities Reported in the Notes
  - Working Capital Management
- Long-Term Liabilities
  - Long-Term Notes Payable and Bonds
  - Lease Liabilities
- Present Value Concepts
  - Present Value of a Single Amount
  - Present Value of an Annuity
  - Accounting Applications of Present Values

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LIABILITIES DEFINED AND CLASSIFIED

LEARNING OBJECTIVE 9-1

Define, measure, and report current liabilities.

LIABILITIES are probable debts or obligations that result from past transactions, which will be paid with assets or services.

Most people have a reasonable understanding of the definition of the word *liability.* Accountants formally define **liabilities** as probable debts or obligations of the entity that result from past transactions, which will be paid with assets or services. As Exhibit 9.1 shows, as of October 2, 2011, Starbucks had borrowed on a long-term basis $549.5 million. The company has a current obligation to pay cash to its creditors at some time in the future based on the borrowing agreements. Because of this obligation, Starbucks must record long-term debt.

When a liability is first recorded, it is measured in terms of its current cash equivalent, which is the cash amount a creditor would accept to settle the liability immediately. Although Starbucks borrowed $549.5 million, it will repay much more than that because the company must also pay interest on the debt. Interest that will be paid in the future is not included in the reported amount of the liability because it accrues and becomes a liability with the passage of time.

CURRENT LIABILITIES are short-term obligations that will be paid within the current operating cycle or one year, whichever is longer.

Like most businesses, Starbucks has several kinds of liabilities as well as a wide range of creditors. The list of liabilities on the balance sheet differs from one company to the next because different operating activities result in different types of liabilities. The liability section of the Starbucks report begins with the caption Current Liabilities. **Current liabilities** are defined as short-term obligations that will be paid within the current operating cycle of the business or within one year of the balance sheet date, whichever is longer. Because most companies have an operating cycle that is shorter than one year, current liabilities usually can be defined simply as liabilities that are due within one year. Noncurrent liabilities include all other liabilities.

LIQUIDITY is the ability to pay current obligations.

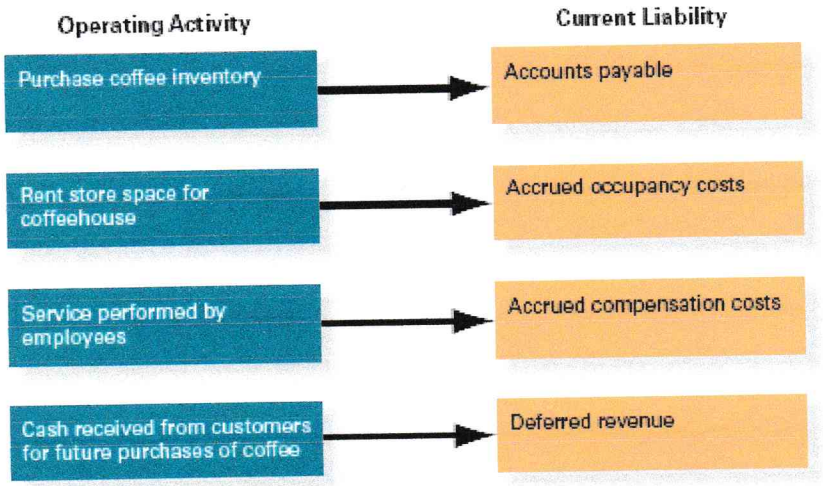
Information about current liabilities is very important to managers and analysts because these obligations must be paid in the near future. Analysts say that a company has **liquidity** if it has the ability to meet its current obligations. A number of financial measures are useful in evaluating liquidity, including the current ratio (discussed in Chapter 2) and the dollar amount of working capital (defined as current assets minus current liabilities). Starbucks reported current assets of $3,794.9 (million), which results in working capital of $1,719.1 (million). Working capital is a margin of safety that ensures a company can meet its short-term obligations.

Working capital management involves a delicate balance. On one hand, working capital provides liquidity and a margin of safety. If sales activity slows, for example, working capital provides resources to maintain business operations during a period in which there are reduced cash inflows from customers. On the other hand, excess money tied up in a checking account or inventory is not productive because it does not generate profits. Companies have become very sophisticated in managing working capital to provide needed liquidity without

tying up excessive amounts of money in nonproductive assets. One example is the just-in-time (JIT) inventory method, which uses statistical methods to maintain optimal levels of inventory based on forecasted needs.

CURRENT LIABILITIES

Many current liabilities have a direct relationship to the operating activities of a business. In other words, specific operating activities are financed, in part, by a related current liability. Some examples from the Starbucks annual report (Exhibit 9.1) are:



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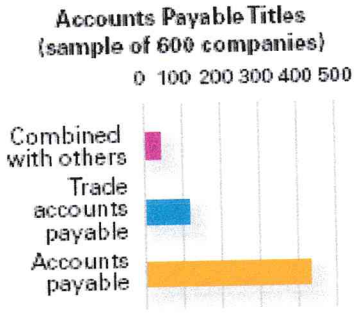
Early in this chapter, we mentioned that Starbucks is aggressively opening new stores each year. As a result, it must buy more inventory, rent more store space, and hire more employees. By understanding the relationship between operating activities and current liabilities, an analyst can easily explain changes in the various current liability accounts.

We will now discuss the current liability accounts that are found on most balance sheets.

Accounts Payable



Most companies do not produce all the goods and services that they use in their basic operating activities. Instead, they purchase some goods and services from other businesses. Typically, these transactions are made on credit with cash payments made after the goods and services have been provided. As a result, these transactions create accounts payable, also called **trade accounts payable.** *Accounting Trends & Techniques* (published by the AICPA) examined the reporting practices of 600 companies and found that most companies use the term **accounts payable.** [1]

For many companies, trade credit is a relatively inexpensive way to finance the purchase of inventory because interest does not normally accrue on accounts payable. As an incentive to encourage more sales, some vendors offer generous credit terms that may allow the buyer to resell merchandise and collect cash before payment must be made to the original vendor.

Some managers may be tempted to delay payment to suppliers as long as possible to conserve cash. This strategy normally is not advisable. Most successful companies develop positive working relationships with suppliers to ensure that they receive quality goods and services. A positive relationship can be destroyed by slow payment of debt. In addition, financial analysts become concerned if a business does not meet its obligations to trade creditors on a timely basis because such slowness often indicates that a company is experiencing financial difficulties. Both managers and analysts use the accounts payable turnover ratio to evaluate effectiveness in managing payables.

KEY RATIO ANALYSIS  Accounts Payable Turnover

? ANALYTICAL QUESTION

How efficient is management in meeting its obligations to suppliers?

% RATIO AND COMPARISONS

The accounts payable turnover ratio is computed as follows:

$$\text{Accounts Payable Turnover} = \text{Cost of Goods Sold} \div \text{Average Accounts Payable}$$

The 2011 accounts payable turnover ratio for Starbucks was:

$4,949.3 ÷ $411.3* = 12.0

*($540.0 + $282.6) ÷ 2 = $411.3

COMPARISONS OVER TIME		
Starbucks		
2009	2010	2011
14.6	16.2	12.0

COMPARISONS WITH COMPETITORS	
Peet's Coffee	Caribou Coffee
2011	2011
18.0	17.7

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INTERPRETATIONS

In General The accounts payable turnover ratio measures how quickly management is paying trade accounts. A high accounts payable ratio normally suggests that a company is paying its suppliers in a timely manner. The ratio can be stated more intuitively by dividing it into the number of days in a year:

Average Age of Payables = 365 Days ÷ Turnover Ratio

The 2011 average age of payables for Starbucks was:

365 Days ÷ 12.0 = 30.4 Days

Focus Company Analysis The accounts payable turnover for Starbucks is lower than both of its competitors and shows a fair amount of variation over time. Usually, a low ratio would raise questions concerning a company's liquidity. Starbucks, on average, pays its creditors within approximately 30 days, which represents normal credit terms. Analysts would consider this ratio to be strong.

A Few Cautions The accounts payable turnover ratio is an average based on all accounts payable. The ratio might not reflect reality if a company pays some creditors on time but is late with others. The ratio is also subject to manipulation. Managers could be late in paying creditors during the entire year but catch up at year-end so that the ratio is at an acceptable level. As our focus company analysis indicates, a low turnover ratio can indicate either liquidity problems (i.e., the company is not able to generate sufficient cash to meet its obligations) or aggressive cash management (i.e., the company maintains only the minimum amount of cash necessary to support its operating activities). The first is a problem; the second is a strength. Analysts need to study other factors (such as the quick ratio and the amount of cash generated from operating activities) to determine which is the case.

LEARNING OBJECTIVE 9-2

Analyze the accounts payable turnover ratio.

Accrued Liabilities

ACCRUED LIABILITIES are expenses that have been incurred but have not been paid at the end of the accounting period.

In many situations, a business incurs an expense in one accounting period and makes the cash payment in another period. **Accrued liabilities** are expenses that have been incurred before the end of an accounting period but have not been paid. These expenses include items such as property taxes, electricity, and salaries. The balance sheet for Starbucks lists four of these items: accrued compensation and related costs, accrued occupancy costs (rent), accrued taxes, and other accrued expenses. Accrued liabilities are recorded as adjusting entries at year-end.

Accrued Taxes Payable

Like individuals, corporations must pay taxes on the income they earn. Corporate tax rates are graduated, with large corporations paying a top federal tax rate of 35 percent. Corporations may also pay state and local income

taxes and, in some cases, foreign income taxes. The notes to the Starbucks annual report include the following information pertaining to taxes:

INCOME TAXES

Note 13:

Provision for income taxes *(in millions)*:

Fiscal Year Ended	**Oct. 2, 2011**	**Oct. 3, 2010**	**Sep. 27, 2009**
Current taxes:			
Federal	$344.7	$457.5	$165.3
State	61.2	79.6	35.0
Foreign	37.3	38.3	26.3
Total deferred taxes	119.9	(86.7)	(58.2)
Total provision for income taxes	$563.1	$488.7	$168.4

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The 2011 federal income tax for Starbucks ($344.7 million) was approximately 28 percent of its reported earnings. For most corporations, federal income taxes represent a major cost.

Accrued Compensation and Related Costs

At the end of each accounting period, employees usually have earned salaries that have not yet been paid. Unpaid salaries may be reported as part of accrued liabilities or as a separate item, as is the case with Starbucks (the amount shown on the balance sheet is $364.4 million). In addition to reporting salaries that have been earned but not paid, companies must report the cost of unpaid benefits, including retirement programs, vacation time, and health insurance.

Let's look at vacation time as an example. Typically, a business grants employees paid vacation time based on the number of months they have worked. Under the matching concept, the cost of vacation time must be recorded in the year employees perform a service rather than the year they actually take vacation. If Starbucks estimates the cost of accrued vacation time to be $125,000, accountants make the following adjusting entry at the end of the fiscal year:

Compensation expense (+E, −SE)	125,000	
Accrued vacation liability (+L)		125,000

Assets	=	Liabilities	+	Stockholders' Equity	
		Accrued vacation liability	+125,000	Compensation expense (+E)	−125,000

When the vacations are taken (during the next summer), the accountants record the following:

Accrued vacation liability (−L)	125,000	
Cash (−A)		125,000

Assets		=	Liabilities		+	Stockholders' Equity
Cash	−125,000		Accrued vacation liability	−125,000		

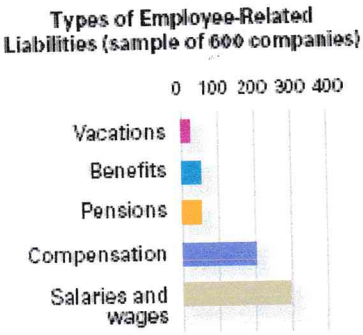
Starbucks does not separately disclose the amount of accrued vacation liability. Instead, the company reports this liability as part of accrued compensation. Apparently, the amount of accrued vacation liability is not material in management's opinion. Most analysts would probably agree.

Payroll Taxes

All payrolls are subject to a variety of taxes, including federal, state, and local income taxes, Social Security taxes, and federal and state unemployment taxes. Employees pay some of these taxes and employers pay others. While we will look at only the three largest deductions for most people, reporting is similar for each type of payroll tax.

Employee Income Taxes Employers are required to withhold income taxes for each employee. The amount of income tax withheld is recorded by the employer as a current liability between the date of the deduction and the date the amount is remitted to the government. Federal Income Tax Withheld is often referred to as **FITW.**

Employee and Employer FICA Taxes The Social Security taxes often are called **FICA taxes** because they are required by the Federal Insurance Contributions Act. These taxes are imposed in equal amounts on both the employee and the employer. Effective January 1, 2013, the Social Security tax rate was 6.2 percent on the first $113,700 paid to each employee during the year. In addition, a separate 1.45 percent



Accounting Trends & Techniques found that most companies in its sample of 600 companies report employee-related liabilities. [2]

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Medicare tax applies to all income. Therefore, the FICA tax rate is 7.65 percent on income up to $113,700 and 1.45 percent on all income above $113,700.

Employer Unemployment Taxes Employers are charged unemployment taxes through the Federal Unemployment Tax Act (FUTA) and State Unemployment Tax Acts (SUTA). These programs provide limited financial support to employees who lose their jobs through no fault of their own. Because the rate and specified amount of wages vary by state, we will focus on federal unemployment taxes. The FUTA specifies a federal tax rate of 6.2 percent on taxable wages up to the first $7,000 for each employee. Employers with a good payment history may receive a credit for taxes paid at the state level, up to 5.4 percent of taxable wages. For most large employers, the FUTA taxes are .8 percent of wages up to $7,000 for each employee.

Employee compensation expense includes all funds earned by employees as well as funds paid to others on behalf of employees. As a result, the cost of hiring employees is much more than the amount that those employees actually receive in cash.

To illustrate a payroll, let's assume that Starbucks accumulated the following information in its records for the first two weeks of June 2014:

Salaries and wages earned	$1,800,000
Income taxes withheld	275,000
FICA taxes (employees' share)	105,000
FUTA taxes	2,300

The entry to record the payroll is normally made with two entries. The first entry records amounts paid to employees or withheld from amounts they have earned:

Compensation expense (+E, −SE)	1,800,000	
Liability for income taxes withheld (+L)		275,000
FICA payable (+L)		105,000
Cash (−A)		1,420,000

Assets		=	Liabilities		+	Stockholders' Equity	
Cash	−1,420,000		FICA payable	+105,000		Compensation expense (+E)	−1,800,000
			Liability for income taxes withheld	+275,000			

The second entry records the taxes that employers must pay from their own funds. These additional tax payments are required by federal and state law. The FICA tax amount is equal to the amount that is paid by employees:

Compensation expense (+E, −SE)	107,300	
FICA payable (+L)		105,000
FUTA payable (+L)		2,300

Assets	=	Liabilities		+	Stockholders' Equity	
		FICA payable	+105,000		Compensation expense (+E)	−107,300
		FUTA payable	+2,300			

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LEARNING OBJECTIVE 9-3

Report notes payable and explain the time value of money.

When a company borrows money, a formal written contract is usually prepared. Obligations supported by these contracts are called *notes payable.* A note payable specifies the amount borrowed, the date by which it must be repaid, and the interest rate associated with the borrowing.

The TIME VALUE OF MONEY is interest that is associated with the use of money over time.

Creditors are willing to lend cash because they will earn interest in return for giving up the use of their money for a period. This simple concept is called the **time value of money.** The longer borrowed money is held, the larger is the total dollar amount of interest expense. Interest at a given interest rate on a two-year loan is more than interest on a one-year loan. To the borrower, interest is an expense; to the creditor, it is revenue.

To calculate interest, three variables must be considered: (1) the principal (i.e., the cash that was borrowed), (2) the annual interest rate, and (3) the time period for the loan. The interest formula is:

$$\text{Interest} = \text{Principal} \times \text{Interest Rate} \times \text{Time}$$

To illustrate, assume that on November 1, 2014, Starbucks borrows $100,000 cash on a one-year, 12 percent note payable. The interest is payable on March 31, 2015, and October 31, 2015. The principal is payable at the maturity date, October 31, 2015. The note is recorded in the accounts as follows:

Cash (+A)	100,000	
Notes payable, short-term (+L)		100,000

Assets		=	Liabilities		+	Stockholders' Equity
Cash	+100,000		Notes payable	+100,000		

Interest is an expense of the period in which the money is used. Under the matching concept, interest expense is recorded when it is incurred rather than when the cash actually is paid. Because Starbucks uses the money for two months during 2014, it records interest expense in 2014 for two months, even though cash is not paid until March 31 of the following year.

The computation of interest expense for 2014 is as follows:

$$\text{Interest} = \text{Principal} \times \text{Interest Rate} \times \text{Time}$$
$$\$2{,}000 = \$100{,}000 \times 12\% \times 2/12$$

The entry to record interest expense on December 31, 2014, is:

Interest expense (+E, −SE)	2,000	
Interest payable (+L)		2,000

Assets	=	Liabilities		+	Stockholders' Equity	
		Interest payable	+2,000		Interest expense (+E)	−2,000

On March 31, 2015, Starbucks would pay $5,000 in interest, which includes the $2,000 accrued and reported in 2014 plus the $3,000 interest accrued in the first three months of 2015. The following journal entry would be made:

Interest expense (+E, −SE)	3,000	
Interest payable (−L)	2,000	
Cash (−A)		5,000

Assets		=	Liabilities		+	Stockholders' Equity	
Cash	−5,000		Interest payable	−2,000		Interest expense (+E)	−3,000

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Current Portion of Long-Term Debt

The distinction between current and long-term debt is important for both managers and analysts. Because current debt must be paid within the next year, companies must have sufficient cash to repay it. To provide accurate information on its current liabilities, a company must reclassify its long-term debt as a current liability within a year of its maturity date. Assume that Starbucks signed a note payable of $5 million on January 1, 2014. Repayment is required on December 1, 2016. The December 31, 2014 and 2015, balance sheets would report the following:

December 31, 2014	
Long-term liabilities:	
Note payable	$5,000,000
December 31, 2015	
Current liabilities:	
Current portion of long-term note	$5,000,000

Note in Exhibit 9.1 that Starbucks did not report any current portion of long-term debt to be paid in full during the following accounting period. In some cases, companies will refinance debt when it comes due rather than pay out cash currently on hand.

FINANCIAL ANALYSIS  Refinanced Debt: Current or Noncurrent?

Instead of repaying a debt from current cash, a company may refinance it either by negotiating a new loan agreement with a new maturity date or by borrowing money from a new creditor and repaying the original creditor. If a company intends to refinance a currently maturing debt and has the ability to do so, should the debt be classified as a current or a long-term liability? Remember that analysts are interested in a company's current liabilities because those liabilities will generate cash outflows in the next accounting period. If a liability will not generate a cash outflow in the next accounting period, GAAP requires that it not be classified as current. This rule is illustrated by a note from the General Mills annual report.

> We have a revolving credit agreement that provides us with the ability to refinance short-term borrowing on a long-term basis. Therefore we have reclassified a portion of our notes payable to long-term debt.

U.S. GAAP and IFRS differ with respect to the timing of the refinancing. In the case of IFRS, the actual refinancing must take place by the balance sheet date. Under GAAP, the ability to refinance must be in place before the financial statements are issued.

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Deferred Revenues

DEFERRED REVENUES are revenues that have been collected but not earned; they are liabilities until the goods or services have been provided.

In most business transactions, cash is paid after the product or service has been delivered. In some cases, cash is paid before delivery. You have probably paid for magazines that you will receive at some time in the future. The publisher collects money for your subscription in advance, before the magazine is published. When a company collects cash before the related revenue has been earned, the cash is called **deferred revenues.** The popular Starbucks card permits customers to pay in advance for their coffee. The advantage for the customer is convenience at the point of sale. The advantage for the company is that Starbucks is able to collect

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and use cash before customers actually buy the product. The Starbucks report shows that the company has collected $449.3 million from customers prior to providing them with coffee and explains the amount with the following note:

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> Revenues from the Company's stored value cards, such as the Starbucks Card, and gift certificates are recognized when tendered for payment, or upon redemption. Outstanding customer balances are included in "Deferred revenue" on the consolidated balance sheet.

Under the revenue principle, revenue cannot be recorded until it has been earned. Deferred revenues are reported as a liability because cash has been collected but the related revenue has not been earned by the end of the accounting period. The obligation to provide services or goods in the future still exists. These obligations are classified as current or long-term, depending on when they must be satisfied.

Estimated Liabilities Reported on the Balance Sheet

Some recorded liabilities are based on estimates because the exact amount will not be known until a future date. For example, an estimated liability is created when a company offers a warranty with the products it sells. The cost of providing future repair work must be estimated and recorded as a liability (and expense) in the period in which the product is sold.

Starbucks offers a warranty on coffee brewing and espresso equipment sold in its stores but does not record an estimated warranty liability at the time of sale. Rather than repairing brewing machines, the company gives the customer the right to return any defective product for a period of up to 24 months. The estimated amount of product that will be returned is reported as a reduction from sales revenue in the year the sales are recorded.

Estimated Liabilities Reported in the Notes

LEARNING OBJECTIVE 9-4

Report contingent liabilities.

A CONTINGENT LIABILITY is a potential liability that has arisen as the result of a past event; it is not an effective liability until some future event occurs.

Each of the liabilities that we have discussed is reported on the balance sheet at a specific dollar amount because each involves the probable future sacrifice of economic benefits. Some transactions or events create only a reasonably possible (but not probable) future sacrifice of economic benefits. These situations create **contingent liabilities,** which are potential liabilities that are created as a result of a past event. A contingent liability may or may not become a recorded liability depending on future events. A situation that produces a contingent liability also causes a contingent loss.

Contingent Liability Examples

Lawsuits | Environmental problems | Product warranties

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Whether a situation produces a recorded or a contingent liability depends on two factors: the probability of a future economic sacrifice and the ability of management to estimate the amount of the liability. The following table illustrates the possibilities:

	Probable	Reasonably Possible	Remote
Subject to estimate	Record as liability	Disclose in note	Disclosure not required
Not subject to estimate	Disclose in note	Disclose in note	Disclosure not required

The probabilities of occurrence are defined in the following manner:

1. Probable—The chance that the future event or events will occur is high.
2. Reasonably possible—The chance that the future event or events will occur is more than remote but less than likely.
3. Remote—The chance that the future event or events will occur is slight.

INTERNATIONAL PERSPECTIVE  It's a Matter of Degree

The assessment of future probabilities is inherently subjective but both U.S. GAAP and IFRS provide some guidance. Under GAAP, "probable" has been defined as *likely,* which is interpreted as having a greater than 70 percent chance of occurring. In the case of IFRS, "probable" is defined as *more likely than not,* which would imply more than a 50 percent chance of occurring. This difference means that companies reporting under IFRS would record a liability when other companies reporting under GAAP would report the same event as a contingency.

In summary, (1) a liability that is both probable and capable of being reasonably estimated must be recorded and reported on the balance sheet, (2) a liability that is reasonably possible must be disclosed in a note in the financial statements whether it can be estimated or not, and (3) remote contingencies are not disclosed.

The notes to Starbucks's annual report include the following information about a loan guarantee:

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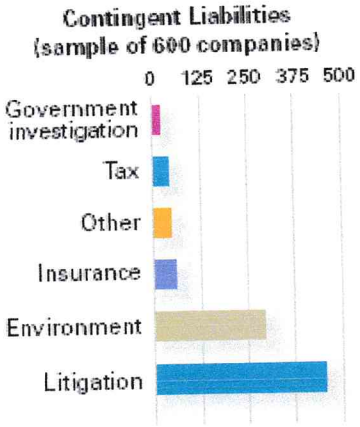
Note 15: Commitments and Contingencies

We have unconditionally guaranteed the repayment of certain Japanese yen-denominated bank loans and related interest and fees of Starbucks Japan. The guarantees continue until the loans, including accrued interest and fees, have been paid in full. These guarantees expire in 2014. Our maximum exposure under this commitment as of October 2, 2011, was $1.0 million and is limited to the sum of unpaid principal and interest, as well as other related expenses. Since there has been no modification of these loan guarantees subsequent to the adoption of accounting requirements for guarantees, we have applied the disclosure provisions only and have not recorded the guarantees on our consolidated balance sheets.



Consistent with the chart shown earlier, Starbucks did not record a liability because the likelihood of a loss did not meet the threshold of "probable." Therefore, disclosure in a footnote was sufficient.

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Accounting Trends & Techniques studied the financial statements of 600 companies and found that litigation was the most common type of contingent liability. [3]

Working Capital Management

LEARNING OBJECTIVE 9-5

Explain the importance of working capital and its impact on cash flows.

WORKING CAPITAL is the dollar difference between total current assets and total current liabilities.

Working capital is defined as the dollar difference between current assets and current liabilities. Working capital is important to both managers and financial analysts because it has a significant impact on the health and profitability of a company.

The working capital accounts are actively managed to achieve a balance between costs and benefits. If a business has too little working capital, it runs the risk of not being able to meet its obligations to creditors. On the other hand, too much working capital may tie up resources in unproductive assets and incur additional costs. Excess inventory, for example, ties up dollars that could be invested more profitably elsewhere in the business and incurs additional costs associated with storage and deterioration.

Changes in working capital accounts are also important to managers and analysts because they have a direct impact on the cash flows from operating activities reported on the statement of cash flows.

FOCUS ON CASH FLOWS  Working Capital and Cash Flows

Many working capital accounts have a direct relationship to income-producing activities. Accounts receivable, for example, are related to sales revenue: Accounts receivable increase when sales are made on credit. Cash is collected when the customer pays the bill. Similarly, accounts payable increase when an expense is incurred without a cash payment. A cash outflow occurs when the account is paid. Changes in working capital accounts that are related to income-producing activities must be considered when computing cash flows from operating activities.

EFFECT ON STATEMENT OF CASH FLOWS

In General On the statement of cash flows, net income is adjusted (under the indirect method) to compute cash flows from operating activities. Changes in working capital accounts have the impact shown in the following table:

	Effect on Cash Flows
Operating activities (indirect method)	
Net income	$xxx
Adjusted for: Decreases in current assets* or increases in current liabilities	+
Adjusted for: Increases in current assets* or decreases in current liabilities	−

*Other than cash.

Focus Company Analysis A segment of the Starbucks Consolidated Statements of Cash Flows, prepared using the indirect method, follows. Notice the significant amount of cash flows from operating activities from 2009 to 2011 (compared to the net earnings). These substantial cash flows are important for a company with the growth strategy that Starbucks is following.

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STARBUCKS CORPORATION
Consolidated Statements of Cash Flows
(in millions)

Fiscal Year Ended	Oct. 2, 2011	Oct. 3, 2010	Sep. 27, 2009
OPERATING ACTIVITIES:			
Net earnings including noncontrolling interests	$1,248.0	$ 948.3	$ 391.5
Adjustments to reconcile net earnings to net cash provided by operating activities:			
Depreciation and amortization	550.0	540.8	563.3
Gain on sale of properties	(30.2)	0.0	0.0
Provision for impairments and asset disposals	36.2	67.7	224.4
Deferred income taxes, net	106.2	(42.0)	(69.6)
Equity in income of investees	(118.5)	(108.6)	(78.4)
Distributions of income from equity investees	85.6	91.4	53.0
Gain resulting from acquisition of joint ventures	(55.2)	(23.1)	0.0
Stock-based compensation	145.2	113.6	83.2
Excess tax benefit from exercise of stock options	(103.9)	(36.9)	(15.9)
Other	(2.9)	7.8	5.4
Cash provided/(used) by changes in operating assets and liabilities:			
Accounts receivable	(88.7)	(33.4)	59.1
Inventories	(422.3)	123.2	28.5
Accounts payable	227.5	(3.6)	(53.0)
Accrued taxes	104.0	0.6	59.2
Deferred revenue	35.8	24.2	16.3
Other operating assets	(22.5)	17.3	61.4
Other operating liabilities	(81.9)	17.6	60.6
Net cash provided by operating activities	$1,612.4	$1,704.9	$1,389.0

PAUSE FOR FEEDBACK

Companies report two classifications of liabilities. We have discussed current liabilities and in the next section we will discuss long-term liabilities. Before you move on, complete the following questions to test your understanding of these concepts.

SELF - STUDY QUIZ

For each of the following events, state whether working capital will increase, decrease, or not change:

1. Starbucks incurs an account payable of $250,000 with no change in current assets.
2. The company borrows $1,000,000 in long-term debt.
3. The company pays taxes payable in the amount of $750,000.
4. The company finances a new building with long-term debt.

After you have completed your answers, check them with the solutions at the bottom of the page.

Solutions to SELF-STUDY QUIZ

Working capital

1. Decrease
2. Increase
3. No change
4. No change

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LEARNING OBJECTIVE 9-6

Report long-term liabilities.

LONG-TERM LIABILITIES are all of the entity's obligations not classified as current liabilities.

Long-term liabilities include all obligations that are not classified as current liabilities, such as long-term notes payable and bonds payable. Typically, a long-term liability will require payment more than one year in the future. These obligations may be created by borrowing money, or they may result from other activities.

Most companies borrow money on a long-term basis in order to purchase operational assets. To reduce risk for creditors, some companies agree to use specific assets as security. If the liability is not satisfied, the creditor may take ownership of the asset. A liability supported by this type of agreement is called a **secured debt.** An unsecured debt is one for which the creditor relies primarily on the borrower's integrity and general earning power.

Long-Term Notes Payable and Bonds

Companies can raise long-term debt capital directly from a number of financial service organizations including banks, insurance companies, and pension plans. Raising debt from one of these organizations is known as **private placement.** This type of debt is often called a **note payable,** which is a written promise to pay a stated sum at one or more specified future dates called the **maturity date(s).**

In many cases, a company's need for debt capital exceeds the financial ability of any single creditor. In these situations, the company may issue publicly traded debt called **bonds.** The opportunity to sell a bond in established markets provides bondholders with an important benefit. They can sell their bonds to other investors prior to maturity if they have an immediate need for cash. Because bonds provide liquidity to investors, they are more likely to lend money to a company. Bonds will be discussed in detail in the next chapter.

Accounting for long-term debt is based on the same concepts used in accounting for short-term notes payable. A liability is recorded when the debt is incurred and interest expense is recorded with the passage of time.

Business operations are global in nature. Successful corporations market their products in many countries and locate manufacturing facilities around the world based on cost and productivity. The financing of corporations also has become international, even for companies that do not have international operations. Borrowing money in a foreign currency raises some interesting accounting and management issues.

Toyota

REAL WORLD EXCERPT

Annual Report

INTERNATIONAL PERSPECTIVE  Borrowing in Foreign Currencies

Many corporations with foreign operations elect to finance those operations with foreign debt to lessen exchange rate risk. This type of risk exists because the relative value of each nation's currency varies on virtually a daily basis. As this book was being written, the British pound was worth approximately $1.50.

A U.S. corporation that conducts business operations in England might decide to borrow pounds to finance its operations there. The profits from the business, which will be in pounds, can be used to pay off the debt, which is in

pounds. If this business earned profits in pounds but paid off debt in dollars, it would be exposed to exchange rate risk because the relative value of the dollar and the pound fluctuates.

Foreign corporations face this same problem. A note to a recent annual report from Toyota, a Japanese company that does significant business in the United States, stated:

> Earnings declined in the current year ended, as the appreciation of the yen aggravated the adverse effects of sluggish demand. . . . The movement in exchange rates reduced operating income of the company. Losses on currency exchange thus offset most of the cost savings we achieved.

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Toyota has borrowed a large amount of money in the United States to lessen the exchange rate risk it faces. The company also owns and operates many factories in the United States.

Even if a company does not have international operations, it may elect to borrow in foreign markets. Interest rates often are low in countries experiencing a recession. These situations give corporations the opportunity to borrow at a lower cost.

For reporting purposes, accountants must convert, or translate, foreign debt into U.S. dollars. Conversion rates for all major currencies are published in most newspapers. To illustrate foreign currency translation, assume that Starbucks borrowed 1 million pounds (£). For the Starbucks annual report, the accountant must use the conversion rate as of the balance sheet date, which we assume was £1.00 to $1.50. The dollar equivalent of the debt is $1,500,000 (£1,000,000 × 1.50). The dollar equivalent of foreign debt may change if the conversion rate changes even without any additional borrowings or repayments.

The notes to the balance sheet for Starbucks indicate that the company has borrowed money only in the United States. In contrast, many companies with international operations borrow in the local currency of the countries in which they operate. These companies often repay the foreign currency debt with earnings (in the same currency) from operations in the foreign country.

Lease Liabilities

An OPERATING LEASE does not meet any of the four criteria for a capital lease established by GAAP and does not cause the recording of an asset and liability.

Companies often lease assets rather than purchase them. For example, renting extra delivery trucks during a busy period is more economical than owning them if they are not needed during the rest of the year. When a company leases an asset on a short-term basis, the agreement is called an **operating lease.** No liability is recorded when an operating lease is created. Instead, a company records rent expense as it uses the asset. Assume that on December 15, 2014, Starbucks signed an operating lease contract to rent five large trucks during January 2015. No liability is recorded in 2014. Rent expense is recorded during January 2015 as the trucks are actually used.

A CAPITAL LEASE meets at least one of the four criteria established by GAAP and results in the recording of an asset and liability.

For a number of reasons, a company may prefer to lease an asset on a long-term basis rather than purchase it. This type of lease is called a **capital lease.** In essence, a capital lease contract represents the purchase and financing of an asset even though it is legally a lease agreement. Unlike an operating lease, capital leases are accounted for as if an asset had been purchased by recording an asset and a liability. Because of the significant differences between operating and capital leases, GAAP specifies criteria to distinguish between them. If a lease meets any of the following four criteria, it is considered a capital lease:

- The lease term is 75 percent or more of the asset's expected economic life.
- Ownership of the asset is transferred to the lessee at the end of the lease term.
- The lease contract permits the lessee to purchase the asset at a price that is lower than its fair market value.
- The present value of the lease payments is 90 percent or more of the fair market value of the asset when the lease is signed.

If managers have a choice of recording a lease as an operating or a capital lease, most would prefer to record it as an operating lease. By doing so, the company is able to report less debt on its balance sheet. In the notes to its

financial statements, Starbucks reports capital lease obligations of $1.4 million, which are included on the balance sheet under the category "other long-term liabilities." Many financial analysts are concerned that companies can avoid reporting debt associated with capital leases by structuring the lease agreement in a manner that meets the requirements for recording it as an operating lease.

To record a capital lease, it is necessary to determine the current cash equivalent of the required lease payments. Assume that Starbucks signs a lease for new delivery trucks. The accountant has determined that the lease is a capital lease with a current cash equivalent of

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$250,000. Once the lease is signed, the transaction would be recorded in a manner similar to the actual purchase of delivery trucks:

Leased equipment (+A)	250,000	
Lease payable (+L)		250,000

Assets		=	Liabilities		+	Stockholders' Equity
Leased equipment	+250,000		Lease Payable	+250,000		

In this example, you were given the current cash equivalent of the lease. In the next section, on present value concepts, we will show you how this amount is computed.

PRESENT VALUE CONCEPTS

LEARNING OBJECTIVE 9-7

Compute present values.

Our discussion of capital leases raises an interesting question about liabilities: Is the recorded amount of the liability the actual amount of cash that will be paid in the future? For example, if I agree to pay you $10,000 five years from now, should I report a liability of $10,000 on my personal balance sheet? To answer such questions, we will now introduce some relatively simple mathematics called **present value concepts.** These concepts will provide a foundation for our discussion of bond liabilities in the next chapter.

PRESENT VALUE is the current value of an amount to be received in the future; a future amount discounted for compound interest.

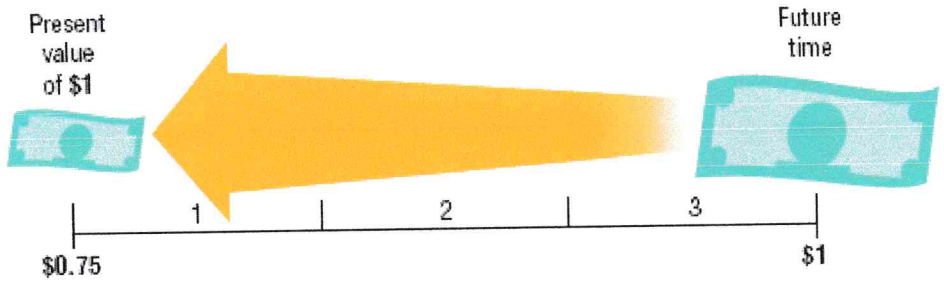
The concept of **present value** (PV) is based on the time value of money. Quite simply, money received today is worth more than money to be received one year from today (or at any other future date) because it can be used to earn interest. If you invest $1,000 today at 10 percent, you will have $1,100 in one year. In contrast, if you receive $1,000 one year from today, you will lose the opportunity to earn the $100 in interest revenue. The difference between the $1,000 and the $1,100 is the interest that can be earned during the year.

In one of your math classes, you have probably already solved some problems involving the time value of money. In the typical problem, you are told a certain dollar amount has been deposited in a savings account earning a specified rate of interest. You are asked to determine the dollar amount in the savings account after a certain number of years. In contrast, in this chapter we show you how to solve the opposite problem. In present value problems, you are told a dollar amount to be received in the future (such as the balance of a savings account after five years) and are asked to determine the present value of the amount (which is the amount that must be deposited in the savings account today).

The value of money changes over time because money can earn interest. In a present value problem, you know the dollar amount of a cash flow that will occur in the future and need to determine its value now. The opposite situation occurs when you know the dollar amount of a cash flow that occurs today and need to determine its value at some point in the future. These problems are called future value problems. Future value concepts are discussed in a supplement to this chapter.

Present Value of a Single Amount

The present value of a single amount is the worth to you today of receiving that amount some time in the future. For instance, you might be offered an opportunity to invest in a debt instrument that would pay you $10,000 in three years. Before you decided whether to invest, you would want to determine the present value of the instrument. Graphically, the present value of $1 due at the end of the third period with an interest rate of 10 percent can be represented as follows:



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To compute the present value of an amount to be received in the future, we will subtract interest that is earned over time from the amount to be received in the future. For example, if you place $100 in a savings account that earns 5 percent, you will have $105 at the end of a year. In a present value problem, you will be told that you have $105 at the end of the year and must compute the amount to be deposited at the beginning of the year. To solve this type of problem, you must discount the amount to be received in the future at i interest rate for n periods. The formula to compute the present value of a single amount is

$$\text{Present value} = \frac{1}{(1+i)^n} \times \text{Amount}$$

While the formula is not difficult to use, most analysts use present value tables, calculators, or Excel. We will illustrate how to use present value tables (an explanation of how to use Excel to compute present values is presented in a supplement to this chapter). Assume that today is January 1, 2014, and you have the opportunity to receive $1,000 cash on December 31, 2017. At an interest rate of 10 percent per year, how much is the $1,000 payment worth to you on January 1, 2014? You could discount the amount year by year [4] but it is easier to use Table A.1, Appendix A, Present Value of $1. For $i = 10\%$, $n = 3$, we find that the present value of $1 is 0.7513. The present value of $1,000 to be received at the end of three years can be computed as follows:

$1,000 × 0.7513 = $751.30

From Table A.1
Interest rate = 10%, n = 3

To compute the present value using Excel, enter:
= 1000/(1.10)^3

Learning how to compute a present value amount is not difficult, but it is more important that you understand what it means. The $751.30 is the amount you would pay now to have the right to receive $1,000 at the end of three years, assuming an interest rate of 10 percent. Conceptually, you should be indifferent between having $751.30 today and receiving $1,000 in three years, because you can use financial institutions to convert dollars from the present value to the future value and vice versa. If you had $751.30 today but preferred $1,000 in three years, you could simply deposit the money in a savings account and it would grow to $1,000 in three years. Alternatively, if you had a contract that promised you $1,000 in three years, you could sell it to an investor for $751.30 in cash today because it would permit the investor to earn the difference in interest.

PAUSE FOR FEEDBACK

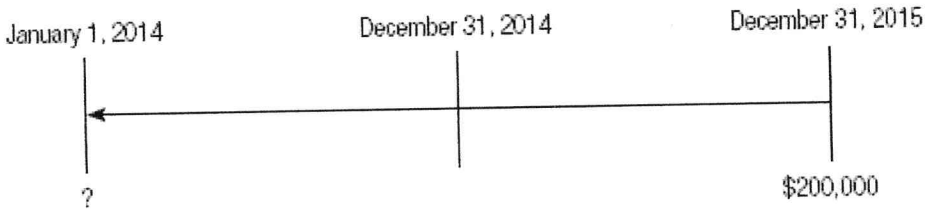
SELF - STUDY QUIZ

There are two types of payments when you compute present values. So far, we have discussed single payments. In the next section, we will discuss annuities. Before you move on, complete the following questions to test your understanding of these concepts.

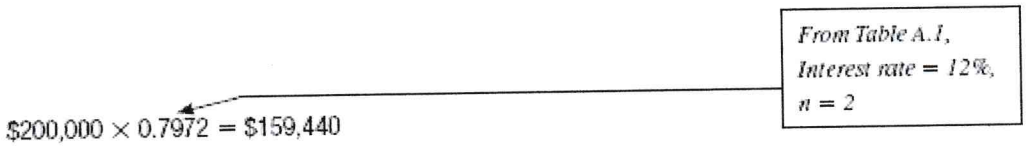
1. If the interest rate in a present value problem increases from 8 percent to 10 percent, will the present value increase or decrease?
2. What is the present value of $10,000 to be received 10 years from now if the interest rate is 5 percent, compounded annually?

After you have completed your answers, check them with the solutions at the bottom of the next page.

To record this transaction, the accountant must first compute the present value of a single amount paid in the future. In conformity with the cost principle, the cost of the trucks is their current cash equivalent price, which is the present value of the future payment. The problem can be shown graphically as follows:



The present value of the $200,000 is computed as follows:



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Present Value of an Annuity

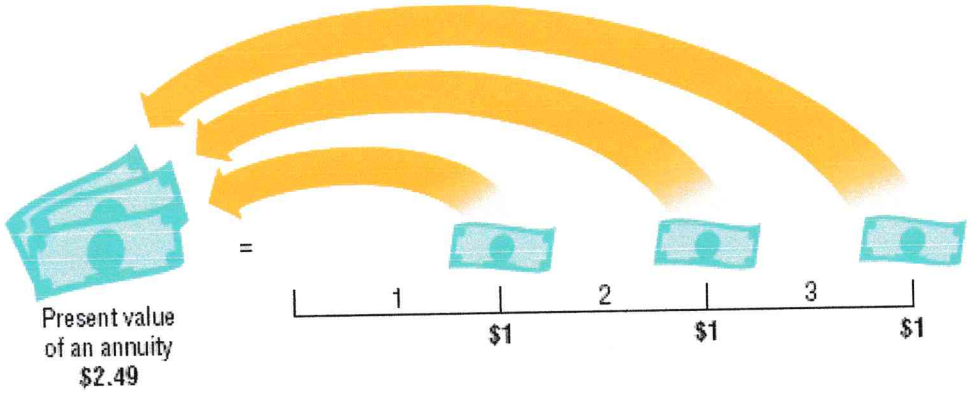
An ANNUITY is a series of periodic cash receipts or payments that are equal in amount each interest period.

Instead of a single payment, many business problems involve multiple cash payments over a number of periods. An **annuity** is a series of consecutive payments characterized by

1. An equal dollar amount each interest period.
2. Interest periods of equal length (year, half a year, quarter, or month).
3. An equal interest rate each interest period.

Examples of annuities include monthly payments on an automobile or home, yearly contributions to a savings account, and monthly pension benefits.

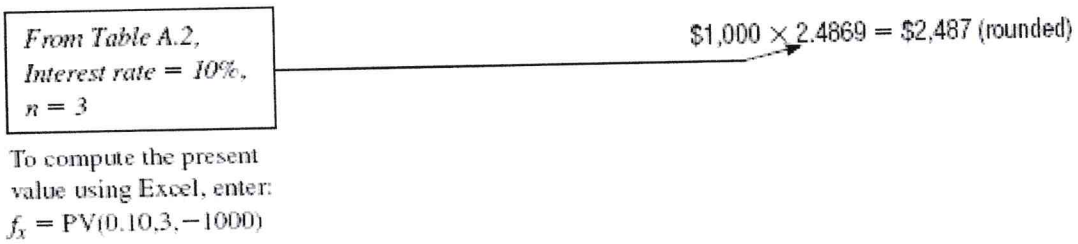
The present value of an annuity is the value now of a series of equal amounts to be received (or paid out) for some specified number of periods in the future. It is computed by discounting each of the equal periodic amounts. A good example of this type of problem is a retirement program that offers employees a monthly income after retirement. The present value of an annuity of $1 for three periods at 10 percent may be represented graphically as follows:



Assume you are to receive $1,000 cash on each December 31, 2014, 2015, and 2016. How much would the sum of these three $1,000 future amounts be worth on January 1, 2014, assuming an interest rate of 10 percent per year? We could use Table A.1, Appendix A, to calculate the present value as follows:

Year	Amount		Factor from Table A.1, Appendix A, $i = 10\%$		Present Value
1	$1,000	×	0.9091 ($n = 1$)	=	$ 909.10
2	$1,000	×	0.8264 ($n = 2$)	=	826.40
3	$1,000	×	0.7513 ($n = 3$)	=	751.30
			Total present value	=	$2,486.80

We can compute the present value of this annuity more easily however, by using Table A.2, Appendix A, as follows:



Interest Rates and Interest Periods

The preceding illustrations assumed annual periods for compounding and discounting. Although interest rates are almost always quoted on an annual basis, most compounding

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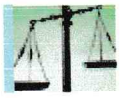
periods encountered in business are less than one year. When interest periods are less than a year, the values of n and i must be restated to be consistent with the length of the interest period.

Solutions to SELF-STUDY QUIZ

1. The present value will decrease.
2. $\$10,000 \times 0.6139 = \$6,139$

To illustrate, 12 percent interest compounded annually for five years requires the use of $n = 5$ and $i = 12\%$. If compounding is quarterly, however, the interest period is one quarter of a year (i.e., four periods per year), and the quarterly interest rate is one quarter of the annual rate (i.e., 3 percent per quarter). Therefore, 12 percent interest compounded quarterly for five years requires use of $n = 20$ and $i = 3\%$.

A QUESTION OF ETHICS  Truth in Advertising

Newspaper, magazine, and television advertisements are easy to misinterpret if the consumer does not understand present value concepts. For example, most car companies offer seasonal promotions with special financing incentives. A car dealer may advertise 4 percent interest on car loans when banks are charging 10 percent. Typically, the lower interest rate is not really an incentive because the dealer simply charges a higher price for cars the dealership finances. Borrowing from the bank and paying cash at the dealership may help the buyer to negotiate a lower price. Customers should use the present value concepts illustrated in this chapter to compare financing alternatives.

Another misleading advertisement, seen every January, promises magazine subscribers a chance to become an instant millionaire. The fine print discloses that the winner will receive $25,000 for 40 years, which amounts to $1,000,000 ($40 \times \$25,000$), but the present value of this annuity at 8 percent is only $298,000. While most winners are happy to get the money, they are not really millionaires.

Some consumer advocates argue that consumers should not have to study present value concepts to understand such advertisements. While some of these criticisms may be valid, the quality of information contained in advertisements that include interest rates has improved over time.

Accounting Applications of Present Values

LEARNING OBJECTIVE 9-8

Apply present value concepts to liabilities.

Many business transactions require the use of future and present value concepts. So that you can enhance your understanding of these concepts, we provide three examples.

Computing the Amount of a Liability with a Single Payment

On January 1, 2014, Starbucks bought some new delivery trucks. The company signed a note and agreed to pay $200,000 on December 31, 2015, an amount representing the cash equivalent price of the trucks plus interest for two years. The market interest rate for this note was 12 percent.

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Therefore, the journal entry is as follows:

Delivery trucks (+A)		159,440	
Note payable (+L)			159,440

To compute the present value using Excel, enter: = 200000/(1.12)^2

Assets		=	Liabilities		+	Stockholders' Equity
Delivery trucks	+159,440		Note payable	+159,440		

After the initial transaction is recorded, each year's interest expense is recorded in an adjusting entry as follows:

December 31, 2014	Interest expense (+E, −SE)	19,133*	
	Note payable (+L)		19,133

*$159,440 × 12% = $19,133

Assets		=	Liabilities		+	Stockholders' Equity	
			Note payable	+19,133		Interest expense (+E)	−19,133

December 31, 2015	Interest expense (+E, −SE)	21,429*	
	Note payable (+L)		21,429

*($159,440 + $19,133) × 12% = 21,429

Assets		=	Liabilities		+	Stockholders' Equity	
			Note payable	+21,429		Interest expense (+E)	−21,429

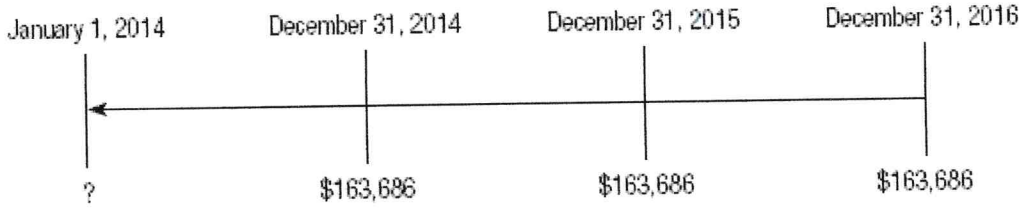
At the end of two years, the loan amount must be repaid. The amount owed is the balance of Note Payable, which is the same as the maturity amount on the due date. The journal entry to record full payment of the debt follows:

Note payable (−L)	200,000	
Cash (−A)		200,000

Assets		=	Liabilities		+	Stockholders' Equity
Cash	−200,000		Note payable	−200,000		

Computing the Amount of a Liability with an Annuity

On January 1, 2014, Starbucks bought new printing equipment. The company elected to finance the purchase with a note payable to be paid off in three years in annual installments of $163,686. Each installment includes principal plus interest on the unpaid balance at 11 percent per year. The annual installments are due on December 31, 2014, 2015, and 2016. This problem can be shown graphically as follows:



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The amount of the note can be determined by computing the present value of each installment payment, $i = 11\%$ and $n = 3$. This is an annuity because payment is made in three equal installments. The amount of the note is computed as follows:

$\$163,686 \times 2.4437 = \$400,000$

From Table A.2, Interest rate = 11%, n = 3

The acquisition on January 1, 2014, is recorded as follows:

Printing equipment (+A)	400,000	
Note payable (+L)		400,000

To compute the present value using Excel, enter: f_x = PV(0.11,3,−163,686)

Assets		= Liabilities		+ Stockholders' Equity	
Printing equipment	+400,000	Note payable	+400,000		

Each year, the accountant must record the payments on this note as follows:

December 31, 2014	Note payable (−L)	119,686	
	Interest expense (+E, −SE) ($400,000 × 11%)	44,000	
	Cash (−A)		163,686

Assets		= Liabilities		+ Stockholders' Equity	
Cash	−163,686	Note payable	−119,686	Interest expense (+E)	−44,000

December 31, 2015	Note payable (−L)	132,851	
	Interest expense (+E, −SE) [($400,000 − 119,686) × 11%]	30,835	
	Cash (−A)		163,686

Assets		= Liabilities		+ Stockholders' Equity	
Cash	−163,686	Note payable	−132,851	Interest expense (+E)	−30,835

December 31, 2016	Note payable (−L)	147,463	
	Interest expense (+E, −SE)	16,223*	
	Cash (−A)		163,686

*Interest: ($400,000 − $119,686 − $132,851) × 11% = $16,223 (rounded to accommodate rounding errors).

Assets		= Liabilities		+ Stockholders' Equity	
Cash	−163,686	Note payable	−147,463	Interest expense (+E)	−16,223

Present Values Involving Both an Annuity and a Single Payment

In some business situations, a borrower may agree to make periodic payments (an annuity) in addition to a single payment at the end of the agreement. Assume Starbucks bought a new delivery truck and agreed to pay the truck dealership $1,000 per month for 20 months and an additional $40,000 at the end of 20 months. The dealership is charging 24 percent per year, or 2 percent per month.

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In this type of problem, you can determine the present value of the total obligation by computing the present value of each part. In other words, you compute the present value of the annuity and the present value of the single payment, and add the two amounts together, as follows:

From Table A.2, Interest rate = 2%, n = 20

To compute the present value using Excel, enter: f_x = PV(0.02,20,−1000)

Step 1: Compute the present value of the annuity by using Table A.2, Appendix A:

$1,000 × 16.3514 = $16,351

Step 2: Compute the present value of the single payment by using Table A.1, Appendix A:

From Table A.1, Interest rate = 2%, n = 20

To compute the present value using Excel, enter: = 40,000/(1.02)^20

$40,000 × 0.6730 = $26,920

Step 3: Add the two amounts to determine the present value of the obligation:

	$16,351
+	26,920
	$43,271

The $43,271 is the present value of all the cash payments that Starbucks must make under this agreement. This amount would be recorded as a liability by Starbucks.

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GUIDED **HELP**

For additional step-by-step video instruction, go to the URL or scan the QR code in the margin with your smartphone or Ipad.

Computing the Amount of a Lease Liability

On January 1, 2014, Starbucks signed a 20-year lease for coffee roasting equipment. The lease is based on an effective interest rate of 8 percent and requires annual payments of $10,000 on December 31 of each year. The term is 100 percent of the expected life of the equipment. As a result, this lease should be recorded as a capital lease. The amount of the liability is the present value of the lease payments, computed as follows:

From Table A.2, Interest rate = 8%, n = 20

$10,000 × 9.8181 = $98,181

To compute the present value using Excel, enter: f_x = PV(0.08,20,−10,000)

The signing of the lease on January 1, 2014, is recorded as follows:

Roasting equipment (+A)	98,181	
Lease payable (+L)		98,181

Assets		=	Liabilities		+	Stockholders' Equity
Roasting equipment	+98,181		Lease payable	+98,181		

In the next chapter, we will use the present value techniques you have just learned to understand how to account for bonds.

DEMONSTRATION CASE

(Try to answer the questions before proceeding to the suggested solution that follows.) Muller Construction completed several transactions during the year. In each case, decide if a liability should be recorded and, if so, determine the amount. Assume the current date is December 31, 2014.

1. Employees earned salaries of $100,000 which have not been paid at year-end. The employer share of FICA is $7,000.
2. The company borrowed $100,000 on June 30th at 7 percent interest. No payments associated with this loan have been made.

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3. A customer made a $75,000 down payment on a construction project. Work will begin next month.
4. The company lost a lawsuit for $250,000 but plans to appeal.
5. A new truck was leased for a period equal to 85 percent of the expected life of the truck.
6. On December 31, 2014, a bank lent money to Muller. The company agreed to repay the bank $100,000 on December 31, 2015. The bank charges 5 percent interest.
7. The company signed a loan agreement that requires it to pay $50,000 per year for 20 years. The interest rate is 8 percent.

SUGGESTED SOLUTION

1. A liability of $107,000 should be recorded.
2. The amount borrowed ($100,000) should be recorded as a liability on June 30th. In addition, interest accrued but not paid should be recorded as a liability at year-end. This amount is $100,000 × 7% × 6/12 = $3,500.
3. The customer deposit ($75,000) is a liability until work is performed and the related revenue earned.
4. Most likely, the $250,000 should be recorded as a liability, unless the grounds for appeal significantly reduce the probability that the $250,000 will eventually be paid.
5. Because the lease covers more than 75 percent of the estimated life of the truck, a liability should be recorded. The amount is the present value of the lease payments (which were not given in the problem).
6. A liability should be recorded for the present value of the obligation. The amount is determined by using the factor from Table A.1 for $n = 1$, $i = 5\%$: $100,000 × 0.9524 = $95,240.
7. A liability should be recorded for the present value of the obligation. The amount is determined by using the factor from Table A.2 for $n = 20$, $i = 8\%$: $50,000 × 9.8181 = $490,905.

Chapter Supplement A

Present Value Computations Using Excel

While the present value tables at the end of this book are useful for educational purposes, most present value problems in business are solved with calculators or Excel spreadsheets. Because of the widespread availability of Excel, we will show you how to solve present value problems using Excel. There are slightly different versions of Excel available, depending on the age of the computer.

Present Value of a Single Payment

The calculation of a present value amount is based on a fairly simple mathematical formula:

$$PV = Payment/(1 + i)^n$$

In this formula, *payment* is the cash payment made at some point in the future, i is the interest rate each period, and n is the number of periods in the problem. We could use this formula to solve all problems involving the present value of a single payment. It is, of course, easier to use a present value table (like the one at the end of this book) which is derived by solving the present value formula for various interest rates and numbers of periods. Unfortunately, a table that included all interest rates and numbers of periods actually encountered in business would be too large to work with. As a result, most accountants and analysts use Excel to compute a present value.

To compute the present value of a single payment in Excel, you enter the present value formula in a cell, using the format required by Excel. You should select a cell and enter the following formula:

$$= Payment/(1 + i)\text{^}n$$

To illustrate, if you wanted to solve for the present value of a $100,000 payment to be made in five years with an interest rate of 10 percent, you would enter the following in the function field:

$$= 100000/(1.10)^5$$

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interest for two years (for a total principal and interest of $1,210); the second deposit earns interest for one year (for a total principal and interest of $1,100). The third deposit earns no interest because it was made on the day that the balance is computed. Thus, the total amount in the savings account at the end of three years is $3,310 ($1,210 + $1,100 + $1,000).

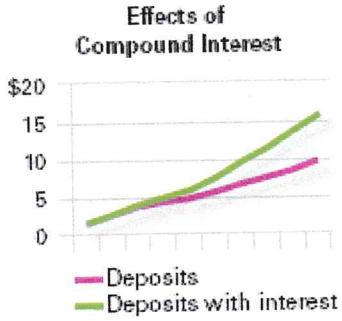
To derive the future value of this annuity, we could compute the interest on each deposit. However, we can refer to Table A.4, Appendix A, Future Value of an Annuity of $1 for $i = 10\%$, $n = 3$ to find the value 3.3100. The future value of your three deposits of $1,000 each can be computed as follows:

From Table A.4, Interest rate = 10%, n = 3

$1,000 × 3.3100 = $3,310

The Power of Compounding

Compound interest is a remarkably powerful economic force. Indeed, the ability to earn interest on interest is the key to building economic wealth. If you save $1,000 per year for the first 10 years of your career, you will have more money when you retire than you would if you had saved $15,000 per year for the last 10 years of your career. This surprising outcome occurs because the money you save early in your career will earn more interest than the money you save at the end of your career. If you start saving money now, the majority of your wealth will not be the money you saved but the interest your money was able to earn.



The chart in the margin illustrates the power of compounding over a brief 10-year period. If you deposit $1 each year in an account earning 10 percent interest, at the end of just 10 years, only 64 percent of your balance will be made up of money you have saved; the rest will be interest you have earned. After 20 years, only 35 percent of your balance will be from saved money. The lesson associated with compound interest is clear: Even though saving money is difficult, you should start now.

CHAPTER TAKE-AWAYS

9-1. Define, measure, and report current liabilities. p. 453

Strictly speaking, accountants define liabilities as probable future sacrifices of economic benefits that arise from past transactions. They are classified on the balance sheet as either current or long term. Current liabilities are short-term obligations that will be paid within the current operating cycle of the business or within one year of the balance sheet date, whichever is longer. Long-term liabilities are all obligations not classified as current.

9-2. Analyze the accounts payable turnover ratio. p. 454

This ratio is computed by dividing cost of goods sold by average accounts payable. It shows how quickly management is paying its trade creditors and is considered to be a measure of liquidity.

9-3. Report notes payable and explain the time value of money. p. 458

A note payable specifies the amount borrowed, when it must be repaid, and the interest rate associated with the debt. Accountants must report the debt and the interest as it accrues. The time value of money refers to the fact that interest accrues on borrowed money with the passage of time.

9-4. Report contingent liabilities. p. 460

A contingent liability is a potential liability that has arisen as the result of a past event. Such liabilities are disclosed in a note if the obligation is reasonably possible.

9-5. Explain the importance of working capital and its impact on cash flows. p. 462

Working capital is used to fund the operating activities of a business. Changes in working capital accounts affect the statement of cash flows. Cash flows from operating activities are increased by decreases in current assets (other than cash) or increases in current liabilities. Cash flows from operating activities are decreased by increases in current assets (other than cash) or decreases in current liabilities.

9-6. Report long-term liabilities. p. 464

Usually, long-term liabilities will be paid in more than one year in the future. Accounting for long-term debt is based on the same concepts used in accounting for short-term debt.

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9-7. Compute present values. p. 466

The present value concept is based on the time value of money. Simply stated, a dollar to be received in the future is worth less than a dollar available today (present value). This concept can be applied either to a single payment or multiple payments called *annuities*. Either present value tables or Excel can be used to determine present values.

9-8. Apply present value concepts to liabilities. p. 469

Accountants use present value concepts to determine the reported amounts of liabilities. A liability involves the payment of some amount at a future date. The reported liability is not the amount of the future payment. Instead, the liability is reported at the amount of the present value of the future payment.

In this chapter, we focused on current liabilities and introduced you to present value concepts. In the next chapter, we will use present value concepts to measure long-term liabilities. We will also discuss long-term liabilities in the context of the capital structure of the company.

KEY RATIO

Accounts payable turnover is a measure of how quickly a company pays its creditors. It is computed as follows (p. 454):

$$\text{Accounts Payable Turnover} = \frac{\text{Costs of Goods Sold}}{\text{Average Accounts Payable}}$$

FINDING FINANCIAL INFORMATION

Balance Sheet

Under Current Liabilities
Liabilities listed by account title, such as
- Accounts payable
- Accrued liabilities
- Notes payable

Current portion of long-term debt

Under Noncurrent Liabilities
Liabilities listed by account title, such as
- Long-term debt
- Deferred taxes
- Bonds

Statement of Cash Flows

Under Operating Activities (indirect method)
- Net income
- + Increases in most current liabilities
- − Decreases in most current liabilities

Under Financing Activities
- + Increases in long-term liabilities
- − Decreases in long-term liabilities

Income Statement

Liabilities are shown only on the balance sheet, never on the income statement. Transactions affecting liabilities often affect an income statement account. For example, accrued salary compensation affects an income statement account (compensation expense) and a balance sheet account (salaries payable).

Notes

Under Summary of Significant Accounting Policies
Description of pertinent information concerning accounting treatment of liabilities. Normally, there is minimal information.

Under a Separate Note
If not listed on the balance sheet, a listing of the major classifications of liabilities with information about maturities and interest rates. Information about contingent liabilities is reported in the notes.