

11

## Long-Term Assets

**Figure 11.1** Long-Term Assets. A silk-screening machine used to create designs on clothing is a long-term asset. (credit: modification of “Flat Bed Silk Screen Printing Machine with LED UV Curing System2” by Benny Zheng/Flickr, Public Domain)

### Chapter Outline

- LO 11.1** Distinguish between Tangible and Intangible Assets
- LO 11.2** Analyze and Classify Capitalized Costs versus Expenses
- LO 11.3** Explain and Apply Depreciation Methods to Allocate Capitalized Costs
- LO 11.4** Describe Accounting for Intangible Assets and Record Related Transactions
- LO 11.5** Describe Some Special Issues in Accounting for Long-Term Assets



### Why It Matters

Liam is excited to be graduating from his MBA program and looks forward to having more time to pursue his business venture. During one of his courses, Liam came up with the business idea of creating trendy workout attire. For his class project, he started silk-screening vintage album cover designs onto tanks, tees, and yoga pants. He tested the market by selling his wares on campus and was surprised how quickly and how often he sold out. In fact, sales were high enough that he decided to go into business for himself. One of his first decisions involved whether he should continue to pay someone else to silk-screen his designs or do his own silk-screening. To do his own silk-screening, he would need to invest in a silk-screening machine.

Liam will need to analyze the purchase of a silk-screening machine to determine the impact on his business in the short term as well as the long term, including the accounting implications related to the expense of this machine. Liam knows that over time, the value of the machine will decrease, but he also knows that an asset is supposed to be recorded on the books at its historical cost. He also wonders what costs are considered part of this asset. Additionally, Liam has learned about the matching principle (expense recognition) but needs to

learn how that relates to a machine that is purchased in one year and used for many years to help generate revenue. Liam has a lot of information to consider before making this decision.

## 11.1 Distinguish between Tangible and Intangible Assets

Assets are items a business owns.<sup>[1]</sup> For accounting purposes, assets are categorized as current versus long term, and tangible versus intangible. Assets that are expected to be used by the business for more than one year are considered **long-term assets**. They are not intended for resale and are anticipated to help generate revenue for the business in the future. Some common long-term assets are computers and other office machines, buildings, vehicles, software, computer code, and copyrights. Although these are all considered long-term assets, some are tangible and some are intangible.

### Tangible Assets

An asset is considered a **tangible asset** when it is an economic resource that has physical substance—it can be seen and touched. Tangible assets can be either short term, such as inventory and supplies, or long term, such as land, buildings, and equipment. To be considered a long-term tangible asset, the item needs to be used in the normal operation of the business for more than one year, not be near the end of its useful life, and the company must have no plan to sell the item in the near future. The **useful life** is the time period over which an asset cost is allocated. Long-term tangible assets are known as **fixed assets**.

Businesses typically need many different types of these assets to meet their objectives. These assets differ from the company's products. For example, the computers that **Apple Inc.** intends to sell are considered inventory (a short-term asset), whereas the computers **Apple's** employees use for day-to-day operations are long-term assets. In Liam's case, the new silk-screening machine would be considered a long-term tangible asset as he plans to use it over many years to help him generate revenue for his business. Long-term tangible assets are listed as noncurrent assets on a company's balance sheet. Typically, these assets are listed under the category of Property, Plant, and Equipment (PP&E), but they may be referred to as fixed assets or plant assets.

**Apple Inc.** lists a total of \$33,783,000,000 in total Property, Plant and Equipment (net) on its 2017 consolidated balance sheet (see [Figure 11.2](#)).<sup>[2]</sup> As shown in the figure, this net total includes land and buildings, machinery, equipment and internal-use software, and leasehold improvements, resulting in a gross PP&E of \$75,076,000,000—less accumulated depreciation and amortization of \$41,293,000,000—to arrive at the net amount of \$33,783,000,000.

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1 The Financial Accounting Standards Board (FASB) defines assets as “probable future economic benefits obtained or controlled by a particular entity as a result of past transactions or events” (SFAC No. 6, p. 12).

2 Apple, Inc. U.S. Securities and Exchange Commission 10-K Filing. November 3, 2017. <http://pdf.secdatabase.com/2624/0000320193-17-000070.pdf>

<b>PROPERTY</b>		
<b>Plant and Equipment, Net</b>		
<b>(in millions)</b>		
	<b>2017</b>	<b>2016</b>
Land and Buildings	\$ 13,587	\$ 10,185
Machinery, Equipment and Internal-use Software	54,210	44,543
Leasehold Improvements	<u>7,279</u>	<u>6,517</u>
Gross Property, Plant and Equipment	75,076	61,245
Accumulated Depreciation and Amortization	<u>(41,293)</u>	<u>(34,235)</u>
Total Property, Plant and Equipment, net	<u>\$ 33,783</u>	<u>\$ 27,010</u>

**Figure 11.2** Apple Inc.'s Property, Plant and Equipment, Net. This report shows the company's consolidated financial statement details as of September 30, 2017, and September 24, 2016 (in millions). (attribution: Copyright Rice University, OpenStax, under CC BY-NC-SA 4.0 license)

## LINK TO LEARNING

Recently, there has been a trend involving an increase in the number of intangibles on companies' balance sheets. As a result, investors need a better understanding of how this will affect their valuation of these companies. Read this [article on intangible assets from The Economist \(https://openstax.org/l/50IntangAsset\)](https://openstax.org/l/50IntangAsset) for more information.

## Intangible Assets

Companies may have other long-term assets used in the operations of the business that they do not intend to sell, but that do not have physical substance; these assets still provide specific rights to the owner and are called **intangible assets**. These assets typically appear on the balance sheet following long-term tangible assets (see [Figure 11.3](#).)<sup>[3]</sup> Examples of intangible assets are patents, copyrights, franchises, licenses, goodwill, sometimes software, and trademarks ([Table 11.1](#)). Because the value of intangible assets is very subjective, it is usually not shown on the balance sheet until there is an event that indicates value objectively, such as the purchase of an intangible asset.

A company often records the costs of developing an intangible asset internally as expenses, not assets, especially if there is ambiguity in the expense amounts or economic life of the asset. However, there are also conditions under which the costs can be allocated over the anticipated life of the asset. (The treatment of intangible asset costs can be quite complex and is taught in advanced accounting courses.)

3 Apple, Inc. U.S. Securities and Exchange Commission 10-K Filing. November 3, 2017. <http://pdf.secdatabase.com/2624/0000320193-17-000070.pdf>

<b>APPLE INC.</b> <b>Consolidated Balance Sheets</b> (in millions)		
<b>Assets</b>	<b>2017</b>	<b>2016</b>
Current Assets:		
Cash and Cash Equivalents	\$ 20,289	\$ 20,484
Short-term Marketable Securities	53,892	46,671
Accounts Receivable, Allowances of \$58 and \$53, respectively	17,874	15,754
Inventories	4,855	2,132
Vendor Nontrade Receivables	17,799	13,545
Other Current Assets	13,936	8,283
Total Current Assets	<u>128,645</u>	<u>106,869</u>
Long-term Marketable Securities	194,714	170,430
Property, Plant, and Equipment, net	33,783	27,010
Goodwill	5,717	5,414
Acquired Intangible Assets, net	2,298	3,206
Other Noncurrent Assets	10,162	8,757
Total Assets	<u>\$375,319</u>	<u>\$321,686</u>

**Figure 11.3** Consolidated Balance Sheets for Apple, Inc. in 2017 and 2016. (attribution: Copyright Rice University, OpenStax, under CC BY-NC-SA 4.0 license)

### Types of Intangible Assets

Asset	Useful Life
Patents	Twenty years
Trademarks	Renewable every ten years
Copyrights	Seventy years beyond death of creator
Goodwill	Indefinite

**Table 11.1**

## THINK IT THROUGH

### Categorizing Intangible Assets

Your company has recently hired a star scientist who has a history of developing new technologies. The company president is excited with the new hire, and questions you, the company accountant, why the scientist cannot be recorded as an intangible asset, as the scientist will probably provide more value to the company in the future than any of its other assets. Discuss why the scientist, and employees in

general, who often provide the greatest value for a company, are not recorded as intangible assets.

## Patents

A **patent** is a contract that provides a company exclusive rights to produce and sell a unique product. The rights are granted to the inventor by the federal government and provide exclusivity from competition for twenty years. Patents are common within the pharmaceutical industry as they provide an opportunity for drug companies to recoup the significant financial investment on research and development of a new drug. Once the new drug is produced, the company can sell it for twenty years with no direct competition.

## THINK IT THROUGH

### Research and Development Costs

Jane works in product development for a technology company. She just heard that her employer is slashing research and development costs. When she asks why, the marketing senior vice president tells her that current research and development costs are reducing net income in the current year for a potential but unknown benefit in future years, and that management is concerned about the effect on stock price. Jane wonders why research and development costs are not capitalized so that the cost would be matched with the future revenues. Why do you think research and development costs are not capitalized?

## Trademarks and Copyrights

A company's **trademark** is the exclusive right to the name, term, or symbol it uses to identify itself or its products. Federal law allows companies to register their trademarks to protect them from use by others. Trademark registration lasts for ten years with optional 10-year renewable periods. This protection helps prevent impersonators from selling a product similar to another or using its name. For example, a burger joint could not start selling the "Big Mac." Although it has no physical substance, the exclusive right to a term or logo has value to a company and is therefore recorded as an asset.

A **copyright** provides the exclusive right to reproduce and sell artistic, literary, or musical compositions. Anyone who owns the copyright to a specific piece of work has exclusive rights to that work. Copyrights in the United States last seventy years beyond the death of the original author. While you might not be overly interested in what seems to be an obscure law, it actually directly affects you and your fellow students. It is one of the primary reasons that your copy of the *Collected Works of William Shakespeare* costs about \$40 in your bookstore or online, while a textbook, such as *Principles of Biology* or *Principles of Accounting*, can run in the hundreds of dollars.

## Goodwill

Goodwill is a unique intangible asset. **Goodwill** refers to the value of certain favorable factors that a business possesses that allows it to generate a greater rate of return or profit. Such factors include superior management, a skilled workforce, quality products or service, great geographic location, and overall

reputation. Companies typically record goodwill when they acquire another business in which the purchase price is in excess of the fair value of the identifiable net assets. The difference is recorded as goodwill on the purchaser's balance sheet. For example, the goodwill of \$5,717,000,000 that we see on Apple's consolidated balance sheets for 2017 (see [Figure 11.3](#)) was created when Apple purchased another business for a purchase price exceeding the book value of its net assets.

## YOUR TURN

### Classifying Long-Term Assets as Tangible or Intangible

Your cousin started her own business and wants to get a small loan from a local bank to expand production in the next year. The bank has asked her to prepare a balance sheet, and she is having trouble classifying the assets properly. Help her sort through the list below and note the assets that are tangible long-term assets and those that are intangible long-term assets.

- Cash
- Patent
- Accounts Receivable
- Land
- Investments
- Software
- Inventory
- Note Receivable
- Machinery
- Equipment
- Marketable Securities
- Owner Capital
- Copyright
- Building
- Accounts Payable
- Mortgage Payable

#### Solution

Tangible long-term assets include land, machinery, equipment, and building. Intangible long-term assets include patent, software, and copyright.

### 11.2

## Analyze and Classify Capitalized Costs versus Expenses

When a business purchases a long-term asset (used for more than one year), it classifies the asset based on whether the asset is used in the business's operations. If a long-term asset is used in the business operations, it will belong in property, plant, and equipment or intangible assets. In this situation the asset is typically capitalized. **Capitalization** is the process by which a long-term asset is recorded on the balance sheet and its allocated costs are expensed on the income statement over the asset's economic life. [Explain and Apply Depreciation Methods to Allocate Capitalized Costs](#) addresses the available methods that companies may

choose for expensing capitalized assets.

Long-term assets that are not used in daily operations are typically classified as an investment. For example, if a business owns land on which it operates a store, warehouse, factory, or offices, the cost of that land would be included in property, plant, and equipment. However, if a business owns a vacant piece of land on which the business conducts no operations (and assuming no current or intermediate-term plans for development), the land would be considered an investment.

## YOUR TURN

### Classifying Assets and Related Expenditures

You work at a business consulting firm. Your new colleague, Marielena, is helping a client organize his accounting records by types of assets and expenditures. Marielena is a bit stumped on how to classify certain assets and related expenditures, such as capitalized costs versus expenses. She has given you the following list and asked for your help to sort through it. Help her classify the expenditures as either capitalized or expensed, and note which assets are property, plant, and equipment.

Expenditures:

- normal repair and maintenance on the manufacturing facility
- cost of taxes on new equipment used in business operations
- shipping costs on new equipment used in business operations
- cost of a minor repair on existing equipment used in business operations

Assets:

- land next to the production facility held for use next year as a place to build a warehouse
- land held for future resale when the value increases
- equipment used in the production process

#### Solution

Expenditures:

- normal repair and maintenance on the manufacturing facility: expensed
- cost of taxes on new equipment used in business operations: capitalized
- shipping costs on new equipment used in business operations: capitalized
- cost of a minor repair on existing equipment used in business operations: expensed

Assets:

- land next to the production facility held for use next year as a place to build a warehouse: property, plant, and equipment
- land held for future resale when the value increases: investment
- equipment used in the production process: property, plant, and equipment

## Property, Plant, and Equipment (Fixed Assets)

Why are the costs of putting a long-term asset into service capitalized and written off as expenses (depreciated) over the economic life of the asset? Let's return to Liam's start-up business as an example. Liam

plans to buy a silk-screening machine to help create clothing that he will sell. The machine is a long-term asset, because it will be used in the business's daily operation for many years. If the machine costs Liam \$5,000 and it is expected to be used in his business for several years, generally accepted accounting principles (GAAP) require the allocation of the machine's costs over its useful life, which is the period over which it will produce revenues. Overall, in determining a company's financial performance, we would not expect that Liam should have an expense of \$5,000 this year and \$0 in expenses for this machine for future years in which it is being used. GAAP addressed this through the *expense recognition (matching)* principle, which states that expenses should be recorded in the same period with the revenues that the expense helped create. In Liam's case, the \$5,000 for this machine should be allocated over the years in which it helps to generate revenue for the business. Capitalizing the machine allows this to occur. As stated previously, to capitalize is to record a long-term asset on the balance sheet and expense its allocated costs on the income statement over the asset's economic life. Therefore, when Liam purchases the machine, he will record it as an asset on the financial statements.

JOURNAL			
Date	Account	Debit	Credit
Jan. 1, 2019	Machine Cash	5,000	5,000

When capitalizing an asset, the total cost of acquiring the asset is included in the cost of the asset. This includes additional costs beyond the purchase price, such as shipping costs, taxes, assembly, and legal fees. For example, if a real estate broker is paid \$8,000 as part of a transaction to purchase land for \$100,000, the land would be recorded at a cost of \$108,000.

Over time as the asset is used to generate revenue, Liam will need to depreciate the asset.

**Depreciation** is the process of allocating the cost of a tangible asset over its useful life, or the period of time that the business believes it will use the asset to help generate revenue. This process will be described in [Explain and Apply Depreciation Methods to Allocate Capitalized Costs](#).

## ETHICAL CONSIDERATIONS

### How WorldCom's Improper Capitalization of Costs Almost Shut Down the Internet

In 2002, telecommunications giant **WorldCom** filed for the largest Chapter 11 bankruptcy to date, a situation resulting from manipulation of its accounting records. At the time, **WorldCom** operated nearly a third of the bandwidth of the twenty largest US internet backbone routes, connecting over 3,400 global networks that serviced more than 70,000 businesses in 114 countries.<sup>[4]</sup>

**WorldCom** used a number of accounting gimmicks to defraud investors, mainly including capitalizing costs that should have been expensed. Under normal circumstances, this might have been considered just another account fiasco leading to the end of a company. However, **WorldCom** controlled a large percentage of backbone routes, a major component of the hardware supporting the internet, as even the Securities and Exchange Commission recognized.<sup>[5]</sup> If **WorldCom**'s bankruptcy due to accounting malfeasance shut the company down, then the internet would no longer be functional.

If such an event was to happen today, it could shut down international commerce and would be

4 Cybertelecom. "WorldCom (UNNET)." n.d. <http://www.cybertelecom.org/industry/wcom.htm>

considered a national emergency. As demonstrated by **WorldCom**, the unethical behavior of a few accountants could have shut down the world's online businesses and international commerce. An accountant's job is fundamental and important: keep businesses operating in a transparent fashion.

## Investments

A short-term or long-term asset that is not used in the day-to-day operations of the business is considered an **investment** and is not expensed, since the company does not expect to use up the asset over time. On the contrary, the company hopes that the assets (investment) would grow in value over time. Short-term investments are investments that are expected to be sold within a year and are recorded as current assets.

### CONTINUING APPLICATION AT WORK

#### Investment in Property in the Grocery Industry

To remain viable, companies constantly look to invest in upgrades in long-term assets. Such acquisitions might include new machinery, buildings, warehouses, or even land in order to expand operations or make the work process more efficient. Think back to the last time you walked through a grocery store. Were you mostly focused on getting the food items on your list? Or did you plan to pick up a prescription and maybe a coffee once you finished?

Grocery stores have become a one-stop shopping environment, and investments encompass more than just shelving and floor arrangement. Some grocery chains purchase warehouses to distribute inventory as needed to various stores. Machinery upgrades can help automate various departments. Some supermarkets even purchase large parcels of land to build not only their stores, but also surrounding shopping plazas to draw in customers. All such investments help increase the company's net profit.

### CONCEPTS IN PRACTICE

#### Vehicle Repairs and Enhancements

Automobiles are a useful way of looking at the difference between repair and maintenance expenses and capitalized modifications. Routine repairs such as brake pad replacements are recorded as repair and maintenance expense. They are an expected part of owning a vehicle. However, a car may be modified to change its appearance or performance. For example, if a supercharger is added to a car to increase its horsepower, the car's performance is increased, and the cost should be included as a part of the vehicle asset. Likewise, if replacing the engine of an older car extends its useful life, that cost would also be capitalized.

## Repair and Maintenance Costs of Property, Plant, and Equipment

Long-term assets may have additional costs associated with them over time. These additional costs may be capitalized or expensed based on the nature of the cost. For example, Walmart's financial statements explain that major improvements are capitalized, while costs of normal repairs and maintenance are charged to expense as incurred.

An amount spent is considered a **current expense**, or an amount charged in the current period, if the amount incurred did not help to extend the life of or improve the asset. For example, if a service company cleans and maintains Liam's silk-screening machine every six months, that service does not extend the useful life of the machine beyond the original estimate, increase the capacity of the machine, or improve the quality of the silk-screening performed by the machine. Therefore, this maintenance would be expensed within the current period. In contrast, if Liam had the company upgrade the circuit board of the silk-screening machine, thereby increasing the machine's future capabilities, this would be capitalized and depreciated over its useful life.

### THINK IT THROUGH

#### Correcting Errors in Classifying Assets

You work at a business consulting firm. Your new colleague, Marielena, helped a client organize his accounting records last year by types of assets and expenditures. Even though Marielena was a bit stumped on how to classify certain assets and related expenditures, such as capitalized costs versus expenses, she did not come to you or any other more experienced colleagues for help. Instead, she made the following classifications and gave them to the client who used this as the basis for accounting transactions over the last year. Thankfully, you have been asked this year to help prepare the client's financial reports and correct errors that were made. Explain what impact these errors would have had over the last year and how you will correct them so you can prepare accurate financial statements.

Expenditures:

- Normal repair and maintenance on the manufacturing facility were capitalized.
- The cost of taxes on new equipment used in business operations was expensed.
- The shipping costs on new equipment used in business operations were expensed.
- The cost of a minor repair on existing equipment used in business operations was capitalized.

Assets:

- Land next to the production facility held for use next year as a place to build a warehouse was depreciated.
- Land held for future resale when the value increases was classified as Property, Plant, and Equipment but not depreciated.
- Equipment used in the production process was classified as an investment.

## LINK TO LEARNING

Many businesses invest a lot of money in production facilities and operations. Some production processes are more automated than others, and they require a greater investment in property, plant, and equipment than production facilities that may be more labor intensive. Watch this video of [the operation of a Georgia-Pacific lumber mill \(https://openstax.org/l/50GPLumberMill\)](https://openstax.org/l/50GPLumberMill) and note where you see all components of property, plant, and equipment in operations in this fascinating production process. There's even a reference to an intangible asset—if you watch and listen closely, you just might catch it.

### 11.3 Explain and Apply Depreciation Methods to Allocate Capitalized Costs

In this section, we concentrate on the major characteristics of determining capitalized costs and some of the options for allocating these costs on an annual basis using the depreciation process. In the determination of capitalized costs, we do not consider just the initial cost of the asset; instead, we determine all of the costs necessary to place the asset into service. For example, if our company purchased a drill press for \$22,000, and spent \$2,500 on sales taxes and \$800 for delivery and setup, the depreciation calculation would be based on a cost of \$22,000 plus \$2,500 plus \$800, for a total cost of \$25,300.

We also address some of the terminology used in depreciation determination that you want to familiarize yourself with. Finally, in terms of allocating the costs, there are alternatives that are available to the company. We consider three of the most popular options, the *straight-line method*, the *units-of-production method*, and the *double-declining-balance method*.

## YOUR TURN

### Calculating Depreciation Costs

Liam buys his silk screen machine for \$10,000. He estimates that he can use this machine for five years or 100,000 presses, and that the machine will only be worth \$1,000 at the end of its life. He also estimates that he will make 20,000 clothing items in year one and 30,000 clothing items in year two. Determine Liam's depreciation costs for his first two years of business under straight-line, units-of-production, and double-declining-balance methods. Also, record the journal entries.

#### Solution

*Straight-line method:*  $(\$10,000 - \$1,000)/5 = \$1,800$  per year for both years.

JOURNAL			
Date	Account	Debit	Credit
Jan. 1, 2019	Depreciation Expense Accumulated Depreciation	1,800	1,800

*Units-of-production method:*  $(\$10,000 - \$1,000)/100,000 = \$0.09$  per press

Year 1 expense:  $\$0.09 \times 20,000 = \$1,800$

JOURNAL			
Date	Account	Debit	Credit
Jan. 1, 2019	Depreciation Expense Accumulated Depreciation	1,800	1,800

Year 2 expense:  $\$0.09 \times 30,000 = \$2,700$

JOURNAL			
Date	Account	Debit	Credit
Jan. 1, 2019	Depreciation Expense Accumulated Depreciation	2,700	2,700

*Double-declining-balance method:*

Year 1 expense:  $[(\$10,000 - 0)/5] \times 2 = \$4,000$

JOURNAL			
Date	Account	Debit	Credit
Jan. 1, 2019	Depreciation Expense Accumulated Depreciation	4,000	4,000

Year 2 expense:  $[(\$10,000 - \$4,000)/5] \times 2 = \$2,400$

JOURNAL			
Date	Account	Debit	Credit
Jan. 1, 2019	Depreciation Expense Accumulated Depreciation	2,400	2,400

## Fundamentals of Depreciation

As you have learned, when accounting for a long-term fixed asset, we cannot simply record an expense for the cost of the asset and record the entire outflow of cash in one accounting period. Like all other assets, when purchasing or acquiring a long-term asset, it must be recorded at the historical (initial) cost, which includes all costs to acquire the asset and put it into use. The initial recording of an asset has two steps:

1. Record the initial purchase on the date of purchase, which places the asset on the balance sheet (as property, plant, and equipment) at cost, and record the amount as notes payable, accounts payable, or an outflow of cash.
2. At the end of the period, make an adjusting entry to recognize the depreciation expense. Companies may record depreciation expense incurred annually, quarterly, or monthly.

Following GAAP and the expense recognition principle, the depreciation expense is recognized over the asset's estimated useful life.

## Recording the Initial Purchase of an Asset

Assets are recorded on the balance sheet at cost, meaning that all costs to purchase the asset and to prepare the asset for operation should be included. Costs outside of the purchase price may include shipping, taxes, installation, and modifications to the asset.

The journal entry to record the purchase of a fixed asset (assuming that a note payable is used for financing and not a short-term account payable) is shown here.

JOURNAL			
Date	Account	Debit	Credit
Jan. 1, 2019	Fixed Asset (truck, building, etc.) Cash/Notes Payable <i>To record purchase of fixed asset</i>	XXX	XXX

Applying this to Liam's silk-screening business, we learn that he purchased his silk-screening machine for \$5,000 by paying \$1,000 cash and the remainder in a note payable over five years. The journal entry to record the purchase is shown here.

JOURNAL			
Date	Account	Debit	Credit
Jan. 1, 2019	Equipment Cash Notes Payable <i>To recognize purchase of delivery truck</i>	5,000	1,000 4,000

## CONCEPTS IN PRACTICE

### Estimating Useful Life and Salvage Value

Useful life and salvage value are estimates made at the time an asset is placed in service. It is common and expected that the estimates are inaccurate with the uncertainty involved in estimating the future. Sometimes, however, a company may attempt to take advantage of estimating salvage value and useful life to improve earnings. A larger salvage value and longer useful life decrease annual depreciation expense and increase annual net income. An example of this behavior is **Waste Management**, which was disciplined by the Securities and Exchange Commission for fraudulently altering its estimates to reduce depreciation expense and overstate net income by \$1.7 billion.<sup>[6]</sup>

### Components Used in Calculating Depreciation

The expense recognition principle that requires that the cost of the asset be allocated over the asset's useful life is the process of depreciation. For example, if we buy a delivery truck to use for the next five years, we would allocate the cost and record depreciation expense across the entire five-year period. The calculation of the depreciation expense for a period is not based on anticipated changes in the fair market value of the asset;

6 U.S. Securities and Exchange Commission. "Judge Enters Final Judgment against Former CFO of Waste Management, Inc. Following Jury Verdict in SEC's Favor." January 3, 2008. <https://www.sec.gov/news/press/2008/2008-2.htm>

instead, the depreciation is based on the allocation of the cost of owning the asset over the period of its useful life.

The following items are important in determining and recording depreciation:

- **Book value:** the asset's original cost less accumulated depreciation.
- **Useful life:** the length of time the asset will be productively used within operations.
- **Salvage (residual) value:** the price the asset will sell for or be worth as a trade-in when its useful life expires. The determination of salvage value can be an inexact science, since it requires anticipating what will occur in the future. Often, the salvage value is estimated based on past experiences with similar assets.
- **Depreciable base (cost):** the depreciation expense over the asset's useful life. For example, if we paid \$50,000 for an asset and anticipate a salvage value of \$10,000, the depreciable base is \$40,000. We expect \$40,000 in depreciation over the time period in which the asset was used, and then it would be sold for \$10,000.

Depreciation records an expense for the value of an asset consumed and removes that portion of the asset from the balance sheet. The journal entry to record depreciation is shown here.

JOURNAL			
Date	Account	Debit	Credit
Jan. 1, 2019	Depreciation Expense Accumulated Depreciation <i>To record depreciation on asset for period</i>	XXX	XXX

Depreciation expense is a common operating expense that appears on an income statement. **Accumulated depreciation** is a **contra account**, meaning it is attached to another account and is used to offset the main account balance that records the total depreciation expense for a fixed asset over its life. In this case, the asset account stays recorded at the historical value but is offset on the balance sheet by accumulated depreciation. Accumulated depreciation is subtracted from the historical cost of the asset on the balance sheet to show the asset at book value. Book value is the amount of the asset that has not been allocated to expense through depreciation.

HARRY COMPANY Partial Balance Sheet December 31, 2020	
<b>Assets</b>	
Property, Plant and Equipment:	
Truck	\$25,000
– Accumulated Depreciation	(5,000)
	\$20,000

In this case, the asset's book value is \$20,000: the historical cost of \$25,000 less the accumulated depreciation of \$5,000.

It is important to note, however, that not all long-term assets are depreciated. For example, land is not depreciated because depreciation is the allocating of the expense of an asset over its useful life. How can one determine a useful life for land? It is assumed that land has an unlimited useful life; therefore, it is not depreciated, and it remains on the books at historical cost.

Once it is determined that depreciation should be accounted for, there are three methods that are most

commonly used to calculate the allocation of depreciation expense: the *straight-line method*, the *units-of-production method*, and the *double-declining-balance method*. A fourth method, the *sum-of-the-years-digits method*, is another *accelerated* option that has been losing popularity and can be learned in intermediate accounting courses. Let's use the following scenario involving Kenzie Company to work through these three methods.

Assume that on January 1, 2019, Kenzie Company bought a printing press for \$54,000. Kenzie pays shipping costs of \$1,500 and setup costs of \$2,500, assumes a useful life of five years or 960,000 pages. Based on experience, Kenzie Company anticipates a salvage value of \$10,000.

Recall that determination of the costs to be depreciated requires including all costs that prepare the asset for use by the company. The Kenzie example would include shipping and setup costs. Any costs for maintaining or repairing the equipment would be treated as regular expenses, so the total cost would be \$58,000, and, after allowing for an anticipated salvage value of \$10,000 in five years, the business could take \$48,000 in depreciation over the machine's economic life.

	<b>Total Cost</b>
Purchase Price	\$ 54,000
Shipping Costs	1,500
Set-up Costs	<u>2,500</u>
Total Cost	\$ 58,000
– Salvage Value	<u>(10,000)</u>
Depreciable Base	\$ 48,000

## CONCEPTS IN PRACTICE

### Fixed Assets

You work for **Georgia-Pacific** as an accountant in charge of the fixed assets subsidiary ledger at a production and warehouse facility in Pennsylvania. The facility is in the process of updating and replacing several asset categories, including warehouse storage units, fork trucks, and equipment on the production line. It is your job to keep the information in the fixed assets subsidiary ledger up to date and accurate. You need information on original historical cost, estimated useful life, salvage value, depreciation methods, and additional capital expenditures. You are excited about the new purchases and upgrades to the facility and how they will help the company serve its customers better. However, you have been in your current position for only a few years and have never overseen extensive updates, and you realize that you will have to gather a lot of information at once to keep the accounting records accurate. You feel overwhelmed and take a minute to catch your breath and think through what you need. After a few minutes, you realize that you have many people and many resources to work with to tackle this project. Whom will you work with and how will you go about gathering what you need?

## Straight-Line Depreciation

**Straight-line depreciation** is a method of depreciation that evenly splits the depreciable amount across the useful life of the asset. Therefore, we must determine the yearly depreciation expense by dividing the

depreciable base of \$48,000 by the economic life of five years, giving an annual depreciation expense of \$9,600. The journal entries to record the first two years of expenses are shown, along with the balance sheet information. Here are the journal entry and information for year one:

JOURNAL			
Date	Account	Debit	Credit
Dec. 31, 2019	Depreciation Expense: Printing Press Accumulated Depreciation: Printing Press <i>To record depreciation on asset for period</i>	9,600	9,600

Printing Press	\$58,000
– Accumulated Depreciation: Printing Press	(9,600)
Net Book Value	\$48,400

After the journal entry in year one, the press would have a book value of \$48,400. This is the original cost of \$58,000 less the accumulated depreciation of \$9,600. Here are the journal entry and information for year two:

JOURNAL			
Date	Account	Debit	Credit
Dec. 31, 2020	Depreciation Expense: Printing Press Accumulated Depreciation: Printing Press <i>To record depreciation on asset for period</i>	9,600	9,600

Printing Press	\$ 58,000
– Accumulated Depreciation: Printing Press	(19,200)
Net Book Value	\$ 38,800

Kenzie records an annual depreciation expense of \$9,600. Each year, the accumulated depreciation balance increases by \$9,600, and the press's book value decreases by the same \$9,600. At the end of five years, the asset will have a book value of \$10,000, which is calculated by subtracting the accumulated depreciation of \$48,000 ( $5 \times \$9,600$ ) from the cost of \$58,000.

## Units-of-Production Depreciation

Straight-line depreciation is efficient, accounting for assets used consistently over their lifetime, but what about assets that are used with less regularity? The **units-of-production depreciation method** bases depreciation on the actual usage of the asset, which is more appropriate when an asset's life is a function of usage instead of time. For example, this method could account for depreciation of a printing press for which the depreciable base is \$48,000 (as in the straight-line method), but now the number of pages the press prints is important.

In our example, the press will have total depreciation of \$48,000 over its useful life of 960,000 pages. Therefore, we would divide \$48,000 by 960,000 pages to get a cost per page of \$0.05. If Kenzie printed 180,000 pages in the first year, the depreciation expense would be 180,000 pages  $\times$  \$0.05 per page, or \$9,000. The journal entry to record this expense would be the same as with straight-line depreciation: only the dollar amount would have changed. The presentation of accumulated depreciation and the calculation of the book value would also be the same. Kenzie would continue to depreciate the asset until a total of \$48,000 in depreciation was taken after printing 960,000 total pages.

## THINK IT THROUGH

### Deciding on a Depreciation Method

Liam is struggling to determine which depreciation method he should use for his new silk-screening machine. He expects sales to increase over the next five years. He also expects (hopes) that in two years he will need to buy a second silk-screening machine to keep up with the demand for products of his growing company. Which depreciation method makes more sense for Liam: higher expenses in the first few years, or keeping expenses consistent over time? Or would it be better for him to not think in terms of time, but rather in the usage of the machine?

## Double-Declining-Balance Depreciation

The **double-declining-balance depreciation method** is the most complex of the three methods because it accounts for both time and usage and takes more expense in the first few years of the asset's life. Double-declining considers time by determining the percentage of depreciation expense that would exist under straight-line depreciation. To calculate this, divide 100% by the estimated life in years. For example, a five-year asset would be  $100/5$ , or 20% a year. A four-year asset would be  $100/4$ , or 25% a year. Next, because assets are typically more efficient and "used" more heavily early in their life span, the double-declining method takes usage into account by doubling the straight-line percentage. For a four-year asset, multiply 25% ( $100\%/4$ -year life)  $\times 2$ , or 50%. For a five-year asset, multiply 20% ( $100\%/5$ -year life)  $\times 2$ , or 40%.

One unique feature of the double-declining-balance method is that in the first year, the estimated salvage value is not subtracted from the total asset cost before calculating the first year's depreciation expense. Instead the total cost is multiplied by the calculated percentage. However, depreciation expense is not permitted to take the book value below the estimated salvage value, as demonstrated in the following text.

Year	Depreciation Expense	Accumulated Depreciation	Book Value
			\$58,000
1: $\$58,000 \times 40\% =$	\$23,200	\$23,200	34,800
2: $\$34,800 \times 40\% =$	13,920	37,120	20,880
3: $\$20,880 \times 40\% =$	8,352	45,472	12,528
4: $\$12,528 - \$10,000 =$	2,528	48,000	10,000
5	0	48,000	10,000
Total	\$48,000	\$48,000	\$10,000

Notice that in year four, the remaining book value of \$12,528 was not multiplied by 40%. This is because the expense would have been \$5,011.20, and since we cannot depreciate the asset below the estimated salvage value of \$10,000, the expense cannot exceed \$2,528, which is the amount left to depreciate (difference between the book value of \$12,528 and the salvage value of \$10,000). Since the asset has been depreciated to its salvage value at the end of year four, no depreciation can be taken in year five.

In our example, the first year's double-declining-balance depreciation expense would be  $\$58,000 \times 40\%$ , or \$23,200. For the remaining years, the double-declining percentage is multiplied by the remaining book value of the asset. Kenzie would continue to depreciate the asset until the book value and the estimated salvage value

are the same (in this case \$10,000).

The net effect of the differences in straight-line depreciation versus double-declining-balance depreciation is that under the double-declining-balance method, the allowable depreciation expenses are greater in the earlier years than those allowed for straight-line depreciation. However, over the depreciable life of the asset, the total depreciation expense taken will be the same, no matter which method the entity chooses. For example, in the current example both straight-line and double-declining-balance depreciation will provide a total depreciation expense of \$48,000 over its five-year depreciable life.

## IFRS CONNECTION

### Accounting for Depreciation

Both US GAAP and International Financial Reporting Standards (IFRS) account for long-term assets (tangible and intangible) by recording the asset at the cost necessary to make the asset ready for its intended use. Additionally, both sets of standards require that the cost of the asset be recognized over the economic, useful, or legal life of the asset through an allocation process such as depreciation. However, there are some significant differences in how the allocation process is used as well as how the assets are carried on the balance sheet.

IFRS and US GAAP allow companies to choose between different methods of depreciation, such as even allocation (straight-line method), depreciation based on usage (production methods), or an accelerated method (double-declining balance). The mechanics of applying these methods do not differ between the two standards. However, IFRS requires companies to use “component depreciation” if it is feasible. Component depreciation would apply to assets with components that have differing lives. Consider the following example using a plane owned by **Southwest Airlines**. Let’s divide this plane into three components: the interior, the engines, and the fuselage. Suppose the average life of the interior of a plane is ten years, the average life of the engines is fifteen years, and the average life of the fuselage is twenty-five years. Given this, what should be the depreciable life of the asset? In that case, under IFRS, the costs associated with the interior would be depreciated over ten years, the costs associated with the engines would be depreciated over fifteen years, and the costs associated with the fuselage would be depreciated over twenty-five years. Under US GAAP, the total cost of the airplane would likely be depreciated over twenty years. Obviously, component depreciation involves more record keeping and differing amounts of depreciation per year for the life of the asset. But the same amount of total depreciation, the cost of the asset less residual value, would be taken over the life of the asset under both US GAAP and IFRS.

Probably one of the most significant differences between IFRS and US GAAP affects long-lived assets. This is the ability, under IFRS, to adjust the value of those assets to their fair value as of the balance sheet date. The adjustment to fair value is to be done by “class” of asset, such as real estate, for example. A company can adjust some classes of assets to fair value but not others. Under US GAAP, almost all long-lived assets are carried on the balance sheet at their depreciated historical cost, regardless of how the actual fair value of the asset changes. Consider the following example. Suppose your company owns a single building that you bought for \$1,000,000. That building currently has \$200,000 in accumulated depreciation. This building now has a book value of \$800,000. Under US GAAP, this is how this building

would appear in the balance sheet. Even if the fair value of the building is \$875,000, the building would still appear on the balance sheet at its depreciated historical cost of \$800,000 under US GAAP. Alternatively, if the company used IFRS and elected to carry real estate on the balance sheet at fair value, the building would appear on the company's balance sheet at its new fair value of \$875,000.

It is difficult to determine an accurate fair value for long-lived assets. This is one reason US GAAP has not permitted the fair valuing of long-lived assets. Different appraisals can result in different determinations of "fair value." Thus, the Financial Accounting Standards Board (FASB) elected to continue with the current method of carrying assets at their depreciated historical cost. The thought process behind the adjustments to fair value under IFRS is that fair value more accurately represents true value. Even if the fair value reported is not known with certainty, reporting the class of assets at a reasonable representation of fair value enhances decision-making by users of the financial statements.

## Summary of Depreciation

[Table 11.2](#) compares the three methods discussed. Note that although each time-based (straight-line and double-declining balance) annual depreciation expense is different, after five years the total amount depreciated (accumulated depreciation) is the same. This occurs because at the end of the asset's useful life, it was expected to be worth \$10,000: thus, both methods depreciated the asset's value by \$48,000 over that time period.

The sum-of-the-years-digits is different from the two above methods in that while those methods are based on time factors, the sum-of-the-years-digits is based on usage. However, the total amount of depreciation taken over an asset's economic life will still be the same. In our example, the total depreciation will be \$48,000, even though the sum-of-the-years-digits method could take only two or three years or possibly six or seven years to be allocated.

**Calculation of Depreciation Expense**

Depreciation Method	Calculation
Straight line	$(\text{Cost} - \text{salvage value}) / \text{Useful life}$
Units of production	$(\text{Cost} - \text{salvage value}) \times (\text{Units produced in current period} / \text{Estimated total units to be produced})$
Double declining balance	$\text{Book value} \times \text{Straight-line annual depreciation percentage} \times 2$

**Table 11.2**

Period	Straight-Line Depreciation Method	Units of Production Method	Double-Declining-Balance Method
Year 1	\$ 9,600	(180,000 units) \$ 9,000	\$23,200
Year 2	9,600	(200,000 units) 10,000	13,920
Year 3	9,600	(210,000 units) 10,500	8,352
Year 4	9,600	(190,000 units) 9,500	2,528
Year 5	9,600	(180,000 units) 9,000	0
Total	\$48,000	\$48,000	\$48,000

## ETHICAL CONSIDERATIONS

### Depreciation Analysis Requires Careful Evaluation

When analyzing depreciation, accountants are required to make a supportable estimate of an asset's useful life and its salvage value. However, "management teams typically fail to invest either time or attention into making or periodically revisiting and revising reasonably supportable estimates of asset lives or salvage values, or the selection of depreciation methods, as prescribed by GAAP."<sup>[7]</sup> This failure is not an ethical approach to properly accounting for the use of assets.

Accountants need to analyze depreciation of an asset over the entire useful life of the asset. As an asset supports the cash flow of the organization, expensing its cost needs to be allocated, not just recorded as an arbitrary calculation. An asset's depreciation may change over its life according to its use. If asset depreciation is arbitrarily determined, the recorded "gains or losses on the disposition of depreciable property assets seen in financial statements"<sup>[8]</sup> are not true best estimates. Due to operational changes, the depreciation expense needs to be periodically reevaluated and adjusted.

Any mischaracterization of asset usage is not proper GAAP and is not proper accrual accounting. Therefore, "financial statement preparers, as well as their accountants and auditors, should pay more attention to the quality of depreciation-related estimates and their possible mischaracterization and losses of credits and charges to operations as disposal gains."<sup>[9]</sup> An accountant should always follow GAAP guidelines and allocate the expense of an asset according to its usage.

### Partial-Year Depreciation

A company will usually only own depreciable assets for a portion of a year in the year of purchase or disposal. Companies must be consistent in how they record depreciation for assets owned for a partial year. A common method is to allocate depreciation expense based on the number of months the asset is owned in a year. For example, a company purchases an asset with a total cost of \$58,000, a five-year useful life, and a salvage value of \$10,000. The annual depreciation is \$9,600  $([\$58,000 - 10,000]/5)$ . However, the asset is purchased at the

7 Howard B. Levy. "Depreciable Asset Lives." *The CPA Journal*. September 2016. <https://www.cpajournal.com/2016/09/08/depreciable-asset-lives/>

8 Howard B. Levy. "Depreciable Asset Lives." *The CPA Journal*. September 2016. <https://www.cpajournal.com/2016/09/08/depreciable-asset-lives/>

9 Howard B. Levy. "Depreciable Asset Lives." *The CPA Journal*. September 2016. <https://www.cpajournal.com/2016/09/08/depreciable-asset-lives/>

beginning of the fourth month of the fiscal year. The company will own the asset for nine months of the first year. The depreciation expense of the first year is \$7,200 ( $\$9,600 \times 9/12$ ). The company will depreciate the asset \$9,600 for the next four years, but only \$2,400 in the sixth year so that the total depreciation of the asset over its useful life is the depreciable amount of \$48,000 ( $\$7,200 + 9,600 + 9,600 + 9,600 + 9,600 + 2,400$ ).

## THINK IT THROUGH

### Choosing Appropriate Depreciation Methods

You are part of a team reviewing the financial statements of a new computer company. Looking over the fixed assets accounts, one long-term tangible asset sticks out. It is labeled “USB” and valued at \$10,000. You ask the company’s accountant for more detail, and he explains that the asset is a USB drive that holds the original coding for a game the company developed during the year. The company expects the game to be fairly popular for the next few years, and then sales are expected to trail off. Because of this, they are planning on depreciating this asset over the next five years using the double-declining method. Does this recording seem appropriate, or is there a better way to categorize the asset? How should this asset be expensed over time?

## Special Issues in Depreciation

While you’ve now learned the basic foundation of the major available depreciation methods, there are a few special issues. Until now, we have assumed a definite physical or economically functional useful life for the depreciable assets. However, in some situations, depreciable assets can be used beyond their useful life. If so desired, the company could continue to use the asset beyond the original estimated economic life. In this case, a new remaining depreciation expense would be calculated based on the remaining depreciable base and estimated remaining economic life.

Assume in the earlier Kenzie example that after five years and \$48,000 in accumulated depreciation, the company estimated that it could use the asset for two more years, at which point the salvage value would be \$0. The company would be able to take an additional \$10,000 in depreciation over the extended two-year period, or \$5,000 a year, using the straight-line method.

As with the straight-line example, the asset could be used for more than five years, with depreciation recalculated at the end of year five using the double-declining balance method. While the process of calculating the additional depreciation for the double-declining-balance method would differ from that of the straight-line method, it would also allow the company to take an additional \$10,000 after year five, as with the other methods, so long as the cost of \$58,000 is not exceeded.

As a side note, there often is a difference in useful lives for assets when following GAAP versus the guidelines for depreciation under federal tax law, as enforced by the Internal Revenue Service (IRS). This difference is not unexpected when you consider that tax law is typically determined by the United States Congress, and there often is an economic reason for tax policy.

For example, if we want to increase investment in real estate, shortening the economic lives of real estate for taxation calculations can have a positive increasing effect on new construction. If we want to slow down new production, extending the economic life can have the desired slowing effect. In this course, we concentrate on

financial accounting depreciation principles rather than tax depreciation.

## Fundamentals of Depletion of Natural Resources

Another type of fixed asset is **natural resources**, assets a company owns that are consumed when used. Examples include lumber, mineral deposits, and oil/gas fields. These assets are considered natural resources while they are still part of the land; as they are extracted from the land and converted into products, they are then accounted for as inventory (raw materials). Natural resources are recorded on the company's books like a fixed asset, at cost, with total costs including all expenses to acquire and prepare the resource for its intended use.

As the resource is consumed (converted to a product), the cost of the asset must be expensed: this process is called **depletion**. As with depreciation of nonnatural resource assets, a contra account called **accumulated depletion**, which records the total depletion expense for a natural resource over its life, offsets the natural resource asset account. Depletion expense is typically calculated based on the number of units extracted from cutting, mining, or pumping the resource from the land, similar to the units-of-production method. For example, assume a company has an oil well with an estimated 10,000 gallons of crude oil. The company purchased this well for \$1,000,000, and the well is expected to have no salvage value once it is pumped dry. The depletion cost per gallon will be  $\$1,000,000/10,000 = \$100$ . If the company extracts 4,000 gallons of oil in a given year, the depletion expense will be \$400,000.

## Fundamentals of Amortization of an Intangible

Recall that intangible assets are recorded as long-term assets at their cost. As with tangible assets, many intangible assets have a finite (limited) life span so their costs must be allocated over their useful lives: this process is **amortization**. Depreciation and amortization are similar in nature but have some important differences. First, amortization is typically only done using the straight-line method. Second, there is usually no salvage value for intangible assets because they are completely used up over their life span. Finally, an accumulated amortization account is not required to record yearly expenses (as is needed with depreciation); instead, the intangible asset account is written down each period.

For example, a company called Patents-R-Us purchased a product patent for \$10,000, granting the company exclusive use of that product for the next twenty years. Therefore, unless the company does not think the product will be useful for all twenty years (at that point the company would use the shorter useful life of the product), the company will record amortization expense of \$500 a year ( $\$10,000/20$  years). Assuming that it was placed into service on October 1, 2019, the journal entry would be as follows:

JOURNAL			
Date	Account	Debit	Credit
Oct. 1, 2019	Amortization Expense Patent <i>To record amortization on patent for period</i>	125	125

## LINK TO LEARNING

See [Form 10-K that was filed with the SEC \(https://openstax.org/l/50McDForm10K\)](https://openstax.org/l/50McDForm10K) to determine which depreciation method **McDonald's Corporation** used for its long-term assets in 2017.

### 11.4 Describe Accounting for Intangible Assets and Record Related Transactions

Intangible assets can be difficult to understand and incorporate into the decision-making process. In this section we explain them in more detail and provide examples of how to amortize each type of intangible asset.

#### Fundamentals of Intangible Assets

Intangibles are recorded at their acquisition cost, as are tangible assets. The costs of internally generated intangible assets, such as a patent developed through research and development, are recorded as expenses when incurred. An exception is legal costs to register or defend an intangible asset. For example, if a company incurs legal costs to defend a patent it has developed internally, the costs associated with developing the patent are recorded as an expense, but the legal costs associated with defending the patent would be capitalized as a patent intangible asset.

Amortization of intangible assets is handled differently than depreciation of tangible assets. Intangible assets are typically amortized using the straight-line method; there is typically no salvage value, as the usefulness of the asset is used up over its lifetime, and no accumulated amortization account is needed. Additionally, based on regulations, certain intangible assets are restricted and given limited life spans, while others are infinite in their economic life and not amortized.

#### Copyrights

While copyrights have a finite life span of 70 years beyond the author's death, they are amortized over their estimated useful life. Therefore, if a company acquired a copyright on a new graphic novel for \$10,000 and estimated it would be able to sell that graphic novel for the next ten years, it would amortize \$1,000 a year (\$10,000/ten years), and the journal entry would be as shown. Assume that the novel began sales on January 1, 2019.

JOURNAL			
Date	Account	Debit	Credit
Dec. 31, 2019	Amortization Expense Copyright	1,000	1,000

#### Patents

Patents are issued to the inventor of the product by the federal government and last twenty years. All costs

associated with creating the product being patented (such as research and development costs) are expensed; however, direct costs to obtain the patent could be capitalized. Otherwise, patents are capitalized only when purchased. Like copyrights, patents are amortized over their useful life, which can be shorter than twenty years due to changing technology. Assume Mech Tech purchased the patent for a new pump system. The patent cost \$20,000, and the company expects the pump to be a useful product for the next twenty years. Mech Tech will then amortize the \$20,000 over the next twenty years, which is \$1,000 a year.

JOURNAL			
Date	Account	Debit	Credit
Dec. 31, 2019	Amortization Expense Patent	1,000	1,000

## Trademarks

Companies can register their trademarks with the federal government for ten years with the opportunity to renew the trademark every ten years. Trademarks are recorded as assets only when they are purchased from another company and are valued based on market price at the time of purchase. In this case, these trademarks are amortized over the expected useful life. In some cases, the trademark may be seen as having an indefinite life, in which case there would be no amortization.

## Goodwill

From an accounting standpoint, goodwill is internally generated and is not recorded as an asset unless it is purchased during the acquisition of another company. The purchase of goodwill occurs when one company buys another company for an amount greater than the total value of the company's net assets. The value difference between net assets and the purchase price is then recorded as goodwill on the purchaser's financial statements. For example, say the London Hoops professional basketball team was sold for \$10 million. The new owner received net assets of \$7 million, so the goodwill (value of the London Hoops above its net assets) is \$3 million. The following journal entry shows how the new owner would record this purchase.

JOURNAL			
Date	Account	Debit	Credit
Jan. 1, 2019	Net Assets Goodwill Cash	7,000,000 3,000,000	10,000,000

Goodwill does not have an expected life span and therefore is not amortized. However, a company is required to compare the book value of goodwill to its market value at least annually to determine if it needs to be adjusted. This comparison process is called *testing for impairment*. If the market value of goodwill is found to be lower than the book value, then goodwill needs to be reduced to its market value. If goodwill is impaired, it is reduced with a credit, and an impairment loss is debited. Goodwill is never increased beyond its original cost. For example, if the new owner of London Hoops assesses that London Hoops now has a fair value of \$9,000,000 rather than the \$10,000,000 of the original purchase, the owner would need to record the impairment as shown in the following journal entry.

JOURNAL			
Date	Account	Debit	Credit
Dec. 31, 2019	Impairment Loss Goodwill	1,000,000	1,000,000

## CONCEPTS IN PRACTICE

### Microsoft's Goodwill

In 2016, **Microsoft** bought **LinkedIn** for \$25 billion. **Microsoft** wanted the brand, website platform, and software, which are intangible assets of **LinkedIn**, and therefore **Microsoft** only received \$4 billion in net assets. The overpayment by **Microsoft** is not necessarily a bad business decision, but rather the premium or value of those intangible assets that **LinkedIn** owned and **Microsoft** wanted. The \$21 billion difference will be listed on **Microsoft's** balance sheet as goodwill.

## LINK TO LEARNING

**Apple Inc.** had goodwill of \$5,717,000,000 on its 2017 balance sheet. Explore [Apple, Inc.'s U.S. Securities and Exchange Commission 10-K Filing \(https://openstax.org/l/50AppleForm10K\)](https://openstax.org/l/50AppleForm10K) for notes that discuss goodwill and whether **Apple** has had to adjust for the impairment of this asset in recent years.

## 11.5 Describe Some Special Issues in Accounting for Long-Term Assets

A company will account for some events for long-term assets that are less routine than recording purchase and depreciation or amortization. For example, a company may realize that its original estimate of useful life or salvage value is no longer accurate. A long-term asset may lose its value, or a company may sell a long-term asset.

### Revision of Remaining Life or Salvage Value

As you have learned, depreciation is based on estimating both the useful life of an asset and the salvage value of that asset. Over time, these estimates may be proven inaccurate and need to be adjusted based on new information. When this occurs, the depreciation expense calculation should be changed to reflect the new (more accurate) estimates. For this entry, the remaining depreciable balance of the net book value is allocated over the new useful life of the asset. To work through this process with data, let's return to the example of Kenzie Company.

- Kenzie has a press worth \$58,000.
- Its salvage value was originally estimated to be \$10,000.
- Its economic life was originally estimated to be five years.

- Kenzie uses straight-line depreciation.

After three years, Kenzie determines that the estimated useful life would have been more accurately estimated at eight years, and the salvage value at that time would be \$6,000. The revised depreciation expense is calculated as shown:

Original Cost	\$ 58,000
Depreciation Previously Taken (3 × \$9,600)	(28,800)
Book Value at Beginning of Year 4	\$ 29,200
Revised Salvage Value	(6,000)
Revised Remaining Depreciable Cost	<u>\$ 23,200</u>
Revised Remaining Useful Life	5 years
Revised Depreciation: \$23,200/5 years = \$4,640 per year	

These revised calculations show that Kenzie should now be recording a depreciation of \$4,640 per year for the next five years.

## YOUR TURN

### Useful Life

Georgia-Pacific is a global company that employs a wide variety of property, plant, and equipment assets in its production facilities. You work for Georgia-Pacific as an accountant in charge of the fixed assets subsidiary ledger at a warehouse facility in Pennsylvania. You find out that the useful lives for the fork trucks need to be adjusted. As an asset category, the trucks were bought at the same time and had original useful lives of seven years. However, after depreciating them for two years, the company makes improvements to the trucks that allow them to be used outdoors in what can be harsh winters. The improvements also extend their useful lives by two additional years. What is the remaining useful life after the improvements?

### Solution

Seven original years – two years depreciated + two additional years = seven years remaining.

## Obsolescence

Obsolescence refers to the reduction in value and/or use of the asset. Obsolescence has traditionally resulted from the physical deterioration of the asset—called **physical obsolescence**. In current application—and considering the role of modern technology and tech assets—accounting for functional obsolescence is becoming more common. **Functional obsolescence** is the loss of value from all causes within a property *except* those due to physical deterioration. With functional obsolescence, the useful life still needs to be adjusted downward: although the asset physically still works, its functionality makes it less useful for the company. Also, an adjustment might be necessary in the salvage value. This potential adjustment depends on the specific details of each obsolescence determination or decision.

## Sale of an Asset

When an asset is sold, the company must account for its depreciation up to the date of sale. This means companies may be required to record a depreciation entry before the sale of the asset to ensure it is current. After ensuring that the net book value of an asset is current, the company must determine if the asset has sold at a gain, at a loss, or at book value. We look at examples of each accounting alternative using the Kenzie Company data.

Recall that Kenzie's press has a depreciable base of \$48,000 and an economic life of five years. If Kenzie sells the press at the end of the third year, the company would have taken three years of depreciation amounting to \$28,800 ( $\$9,600 \times 3$  years). With an original cost of \$58,000, and after subtracting the accumulated depreciation of \$28,800, the press would have a book value of \$29,200. If the company sells the press for \$31,000, it would realize a gain of \$1,800, as shown.

Cost of Press	\$ 58,000
– Accumulated Depreciation: Printing Press	<u>(28,800)</u>
Book Value	\$ 29,200
Sales Price	\$ 31,000
– Book Value	<u>(29,200)</u>
Gain on Sale of Printing Press	\$ 1,800

The journal entry to record the sale is shown here.

JOURNAL			
Date	Account	Debit	Credit
Dec. 31, 2019	Cash	31,000	
	Accumulated Depreciation: Printing Press	28,800	
	Printing Press		58,000
	Gain on Sale: Printing Press		1,800

If Kenzie sells the printing press for \$27,100, what would the journal entries be? The book value of the press is \$29,200, so Kenzie would be selling the press at a loss. The journal entry to record the sale is shown here.

JOURNAL			
Date	Account	Debit	Credit
Dec. 31, 2019	Cash	27,100	
	Accumulated Depreciation: Printing Press	28,800	
	Loss on Sale of Printing Press	2,100	
	Printing Press		58,000

What if Kenzie sells the press at exactly book value? In this case, the company will realize neither a gain nor a loss. Here is the journal entry to record the sale.

JOURNAL			
Date	Account	Debit	Credit
Dec. 31, 2019	Cash	29,200	
	Accumulated Depreciation: Printing Press	28,800	
	Printing Press		58,000

While it would be ideal to estimate a salvage value that provides neither a gain nor a loss upon the retirement and sale of a long-term asset, this type of accuracy is virtually impossible to reach, unless you negotiate a fixed

future sales price. For example, you might buy a truck for \$80,000 and lock in a five-year life with 100,000 or fewer miles driven. Under these conditions, the dealer might agree to pay you \$20,000 for the truck in five years.

Under these conditions, you could justify calculating your depreciation over a five-year period, using a depreciable base of \$60,000. Under the straight-line method, this would provide an annual depreciation amount of \$12,000. Also, when you sell the truck to the dealer after five years, the sales price will be \$20,000, and the book value will be \$20,000, so there would be neither a gain nor a loss on the sale.

In the Kenzie example where the asset was sold for \$31,000 after three years, Kenzie should have recorded a total of \$27,000 in depreciation (cost of \$58,000 less the sales value of \$31,000). However, the company recorded \$28,800 in depreciation over the three-year period. Subtracting the gain of \$1,800 from the total depreciation expense of \$28,800 shows the true cost of using the asset as \$27,000, and not the depreciation amount of \$28,800.

When the asset was sold for \$27,100, the accounting records would show \$30,900 in depreciation (cost of \$58,000 less the sales price of \$27,100). However, depreciation is listed as \$28,800 over the three-year period. Adding the loss of \$2,100 to the total depreciation expense of \$28,800 results in a cost of \$30,900 for use of the asset rather than the \$28,800 depreciation.

If the asset sells for exactly the book value, its depreciation expense was estimated perfectly, and there is no gain or loss. If it sells for \$29,200 and had a book value of \$29,200, its depreciation expense of \$28,800 matches the original estimate.

## THINK IT THROUGH

### Depreciation of Long-Term Assets

You are a new staff accountant at a large construction company. After a rough year, management is seeking ways to minimize expenses or increase revenues before year-end to help increase the company's earnings per share. Your boss has asked staff to think "outside the box" and has asked to you look through the list of long-term assets to find ones that have been fully depreciated in value but may still have market value. Why would your manager be looking for these specific assets? How significantly might these items impact your company's overall performance? What ethical issues might come into play in the task you have been assigned?

## LINK TO LEARNING

The management of fixed assets can be quite a challenge for any business, from sole proprietorships to global corporations. Not only do companies need to track their asset purchases, depreciation, sales, disposals, and capital expenditures, they also need to be able to generate a variety of reports. Read this [Finances Online post for more details on software packages \(https://openstax.org/l/50SoftwarePkg\)](https://openstax.org/l/50SoftwarePkg) that help companies steward their fixed assets no matter what their size.

## Key Terms

**accumulated depletion** contra account that records the total depletion expense for a natural resource over its life

**accumulated depreciation** contra account that records the total depreciation expense for a fixed asset over its life

**amortization** allocation of the costs of intangible assets over their useful economic lives; also, process of separating the principal and interest in loan payments over the life of a loan

**capitalization** process in which a long-term asset is recorded on the balance sheet and its allocated costs are expensed on the income statement over the asset's economic life

**contra account** account paired with another account type, has an opposite normal balance to the paired account, and reduces the balance in the paired account at the end of a period

**copyright** exclusive rights to reproduce and sell an artistic, literary, or musical asset

**current expense** cost to the business that is charged in the current period

**depletion** expense associated with consuming a natural resource

**depreciation** process of allocating the costs of a tangible asset over the asset's economic life

**double-declining-balance depreciation method** accelerated depreciation method that accounts for both time and usage, so it takes more expense in the first few years of the asset's life

**fixed asset** tangible long-term asset

**functional obsolescence** reduction of an asset's value to the company, not including physical obsolescence

**goodwill** value of certain favorable factors that a business possesses that allows it to generate a greater rate of return or profit; includes price paid for an acquired company above the fair value of its identifiable net assets

**intangible asset** asset with financial value but no physical presence; examples include copyrights, patents, goodwill, and trademarks

**investment** short-term and long-term asset that is not used in the day-to-day operations of the business

**long-term asset** asset used ongoing in the normal course of business for more than one year that is not intended to be resold

**natural resources** assets a company owns that are consumed when used; they are typically taken out of the earth

**patent** contract providing exclusive rights to produce and sell a unique product without competition for twenty years

**physical obsolescence** reduction in the value of an asset to the company based on its physical deterioration

**salvage (residual) value** price that the asset will sell for or be worth as a trade-in when the useful life is over

**straight-line depreciation** depreciation method that evenly splits the depreciable amount across the useful life of the asset

**tangible asset** asset that has physical substance

**trademark** exclusive right to a name, term, or symbol a company uses to identify itself or its products

**units-of-production depreciation method** depreciation method that considers the actual usage of the asset to determine the depreciation expense

**useful life** time period over which an asset cost is allocated

## Summary

### 11.1 Distinguish between Tangible and Intangible Assets

- Tangible assets are assets that have physical substance.
- Long-term tangible assets are assets used in the normal course of operation of businesses that last for more than one year and are not intended to be resold.
- Examples of long-term tangible assets are land, building, and machinery.
- Intangible assets lack physical substance but often have value and legal rights and protections, and therefore are still assets to the firm.
- Examples of intangible assets are patents, trademarks, copyrights, and goodwill.

### 11.2 Analyze and Classify Capitalized Costs versus Expenses

- Costs incurred to purchase an asset that will be used in the day-to-day operations of the business will be capitalized and then depreciated over the useful life of that asset.
- Costs incurred to purchase an asset that will not be used in the day-to-day operations, but was purchased for investment purposes, will be considered an investment asset.
- Investments are short term (can be converted to cash in one year) or long term (held for over a year).
- Costs incurred during the life of the asset are expensed right away if they do not extend the useful life of that asset or are capitalized if they extend the asset's useful life.

### 11.3 Explain and Apply Depreciation Methods to Allocate Capitalized Costs

- Fixed assets are recorded at the historical (initial) cost, including any costs to acquire the asset and get it ready for use.
- Depreciation is the process of allocating the cost of using a long-term asset over its anticipated economic (useful) life. To determine depreciation, one needs the fixed asset's historical cost, salvage value, and useful life (in years or units).
- There are three main methods to calculate depreciation: the straight-line method, units-of-production method, and double-declining-balance method.
- Natural resources are tangible assets occurring in nature that a company owns, which are consumed when used. Natural resources are depleted over the life of the asset, using a units-consumed method.
- Intangible assets are amortized over the life of the asset. Amortization is different from depreciation as there is typically no salvage value, the straight-line method is typically used, and no accumulated amortization account is required.

### 11.4 Describe Accounting for Intangible Assets and Record Related Transactions

- Intangible assets are expensed using amortization. This is similar to depreciation but is credited to the intangible asset rather than to a contra account.
- Finite intangible assets are typically amortized using the straight-line method over the useful life of the asset.
- Intangible assets with an indefinite life are not amortized but are assessed yearly for impairment.

### 11.5 Describe Some Special Issues in Accounting for Long-Term Assets

- Because estimates are used to calculate depreciation of fixed assets, sometimes adjustments may need to be made to the asset's useful life or to its salvage value.
- To make these adjustments, the asset's net book value is updated, and then the adjustments are made for the remaining years.
- Assets are sometimes sold before the end of their useful life. These sales can result in a gain, a loss, or neither, depending on the cash received and the asset's net book value.



## Multiple Choice

1. **LO 11.1** Property, Plant, and Equipment is considered why type of asset?
  - A. current assets
  - B. contra assets
  - C. tangible assets
  - D. intangible assets
  
2. **LO 11.1** Which of the following would *not* be considered an intangible asset?
  - A. goodwill
  - B. patent
  - C. copyright
  - D. inventory
  
3. **LO 11.1** The legal protection that provides a company exclusive rights to produce and sell a unique product is known as which of the following?
  - A. trademark
  - B. copyright
  - C. patent
  - D. goodwill
  
4. **LO 11.2** Which of the following statements about capitalizing costs is correct?
  - A. Capitalizing costs refers to the process of converting assets to expenses.
  - B. Only the purchase price of the asset is capitalized.
  - C. Capitalizing a cost means to record it as an asset.
  - D. Capitalizing costs results in an immediate decrease in net income.
  
5. **LO 11.2** Ngo Company purchased a truck for \$54,000. Sales tax amounted to \$5,400; shipping costs amounted to \$1,200; and one-year registration of the truck was \$100. What is the total amount of costs that should be capitalized?
  - A. \$60,600
  - B. \$66,100
  - C. \$54,000
  - D. \$59,400
  
6. **LO 11.2** If a company capitalizes costs that should be expensed, how is its income statement for the current period impacted?
  - A. Assets understated
  - B. Net Income understated
  - C. Expenses understated
  - D. Revenues understated
  
7. **LO 11.3** Depreciation of a plant asset is the process of \_\_\_\_\_.
  - A. asset valuation for statement of financial position purposes
  - B. allocation of the asset's cost to the periods of use
  - C. fund accumulation for the replacement of the asset
  - D. asset valuation based on current replacement cost data

8. **LO 11.3** An accelerated depreciation method that takes more expense in the first few years of the asset's life is \_\_\_\_\_.
- A. units-of-production depreciation
  - B. double-declining-balance depreciation
  - C. accumulated depreciation
  - D. straight-line depreciation
9. **LO 11.3** The estimated economic life of an asset is also known as \_\_\_\_\_.
- A. residual value
  - B. book value
  - C. salvage life
  - D. useful life
10. **LO 11.4** The amortization process is like what other process?
- A. depreciation
  - B. valuation
  - C. recognizing revenue
  - D. capitalization
11. **LO 11.4** How are intangible assets with an indefinite life treated?
- A. They are depreciated.
  - B. They are amortized.
  - C. They are depleted.
  - D. They are tested yearly for impairment.
12. **LO 11.4** If the market value of goodwill is found to be lower than the book value, goodwill is \_\_\_\_\_ and must be adjusted by \_\_\_\_\_.
- A. worthless; reducing it with a credit
  - B. impaired; reducing it with a credit
  - C. impaired; increasing it with a credit
  - D. worthless; increasing it with a credit
13. **LO 11.5** Which of the following represents an event that is less routine when accounting for long-term assets?
- A. recording an asset purchase
  - B. recording depreciation on an asset
  - C. recording accumulated depreciation for an asset or asset category
  - D. changing the estimated useful life of an asset
14. **LO 11.5** Which of the following is true regarding special issues in accounting for long-term assets?
- A. An asset's useful life can never be changed.
  - B. An asset's salvage value can never be changed.
  - C. Depreciation expense calculations may need to be updated using new and more accurate estimates.
  - D. Asset values are never reduced in value due to physical deterioration.

15. **LO 11.5** The loss in value from all causes within a property *except* those due to physical deterioration is known as which of the following?

- A. functional obsolescence
- B. obsolescence
- C. true obsolescence
- D. deterioration



## Questions

1. **LO 11.1** What is the difference between tangible and intangible assets?
2. **LO 11.1** Define intangible assets.
3. **LO 11.1** What is the difference between a patent and a copyright?
4. **LO 11.1** What is goodwill, and how is it generated?
5. **LO 11.2** For each of the following transactions, state whether the cost would be capitalized (C) or recorded as an expense (E).
  - A. Purchased a machine, \$100,000; gave long-term note
  - B. Paid \$600 for ordinary repairs
  - C. Purchased a patent for \$45,300 cash
  - D. Paid \$200,000 cash for addition to old building
  - E. Paid \$20,000 for monthly salaries
  - F. Paid \$250 for routine maintenance
  - G. Paid \$16,000 for major repairs
6. **LO 11.2** What amounts should be recorded as a cost of a long-term asset?
7. **LO 11.2** Describe the relationship between expense recognition and long-term assets.
8. **LO 11.3** Define natural resources.
9. **LO 11.3** Explain the difference between depreciation, depletion, and amortization.
10. **LO 11.4** Explain the differences between the process of amortizing intangible assets and the process of depreciating tangible assets.
11. **LO 11.4** What is goodwill, and what are the unique aspects of accounting for it?
12. **LO 11.5** What are some examples of special issues in accounting for long-term assets? How are they handled?
13. **LO 11.5** What is the difference between functional obsolescence and physical obsolescence?



## Exercise Set A

**EA1.** [LO 11.1](#) Fombell, Incorporated has the following assets in its trial balance:

Cash	\$ 10,000
Equipment	60,000
Accounts receivable	3,000
Copyright	4,000
Inventory	16,000
Patent	10,000
Building	100,000

What is the total balance of its Property, Plant, and Equipment?

**EA2.** [LO 11.2](#) Jada Company had the following transactions during the year:

- Purchased a machine for \$500,000 using a long-term note to finance it
- Paid \$500 for ordinary repair
- Purchased a patent for \$45,000 cash
- Paid \$200,000 cash for addition to an existing building
- Paid \$60,000 for monthly salaries
- Paid \$250 for routine maintenance on equipment
- Paid \$10,000 for extraordinary repairs

If all transactions were recorded properly, what amount did Jada capitalize for the year, and what amount did Jada expense for the year?

**EA3.** [LO 11.3](#) Montello Inc. purchases a delivery truck for \$15,000. The truck has a salvage value of \$3,000 and is expected to be driven for eight years. Montello uses the straight-line depreciation method. Calculate the annual depreciation expense.

**EA4.** [LO 11.3](#) Montello Inc. purchases a delivery truck for \$15,000. The truck has a salvage value of \$3,000 and is expected to be driven for 120,000 miles. Montello uses the units-of-production depreciation method and in year one it expects to use the truck for 23,000 miles. Calculate the annual depreciation expense.

**EA5.** [LO 11.3](#) Steele Corp. purchases equipment for \$25,000. Regarding the purchase, Steele recorded the following transactions:

- Paid shipping of \$1,000
- Paid installation fees of \$2,000
- Pays annual maintenance cost of \$200
- Received a 5% discount on \$25,000 sales price

Determine the acquisition cost of the equipment.

**EA6.** [LO 11.3](#) Calico Inc. purchased a patent on a new drug. The patent cost \$21,000. The patent has a life of twenty years, but Calico only expects to be able to sell the drug for fifteen years. Calculate the amortization expense and record the journal for the first-year expense.

**EA7.** [LO 11.3](#) Alfredo Company purchased a new 3-D printer for \$900,000. Although this printer is expected to last for ten years, Alfredo knows the technology will become old quickly, and so they plan to replace this printer in three years. At that point, Alfredo believes it will be able to sell the printer for \$15,000. Calculate yearly depreciation using the double-declining-balance method.

**EA8.** [LO 11.3](#) Using the information from [EA7](#), calculate depreciation using the straight-line method.

**EA9.** **L0 11.3** Santa Rosa recently purchased a new boat to help ship product overseas. The following information is related to that purchase:

- Purchase price \$4,500,000
- Cost to bring boat to production facility \$25,000
- Yearly insurance cost \$25,000
- Annual maintenance cost of \$30,000
- Received 8% discount on sales price

Determine the acquisition cost of the boat, and record the journal entry needed.

**EA10.** **L0 11.3** Warriors Productions recently purchased a copyright. Although the copyright is expected to last a minimum of twenty-five years, the chief executive officer of the company believes this B-list movie will only be useful for the next fifteen years. Calculate the amortization expense and record the journal for the first year's expense. The total cost of the copyright was \$15,000.

**EA11.** **L0 11.4** The following intangible assets were purchased by Goldstein Corporation:

- A. A patent with a remaining legal life of twelve years is bought, and Goldstein expects to be able to use it for seven years.
- B. A copyright with a remaining life of thirty years is purchased, and Goldstein expects to be able to use it for ten years.

For each of these situations, determine the useful life over which Goldstein will amortize the intangible assets.

**EA12.** **L0 11.5** Sand River Sales has a fork truck used in its warehouse operations. The truck had an original useful life of five years. However, after depreciating the asset for three years, the company makes a major repair that extends the life by four years. What is the remaining useful life after the major repair?



## Exercise Set B

**EB1.** **L0 11.1** New Carlisle, Incorporated, has the following assets in its trial balance:

Cash	\$ 15,000
Equipment	69,000
Accounts receivable	12,000
Copyright	14,000
Inventory	16,000
Patent	20,000
Building	150,000

What is New Carlisle's total amount of intangible assets?

**EB2.** **LO 11.2** Johnson, Incorporated had the following transactions during the year:

- Purchased a building for \$5,000,000 using a mortgage for financing
- Paid \$2,000 for ordinary repair on a piece of equipment
- Sold product on account to customers for \$1,500,600
- Purchased a copyright for \$5,000 cash
- Paid \$20,000 cash to add a storage shed in the corner of an existing building
- Paid \$360,000 in monthly salaries
- Paid \$25,000 for routine maintenance on equipment
- Paid \$110,000 for major repairs

If all transactions were recorded properly, what amount did Johnson capitalize for the year, and what amount did Johnson expense for the year?

**EB3.** **LO 11.3** Montello Inc. purchases a delivery truck for \$25,000. The truck has a salvage value of \$6,000 and is expected to be driven for ten years. Montello uses the straight-line depreciation method. Calculate the annual depreciation expense.

**EB4.** **LO 11.3** Montello Inc. purchases a delivery truck for \$25,000. The truck has a salvage value of \$6,000 and is expected to be driven for 125,000 miles. Montello uses the units-of-production depreciation method, and in year one it expects to use the truck for 26,000 miles. Calculate the annual depreciation expense.

**EB5.** **LO 11.3** Steele Corp. purchases equipment for \$30,000. Regarding the purchase, Steele

- paid shipping of \$1,200,
- paid installation fees of \$2,750,
- pays annual maintenance cost of \$250, and
- received a 10% discount on sales price.

Determine the acquisition cost of the equipment.

**EB6.** **LO 11.3** Calico Inc. purchased a patent on a new drug it created. The patent cost \$12,000. The patent has a life of twenty years, but Calico expects to be able to sell the drug for fifty years. Calculate the amortization expense and record the journal for the first year's expense.

**EB7.** **LO 11.3** Kenzie purchased a new 3-D printer for \$450,000. Although this printer is expected to last for ten years, Kenzie knows the technology will become old quickly and so she plans to replace this printer in three years. At that point, Kenzie believes she will be able to sell the printer for \$30,000. Calculate yearly depreciation using the double-declining-balance method.

**EB8.** **LO 11.3** Using the information from [EB7](#), calculate depreciation using the straight-line method.

**EB9.** **LO 11.3** Ronson recently purchased a new boat to help ship product overseas. The following information is related to that purchase:

- purchase price \$4,500,000
- cost to bring boat to production facility \$15,000
- yearly insurance cost \$12,000
- pays annual maintenance cost of \$22,000
- received a 10% discount on sales price

Determine the acquisition cost of the boat and record the journal entry needed.

**EB10.** **LO 11.3** Warriors Production recently purchased a copyright on its new film. Although the copyright is expected to last a minimum of twenty-five years, the chief executive officer of the company believes this B-list movie will only be useful for the next five years. Calculate the amortization expense and record the journal for the first-year expense. The total cost of the copyright was \$23,500.

**EB11.** **LO 11.4** The following intangible assets were purchased by Hanna Unlimited:

- A. A patent with a remaining legal life of twelve years is bought, and Hanna expects to be able to use it for six years. It is purchased at a cost of \$48,000.
- B. A copyright with a remaining life of thirty years is purchased, and Hanna expects to be able to use it for ten years. It is purchased for \$70,000.

Determine the annual amortization amount for each intangible asset.

**EB12.** **LO 11.5** Baglia's Wholesale Trinkets has a 3-D printer used in operations. The original useful life was estimated to be six years. However, after two years of use, the printer was overhauled, and its total useful life was extended to eight years. How many years of depreciation remain after the overhaul in year 2?



## Problem Set A

**PA1.** **LO 11.1** Selected accounts from Phipps Corporation's trial balance are as follows. Prepare the assets section of the company's balance sheet.

<b>PHIPPS CORPORATION</b>		
<b>Trail Balance</b>		
<b>December 31</b>		
(Selected Accounts)		
	<b>Debit</b>	<b>Credit</b>
Cash	\$ 50,000	
Short-term Marketable Securities	25,000	
Accounts Receivable	13,000	
Inventories	45,000	
Other current Assets	10,000	
Land	100,000	
Equipment	45,000	
Accumulated Depreciation: Equipment		\$5,000
Goodwill	20,000	
Other Intangible Assets	15,000	

**PA2.** LO 11.1 Selected accounts from Han Corporation's trial balance are as follows. Prepare the detailed schedule showing the Property, Plant, and Equipment.

<b>HAN CORPORATION</b>		
<b>Trail Balance</b>		
<b>December 31</b>		
(Selected Accounts)		
	<b>Debit</b>	<b>Credit</b>
Cash	\$ 150,000	
Short-term Marketable Securities	145,000	
Accounts Receivable	26,000	
Inventories	90,000	
Other current Assets	10,000	
Land	350,000	
Buildings	300,000	
Accumulated Depreciation: Buildings		\$40,000
Equipment	145,000	
Accumulated Depreciation: Equipment		10,000
Goodwill	40,000	
Other Intangible Assets	20,000	

**PA3.** LO 11.2 During the current year, Alanna Co. had the following transactions pertaining to its new office building.

Purchase price of land	\$120,000
Legal fees for contracts to purchase land	4,000
Architect fees	16,000
Demolition of the old building on site	10,000
Sale of scrap from old building	6,000
Construction cost of new building	700,000

- A. What should Alanna Co. record on its books for the land? The total cost of land includes all costs of preparing the land for use. The demolition cost of the old building is added to the land costs, and the sale of the old building scrap is subtracted from the land cost.
- B. What should Alanna Co. record on its books for the building?

**PA4.** LO 11.2 During the current year, Arkells Inc. made the following expenditures relating to plant machinery.

- Renovated five machines for \$100,000 to improve efficiency in production of their remaining useful life of five years
- Low-cost repairs throughout the year totaled \$70,000
- Replaced a broken gear on a machine for \$10,000
  - A. What amount should be expensed during the period?
  - B. What amount should be capitalized during the period?

**PA5.** **LO 11.2** Jada Company had the following transactions during the year:

- Purchased a machine for \$500,000 using a long-term note to finance it
- Paid \$500 for ordinary repair
- Purchased a patent for \$45,000 cash
- Paid \$200,000 cash for addition to an existing building
- Paid \$60,000 for monthly salaries
- Paid \$250 for routine maintenance on equipment
- Paid \$10,000 for major repairs
- Depreciation expense recorded for the year is \$25,000

If all transactions were recorded properly, what is the amount of increase to the Property, Plant, and Equipment section of Jada's balance sheet resulting from this year's transactions? What amount did Jada report on the income statement for expenses for the year?

**PA6.** **LO 11.3** Gimli Miners recently purchased the rights to a diamond mine. It is estimated that there are one million tons of ore within the mine. Gimli paid \$23,100,000 for the rights and expects to harvest the ore over the next ten years. The following is the expected extraction for the next five years.

- Year 1: 50,000 tons
- Year 2: 90,000 tons
- Year 3: 100,000 tons
- Year 4: 110,000 tons
- Year 5: 130,000 tons

Calculate the depletion expense for the next five years, and create the journal entry for year one.

**PA7.** **LO 11.3** Tree Lovers Inc. purchased 100 acres of woodland in which the company intends to harvest the complete forest, leaving the land barren and worthless. Tree Lovers paid \$2,100,000 for the land. Tree Lovers will sell the lumber as it is harvested and expects to deplete it over five years (twenty acres in year one, thirty acres in year two, twenty-five acres in year three, fifteen acres in year four, and ten acres in year five). Calculate the depletion expense for the next five years and create the journal entry for year one.

**PA8.** **LO 11.3** Referring to [PA7](#) where Kenzie Company purchased a 3-D printer for \$450,000, consider how the purchase of the printer impacts not only depreciation expense each year but also the asset's book value. What amount will be recorded as depreciation expense each year, and what will the book value be at the end of each year after depreciation is recorded?

**PA9.** **LO 11.4** For each of the following unrelated situations, calculate the annual amortization expense and prepare a journal entry to record the expense:

- A. A patent with a ten-year remaining legal life was purchased for \$300,000. The patent will be usable for another eight years.
- B. A patent was acquired on a new smartphone. The cost of the patent itself was only \$24,000, but the market value of the patent is \$600,000. The company expects to be able to use this patent for all twenty years of its life.

**PA10.** **LO 11.4** Buchanan Imports purchased McLaren Corporation for \$5,000,000 cash when McLaren had net assets worth \$4,500,000.

- A. What is the amount of goodwill in this transaction?
- B. What is Buchanan's journal entry to record the purchase of McLaren?
- C. What journal entry should Buchanan write when the company internally generates additional goodwill in the year following the purchase of McLaren?

**PA11.** **LO 11.5** Montezuma Inc. purchases a delivery truck for \$15,000. The truck has a salvage value of \$3,000 and is expected to be driven for eight years. Montezuma uses the straight-line depreciation method. Calculate the annual depreciation expense. After three years of recording depreciation, Montezuma determines that the delivery truck will only be useful for another three years and that the salvage value will increase to \$4,000. Determine the depreciation expense for the final three years of the asset's life, and create the journal entry for year four.

**PA12.** **LO 11.5** Garcia Co. owns equipment that costs \$76,800, with accumulated depreciation of \$40,800. Garcia sells the equipment for cash. Record the journal entry for the sale of the equipment if Garcia were to sell the equipment for the following amounts:

- A. \$47,000 cash
- B. \$36,000 cash
- C. \$31,000 cash

**PA13.** **LO 11.5** Colquhoun International purchases a warehouse for \$300,000. The best estimate of the salvage value at the time of purchase was \$15,000, and it is expected to be used for twenty-five years. Colquhoun uses the straight-line depreciation method for all warehouse buildings. After four years of recording depreciation, Colquhoun determines that the warehouse will be useful for only another fifteen years. Calculate annual depreciation expense for the first four years. Determine the depreciation expense for the final fifteen years of the asset's life, and create the journal entry for year five.



## Problem Set B

**PB1.** **LO 11.1** Selected accounts from Hanna Corporation's trial balance are as follows. Prepare the assets section of the company's balance sheet.

<b>HANNA CORPORATION</b>		
<b>Trail Balance</b>		
<b>December 31</b>		
(Selected Accounts)		
	<b>Debit</b>	<b>Credit</b>
Cash	\$ 150,000	
Short-term Marketable Securities	145,000	
Accounts Receivable	26,000	
Inventories	90,000	
Other current Assets	10,000	
Land	350,000	
Equipment	145,000	
Accumulated Depreciation: Equipment		\$10,000
Goodwill	40,000	
Other Intangible Assets	20,000	

**PB2.** **LO 11.1** Selected accounts from Boxwood Corporation's trial balance are as follows. Prepare the detailed schedule showing the Property, Plant, and Equipment.

<b>BOXWOOD CORPORATION</b>		
<b>Trail Balance</b>		
<b>December 31</b>		
(Selected Accounts)		
	<b>Debit</b>	<b>Credit</b>
Cash	\$ 500,000	
Short-term Marketable Securities	675,000	
Accounts Receivable	149,000	
Inventories	180,000	
Other current Assets	50,000	
Land	700,000	
Buildings	1,800,000	
Accumulated Depreciation: Buildings		\$140,000
Equipment	1,150,000	
Accumulated Depreciation: Equipment		50,000
Goodwill	140,000	
Other Intangible Assets	200,000	

**PB3.** **LO 11.2** During the current year, Alanna Co. had the following transactions pertaining to its new office building.

Purchase price of land	\$240,000
Legal fees for contracts to purchase land	6,000
Architect fees	8,000
Demolition of the old building on site	15,000
Sale of scrap from old Building	10,000
Construction cost of new building	500,000

- A. What should Alanna Co. record on its books for the land? The total cost of land includes all costs of preparing the land for use. The demolition cost of the old building is added to the land costs, and the sale of the old building scrap is subtracted from the land cost.
- B. What should Alanna Co. record on its books for the building?

**PB4.** **LO 11.2** During the current year, Arkells Inc. made the following expenditures relating to plant machinery.

- Renovated seven machines for \$250,000 to improve efficiency in production of their remaining useful life of eight years
- Low-cost repairs throughout the year totaled \$79,000
- Replaced a broken gear on a machine for \$6,000
  - A. What amount should be expensed during the period?
  - B. What amount should be capitalized during the period?

**PB5.** **LO 11.2** Johnson, Incorporated, had the following transactions during the year:

- Purchased a building for \$5,000,000 using a mortgage for financing
- Paid \$2,000 for ordinary repair on a piece of equipment
- Sold product on account to customers for \$1,500,600
- Paid \$20,000 cash to add a storage shed in the corner of an existing building
- Paid \$360,000 in monthly salaries
- Paid \$25,000 for routine maintenance on equipment
- Paid \$110,000 for extraordinary repairs
- Depreciation expense recorded for the year is \$15,000.

If all transactions were recorded properly, what is the amount of increase to the Property, Plant, and Equipment section of Johnson's balance sheet resulting from this year's transactions? What amount did Johnson report on the income statement for expenses for the year?

**PB6.** **LO 11.3** Underwood's Miners recently purchased the rights to a diamond mine. It is estimated that there are two million tons of ore within the mine. Underwood's paid \$46,000,000 for the rights and expects to harvest the ore over the next fifteen years. The following is the expected extraction for the next five years.

- Year 1: 50,000 tons
- Year 2: 900,000 tons
- Year 3: 400,000 tons
- Year 4: 210,000 tons
- Year 5: 150,000 tons

Calculate the depletion expense for the next five years and create the journal entry for year one.

**PB7.** **LO 11.3** Tree Lovers Inc. purchased 2,500 acres of woodland in which it intends to harvest the complete forest, leaving the land barren and worthless. Tree Lovers paid \$5,000,000 for the land. Tree Lovers will sell the lumber as it is harvested and it expects to deplete it over ten years (150 acres in year one, 300 acres in year two, 250 acres in year three, 150 acres in year four, and 100 acres in year five). Calculate the depletion expense for the next five years and create the journal entry for year one.

**PB8.** **LO 11.3** Montello Inc. purchases a delivery truck for \$25,000. The truck has a salvage value of \$6,000 and is expected to be driven for 125,000 miles. Montello uses the units-of-production depreciation method, and in year one the company expects the truck to be driven for 26,000 miles; in year two, 30,000 miles; and in year three, 40,000 miles. Consider how the purchase of the truck will impact Montello's depreciation expense each year and what the truck's book value will be each year after depreciation expense is recorded.

**PB9.** **LO 13.4** Prepare the assets section of the balance sheet as of December 31 for Hooper's International using the following information:

Cash	\$ 900,000
Equipment	580,000
Accounts receivable	90,000
Copyright*	60,000
Copyright amortization expense	2,000
Inventory	120,000
Patent	20,000
Building	1,500,000
Depreciation expense building	56,000
Depreciation expense equipment	43,000
Accumulated depreciation building	112,000
Accumulated depreciation equipment	86,000
Sales revenue	590,000
Cost of goods sold	235,000
Selling, general, and administrative expenses	110,000
Goodwill	29,000
*after amortization expense entry was recorded	

**PB10.** **LO 11.4** For each of the following unrelated situations, calculate the annual amortization expense and prepare a journal entry to record the expense:

- A. A patent with a seventeen-year remaining legal life was purchased for \$850,000. The patent will be usable for another six years.
- B. A patent was acquired on a new tablet. The cost of the patent itself was only \$12,000, but the market value of the patent is \$150,000. The company expects to be able to use this patent for all twenty years of its life.

**PB11.** **LO 11.4** On May 1, 2015, Zoe Inc. purchased Branta Corp. for \$15,000,000 in cash. They only received \$12,000,000 in net assets. In 2016, the market value of the goodwill obtained from Branta Corp. was valued at \$4,000,000, but in 2017 it dropped to \$2,000,000. Prepare the journal entry for the creation of goodwill and the entry to record any impairments to it in subsequent years.

**PB12.** **LO 11.4** Farm Fresh Agriculture Company purchased Sunny Side Egg Distribution for \$400,000 cash when Sunny Side had net assets worth \$390,000.

- A. What is the amount of goodwill in this transaction?
- B. What is Farm Fresh Agriculture Company's journal entry to record the purchase of Sunny Side Egg Distribution?
- C. What journal entry should Farm Fresh Agriculture Company write when the company tests for impairment and determines that goodwill is worth \$1,000 in the year following the purchase of Sunny Side?

**PB13.** **LO 11.5** Montezuma Inc. purchases a delivery truck for \$20,000. The truck has a salvage value of \$8,000 and is expected to be driven for ten years. Montezuma uses the straight-line depreciation method. Calculate the annual depreciation expense. After five years of recording depreciation, Montezuma determines that the delivery truck will be useful for another five years (ten years in total, as originally expected) and that the salvage value will increase to \$10,000. Determine the depreciation expense for the final five years of the asset's life, and create the journal entry for years 6–10 (the entry will be the same for each of the five years).

**PB14.** **LO 11.5** Garcia Co. owns equipment that costs \$150,000, with accumulated depreciation of \$65,000. Garcia sells the equipment for cash. Record the journal entry for the sale of the equipment if Garcia were to sell the equipment for the following amounts:

- A. \$90,000 cash
- B. \$85,000 cash
- C. \$80,000 cash

**PB15.** **LO 11.5** Urquhart Global purchases a building to house its administrative offices for \$500,000. The best estimate of the salvage value at the time of purchase was \$45,000, and it is expected to be used for forty years. Urquhart uses the straight-line depreciation method for all buildings. After ten years of recording depreciation, Urquhart determines that the building will be useful for a total of fifty years instead of forty. Calculate annual depreciation expense for the first ten years. Determine the depreciation expense for the final forty years of the asset's life, and create the journal entry for year eleven.



## Thought Provokers

**TP1.** **LO 11.1** You are an accounting student at your local university. Your brother has recently managed to save \$5,000, and he would like to invest some of this money in the stock market, so he's researching various global corporations that are listed on the stock exchange. He is reviewing a company that has "Goodwill" as an item on the balance sheet. He is quite perplexed about what this means, so he asks you for help, knowing that you are taking accounting classes. How would you explain the concept of goodwill to him by comparing it to other types of resources the company has available?


**TP2.** **LO 11.2** Speedy delivery service recently hired a new accountant who discovered that the prior accountant had erroneously capitalized routine repair and maintenance costs on delivery trucks. The costs were added to the overall trucks' book values and depreciated over time. How should Speedy have recorded routine maintenance and repair costs? What effect did the error have on Speedy's balance sheet and income statement?

**TP3.** **LO 11.3** Speedy Delivery has a very lazy accountant. When originally setting up the delivery trucks into the accounting system, the accountant did not want to calculate the expected salvage value for each vehicle. He left salvage value at \$0 even though this is not the case. Explain what leaving the salvage value at \$0 would do for depreciation. Discuss the differences, if any, between straight-line, double-declining, and units-of-production methods.

**TP4.** **LO 11.4** Malone Industries has been in business for five years and has been very successful. In the past year, it expanded operations by buying Hot Metal Manufacturing for a price greater than the value of the net assets purchased. In the past year, the customer base has expanded much more than expected, and the company's owners want to increase the goodwill account. Your CPA firm has been hired to help Malone prepare year-end financial statements, and your boss has asked you to talk to Malone's managers about goodwill and whether an adjustment can be made to the goodwill account. How do you respond to the owners and managers?

**TP5.** **LO 11.5** Your family started a new manufacturing business making outdoor benches for use in parks and outdoor venues two years ago. The business has been very successful, and sales are soaring. Because of this success, your family realizes that the equipment purchased to start the business will not last as long as expected because the company has needed to run twenty-four-hour production shifts for most of the past year. There has been a lot of wear and tear on the equipment. The original useful lives and salvage values are not as accurate as your family had hoped. Your aunt, who is the production manager for the family business, has approached you because she is concerned about this issue, and she knows you have had an accounting class. What advice do you have for her? How should the company readjust given the realities of the last few years?





**Figure 12.1** Summer Eatery. Proper management of short-term obligations can lead to long-term business success. (credit: modification of “Hands Holding Plate” by unknown/Pixabay, CC0)

## Chapter Outline

- LO 12.1** Identify and Describe Current Liabilities
- LO 12.2** Analyze, Journalize, and Report Current Liabilities
- LO 12.3** Define and Apply Accounting Treatment for Contingent Liabilities
- LO 12.4** Prepare Journal Entries to Record Short-Term Notes Payable
- LO 12.5** Record Transactions Incurred in Preparing Payroll



### Why It Matters

Willow knew from a young age that she had a future in food. She has just transformed her passion into a thriving business venture as the owner of a small restaurant called Summer Eatery.

To grow her business, Willow has decided to provide both restaurant dining and catering services. When Summer Eatery accepts catering orders, it requires a client deposit equal to 50% of the total order. Since Summer Eatery has not yet provided the catering services at the time of deposit, the deposit amount is recognized as unearned revenue. Once the catering services have been provided, this liability to the client is reclassified as revenue for the restaurant.

The catering service is a success, and Summer Eatery’s income increases twofold. The increase in business has allowed Willow to form a strong relationship with her vendors (suppliers). Because of this relationship, some suppliers will deliver the food and equipment she needs and allow the restaurant to defer payment until a later date. This helps Summer Eatery because it does not yet have enough cash on hand to pay for the food and equipment. Rather than incur more debt, or have to delay ordering, this arrangement allows Willow to

grow and still meet her current obligations.

It takes more than an idea to make a business grow, and Willow will continue to experience the ebb and flow of running a restaurant and catering service. Her management of short-term obligations will be one of the keys to Summer Eatery's future success.

## 12.1 Identify and Describe Current Liabilities

To assist in understanding current liabilities, assume that you own a landscaping company that provides landscaping maintenance services to clients. As is common for landscaping companies in your area, you require clients to pay an initial deposit of 25% for services before you begin working on their property. Asking a customer to pay for services before you have provided them creates a current liability transaction for your business. As you've learned, liabilities require a future disbursement of assets or services resulting from a prior business activity or transaction. For companies to make more informed decisions, liabilities need to be classified into two specific categories: current liabilities and noncurrent (or long-term) liabilities. The differentiating factor between current and long-term is when the liability is due. The focus of this chapter is on current liabilities, while [Long-Term Liabilities](#) emphasizes long-term liabilities.

### Fundamentals of Current Liabilities

A **current liability** is a debt or obligation due within a company's standard operating period, typically a year, although there are exceptions that are longer or shorter than a year. A company's typical operating period (sometimes called an operating cycle) is a year, which is used to delineate current and noncurrent liabilities, and current liabilities are considered short term and are typically due within a year or less.

Noncurrent liabilities are long-term obligations with payment typically due in a subsequent operating period. Current liabilities are reported on the classified balance sheet, listed before noncurrent liabilities. Changes in current liabilities from the beginning of an accounting period to the end are reported on the statement of cash flows as part of the cash flows from operations section. An increase in current liabilities over a period increases cash flow, while a decrease in current liabilities decreases cash flow.

**Current vs. Noncurrent Liabilities**

Current Liabilities	Noncurrent Liabilities
Due within one year or less for a typical one-year operating period	Due in more than one year or longer than one operating period

**Table 12.1** A delineator between current and noncurrent liabilities is one year or the company's operating period, whichever is longer.

### Current vs. Noncurrent Liabilities

Current Liabilities	Noncurrent Liabilities
Short-term accounts such as: <ul style="list-style-type: none"> <li>• Accounts Payable</li> <li>• Salaries Payable</li> <li>• Unearned Revenues</li> <li>• Interest Payable</li> <li>• Taxes Payable</li> <li>• Notes Payable within one operating period</li> <li>• Current portion of a longer-term account such as Notes Payable or Bonds Payable</li> </ul>	Long-term portion of obligations such as: <ul style="list-style-type: none"> <li>• Noncurrent portion of a longer-term account such as Notes Payable or Bonds Payable</li> </ul>

**Table 12.1** A delineator between current and noncurrent liabilities is one year or the company's operating period, whichever is longer.

### Examples of Current Liabilities

Common current liabilities include accounts payable, unearned revenues, the current portion of a note payable, and taxes payable. Each of these liabilities is current because it results from a past business activity, with a disbursement or payment due within a period of less than a year.

## ETHICAL CONSIDERATIONS

### Proper Current Liabilities Reporting and Calculating Burn Rate

When using financial information prepared by accountants, decision-makers rely on ethical accounting practices. For example, investors and creditors look to the current liabilities to assist in calculating a company's annual *burn rate*. The burn rate is the metric defining the monthly and annual cash needs of a company. It is used to help calculate how long the company can maintain operations before becoming insolvent. The proper classification of liabilities as current assists decision-makers in determining the short-term and long-term cash needs of a company.

Another way to think about burn rate is as the amount of cash a company uses that exceeds the amount of cash created by the company's business operations. The burn rate helps indicate how quickly a company is using its cash. Many start-ups have a high cash burn rate due to spending to start the business, resulting in low cash flow. At first, start-ups typically do not create enough cash flow to sustain operations.

Proper reporting of current liabilities helps decision-makers understand a company's burn rate and how much cash is needed for the company to meet its short-term and long-term cash obligations. If misrepresented, the cash needs of the company may not be met, and the company can quickly go out of


business. Therefore, it is important that the accountant appropriately report current liabilities because a creditor, investor, or other decision-maker's understanding of a company's specific cash needs helps them make good financial decisions.

## Accounts Payable

**Accounts payable** accounts for financial obligations owed to suppliers after purchasing products or services on credit. This account may be an open credit line between the supplier and the company. An open credit line is a borrowing agreement for an amount of money, supplies, or inventory. The option to borrow from the lender can be exercised at any time within the agreed time period.

An account payable is usually a less formal arrangement than a promissory note for a current note payable. Long-term debt is covered in depth in [Long-Term Liabilities](#). For now, know that for some debt, including short-term or current, a formal contract might be created. This contract provides additional legal protection for the lender in the event of failure by the borrower to make timely payments. Also, the contract often provides an opportunity for the lender to actually sell the rights in the contract to another party.

An invoice from the supplier (such as the one shown in [Figure 12.2](#)) detailing the purchase, credit terms, invoice date, and shipping arrangements will suffice for this contractual relationship. In many cases, accounts payable agreements do not include interest payments, unlike notes payable.

		<b>INVOICE</b>		
246 Sierra Road, Anywhere, USA 01234		Invoice No.: 00257 Invoice Date: 8/12/2016		
<b>Bill to:</b> Joe Johnson				
SI NO.	DESCRIPTION	QUANTITY	UNIT PRICE	AMOUNT
1	Youth Snowboard	10	\$45.99	\$459.90
Shipping Charges				\$56.00
<b>TOTAL</b>				<b>\$515.90</b>
<b>Credit Term: Net 30</b>				

**Figure 12.2** Accounts Payable. Contract terms for accounts payable transactions are usually listed on an invoice. (attribution: Copyright Rice University, OpenStax, under CC BY-NC-SA 4.0 license)

For example, assume the owner of a clothing boutique purchases hangers from a manufacturer on credit. The

organizations may establish an ongoing purchase agreement, which includes purchase details (such as hanger prices and quantities), credit terms (2/10, n/60), an invoice date, and shipping charges (free on board [FOB] shipping) for each order. The basics of shipping charges and credit terms were addressed in [Merchandising Transactions](#) if you would like to refresh yourself on the mechanics. Also, to review accounts payable, you can also return to [Merchandising Transactions](#) for detailed explanations.

## Unearned Revenue

**Unearned revenue**, also known as deferred revenue, is a customer's advance payment for a product or service that has yet to be provided by the company. Some common unearned revenue situations include subscription services, gift cards, advance ticket sales, lawyer retainer fees, and deposits for services. As you learned when studying the accounting cycle ([Analyzing and Recording Transactions](#), [The Adjustment Process](#), and [Completing the Accounting Cycle](#)), we are applying the principles of accrual accounting when revenues and expenses are recognized in different months or years. Under accrual accounting, a company does not record revenue as earned until it has provided a product or service, thus adhering to the revenue recognition principle. Until the customer is provided an obligated product or service, a liability exists, and the amount paid in advance is recognized in the Unearned Revenue account. As soon as the company provides all, or a portion, of the product or service, the value is then recognized as earned revenue.

For example, assume that a landscaping company provides services to clients. The company requires advance payment before rendering service. The customer's advance payment for landscaping is recognized in the Unearned Service Revenue account, which is a liability. Once the company has finished the client's landscaping, it may recognize all of the advance payment as earned revenue in the Service Revenue account. If the landscaping company provides part of the landscaping services within the operating period, it may recognize the value of the work completed at that time.

Perhaps at this point a simple example might help clarify the treatment of unearned revenue. Assume that the previous landscaping company has a three-part plan to prepare lawns of new clients for next year. The plan includes a treatment in November 2019, February 2020, and April 2020. The company has a special rate of \$120 if the client prepays the entire \$120 before the November treatment. In real life, the company would hope to have dozens or more customers. However, to simplify this example, we analyze the journal entries from one customer. Assume that the customer prepaid the service on October 15, 2019, and all three treatments occur on the first day of the month of service. We also assume that \$40 in revenue is allocated to each of the three treatments.

Before examining the journal entries, we need some key information. Because part of the service will be provided in 2019 and the rest in 2020, we need to be careful to keep the recognition of revenue in its proper period. If all of the treatments occur, \$40 in revenue will be recognized in 2019, with the remaining \$80 recognized in 2020. Also, since the customer could request a refund before any of the services have been provided, we need to ensure that we do not recognize revenue until it has been earned. While it is nice to receive funding before you have performed the services, in essence, all you have received when you get the money is a liability (unearned service revenue), with the hope of it eventually becoming revenue. The following journal entries are built upon the client receiving all three treatments. First, for the prepayment of future services and for the revenue earned in 2019, the journal entries are shown.

JOURNAL			
Date	Account	Debit	Credit
Oct. 15, 2019	Cash Unearned Revenue: Landscaping <i>To recognize prepayment of future landscaping services</i>	120	120
Nov. 1, 2019	Unearned Revenue: Landscaping Earned Revenue: Landscaping <i>To record landscaping revenue earned</i>	40	40

For the revenue earned in 2020, the journal entries would be.

JOURNAL			
Date	Account	Debit	Credit
Feb. 1, 2020	Unearned Revenue: Landscaping Earned Revenue: Landscaping <i>To record landscaping revenue earned</i>	40	40
Apr. 1, 2020	Unearned Revenue: Landscaping Earned Revenue: Landscaping <i>To record landscaping revenue earned</i>	40	40



**Figure 12.3** Advance Ticket Sales. Season ticket sales are considered unearned revenue because customers pay for them in advance of any games played. (credit: “Fans in Razorback Stadium (Fayetteville, AR)” by Rmcclen/Wikimedia Commons, Public Domain)

## CONCEPTS IN PRACTICE

### Thinking about Unearned Revenue

When thinking about unearned revenue, consider the example of **Amazon.com, Inc.** Amazon has a large business portfolio that includes a widening presence in the online product and service space. Amazon has two services in particular that contribute to their unearned revenue account: Amazon Web Services and Prime membership.

According to *Business Insider*, Amazon had \$4.8 billion in unearned revenue recognized in their fourth quarter report (December 2016), with most of that contribution coming from Amazon Web Services.<sup>[1]</sup> This is an increase from prior quarters. The growth is due to larger and longer contracts for web services. The advance payment for web services is transferred to revenue over the term of the contract. The same is true for Prime membership. Amazon receives \$99 in advance pay from customers, which is amortized over the twelve-month period of the service agreement. This means that each month, Amazon only recognizes \$8.25 per Prime membership payment as earned revenue.

## Current Portion of a Note Payable

A **note payable** is a debt to a lender with specific repayment terms, which can include principal and interest. A note payable has written contractual terms that make it available to sell to another party. The **principal** on a note refers to the initial borrowed amount, not including interest. In addition to repayment of principal, interest may accrue. **Interest** is a monetary incentive to the lender, which justifies loan risk.

Let's review the concept of interest. Interest is an expense that you might pay for the use of someone else's money. For example, if you have a credit card and you owe a balance at the end of the month it will typically charge you a percentage, such as 1.5% a month (which is the same as 18% annually) on the balance that you owe. Assuming that you owe \$400, your interest charge for the month would be  $\$400 \times 1.5\%$ , or \$6.00. To pay your balance due on your monthly statement would require \$406 (the \$400 balance due plus the \$6 interest expense).

We make one more observation about interest: interest rates are typically quoted in annual terms. For example, if you borrowed money to buy a car, your interest expense might be quoted as 9%. Note that this is an annual rate. If you are making monthly payments, the monthly charge for interest would be 9% divided by twelve, or 0.75% a month. For example, if you borrowed \$20,000, and made sixty equal monthly payments, your monthly payment would be \$415.17, and your interest expense component of the \$415.17 payment would be \$150.00. The formula to calculate interest on either an annual or partial-year basis is:

$$\text{Interest} = \text{Principal (amount borrowed)} \times \text{Interest Rate} \times \text{Period of Time}$$

In our example this would be

$$\$20,000 \times 9\% \times \frac{1}{12} = \$150$$

The good news is that for a loan such as our car loan or even a home loan, the loan is typically what is called *fully amortizing*. At this point, you just need to know that in our case the amount that you owe would go from a balance due of \$20,000 down to \$0 after the twentieth payment and the part of your \$415.17 monthly payment allocated to interest would be less each month. For example, your last (sixtieth) payment would only incur \$3.09 in interest, with the remaining payment covering the last of the principle owed. See [Figure 13.7](#) for an exhibit that demonstrates this concept.

1 Eugene Kim. "An Overlooked Part of Amazon Will Be in the Spotlight When the Company Reports Earnings." *Business Insider*. April 28, 2016. <https://www.businessinsider.com/amazon-unearned-revenue-growth-shows-why-it-spent-more-on-shipping-last-quarter-2016-4>

## CONCEPTS IN PRACTICE

### Applying Amortization

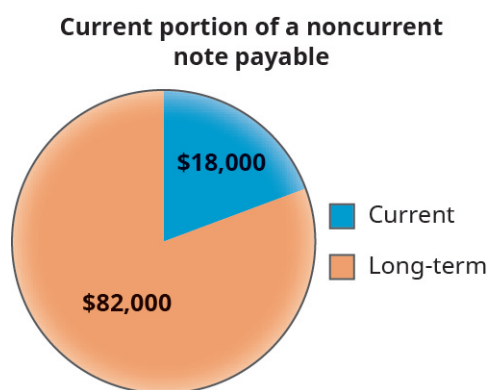
Car loans, mortgages, and education loans have an amortization process to pay down debt. Amortization of a loan requires periodic scheduled payments of principal and interest until the loan is paid in full. Every period, the same payment amount is due, but interest expense is paid first, with the remainder of the payment going toward the principal balance. When a customer first takes out the loan, most of the scheduled payment is made up of interest, and a very small amount goes to reducing the principal balance. Over time, more of the payment goes toward reducing the principal balance rather than interest.

For example, let's say you take out a car loan in the amount of \$10,000. The annual interest rate is 3%, and you are required to make scheduled payments each month in the amount of \$400. You first need to determine the monthly interest rate by dividing 3% by twelve months ( $3\%/12$ ), which is 0.25%. The monthly interest rate of 0.25% is multiplied by the outstanding principal balance of \$10,000 to get an interest expense of \$25. The scheduled payment is \$400; therefore, \$25 is applied to interest, and the remaining \$375 ( $\$400 - \$25$ ) is applied to the outstanding principal balance. This leaves an outstanding principal balance of \$9,625. Next month, interest expense is computed using the new principal balance outstanding of \$9,625. The new interest expense is \$24.06 ( $\$9,625 \times 0.25\%$ ). This means \$24.06 of the \$400 payment applies to interest, and the remaining \$375.94 ( $\$400 - \$24.06$ ) is applied to the outstanding principal balance to get a new balance of \$9,249.06 ( $\$9,625 - \$375.94$ ). These computations occur until the entire principal balance is paid in full.

A note payable is usually classified as a long-term (noncurrent) liability if the note period is longer than one year or the standard operating period of the company. However, during the company's current operating period, any portion of the long-term note due that will be paid in the current period is considered a **current portion of a note payable**. The outstanding balance note payable during the current period remains a noncurrent note payable. Note that this does not include the interest portion of the payments. On the balance sheet, the current portion of the noncurrent liability is separated from the remaining noncurrent liability. No journal entry is required for this distinction, but some companies choose to show the transfer from a noncurrent liability to a current liability.

For example, a bakery company may need to take out a \$100,000 loan to continue business operations. The bakery's outstanding note principal is \$100,000. Terms of the loan require equal annual principal repayments of \$10,000 for the next ten years. Payments will be made on July 1 of each of the ten years. Even though the overall \$100,000 note payable is considered long term, the \$10,000 required repayment during the company's operating cycle is considered current (short term). This means \$10,000 would be classified as the current portion of a noncurrent note payable, and the remaining \$90,000 would remain a noncurrent note payable.

The portion of a note payable due in the current period is recognized as current, while the remaining outstanding balance is a noncurrent note payable. For example, [Figure 12.4](#) shows that \$18,000 of a \$100,000 note payable is scheduled to be paid within the current period (typically within one year). The remaining \$82,000 is considered a long-term liability and will be paid over its remaining life.



**Figure 12.4** Current Portion of a Noncurrent Note Payable. (attribution: Copyright Rice University, OpenStax, under CC BY-NC-SA 4.0 license)

In addition to the \$18,000 portion of the note payable that will be paid in the current year, any accrued interest on both the current portion and the long-term portion of the note payable that is due will also be paid. Assume, for example, that for the current year \$7,000 of interest will be accrued. In the current year the debtor will pay a total of \$25,000—that is, \$7,000 in interest and \$18,000 for the current portion of the note payable. A similar type of payment will be paid each year for as long as any of the note payable remains; however, the annual interest expense would be reduced since the remaining note payable owed will be reduced by the previous payments.

Interest payable can also be a current liability if accrual of interest occurs during the operating period but has yet to be paid. An annual interest rate is established as part of the loan terms. Interest accrued is recorded in Interest Payable (a credit) and Interest Expense (a debit). To calculate interest, the company can use the following equations. This method assumes a twelve-month denominator in the calculation, which means that we are using the calculation method based on a 360-day year. This method was more commonly used prior to the ability to do the calculations using calculators or computers, because the calculation was easier to perform. However, with today's technology, it is more common to see the interest calculation performed using a 365-day year. We will demonstrate both methods.

$$\text{Interest Payable} = \text{Annual Interest Rate} \times \text{Loan Principal} \times \text{Part of Year}$$

$$\text{Part of Year} = \frac{\text{Number of Months of Accrued Interest}}{12 \text{ Months}}$$

For example, we assume the bakery has an annual interest rate on its loan of 7%. The loan interest began accruing on July 1 and it is now December 31. The bakery has accrued six months of interest and would compute the interest liability as

$$\$100,000 \times 7\% \times \frac{6}{12} = \$3,500$$

The \$3,500 is recognized in Interest Payable (a credit) and Interest Expense (a debit).

## Taxes Payable

**Taxes payable** refers to a liability created when a company collects taxes on behalf of employees and customers or for tax obligations owed by the company, such as sales taxes or income taxes. A future payment to a government agency is required for the amount collected. Some examples of taxes payable include sales tax and income taxes.

Sales taxes result from sales of products or services to customers. A percentage of the sale is charged to the customer to cover the tax obligation (see [Figure 12.5](#)). The sales tax rate varies by state and local municipalities but can range anywhere from 1.76% to almost 10% of the gross sales price. Some states do not have sales tax because they want to encourage consumer spending. Those businesses subject to sales taxation hold the sales tax in the Sales Tax Payable account until payment is due to the governing body.

Receipt: 001-190310-010-031468	
Station: Station 7	
Date: 3/10/2019 1:24 PM	
Cashier: Erin D	
1 Fly High Party	299.99
12 Party Jumper	.00
12 Group 30 Minute Add-On	47.88
1 Birthday Shirt: Adult Smal	.00
1 Fly High Party Add On	18.99
4 Group 30 Minute Add-On	15.96
4 Party Jumper	.00
15 Bottled Water	29.85
Group Name:	
Event No: 21273	
Arrival Date: 3/10/2019	
Description: Sam- Fly High	
Group Total:	\$412.67
Less Discounts:	\$0.00
:	-----
Sub Total:	\$412.67
WI Sales Tax:	\$22.70
:	-----
Total Amount Due:	\$435.37

**Figure 12.5** Sales Tax. Many businesses are required to charge a sales tax on products or services sold. (credit: modification of "Sales Tax" by Kerry Ceszyk/Flickr, CC BY 4.0)

For example, assume that each time a shoe store sells a \$50 pair of shoes, it will charge the customer a sales tax of 8% of the sales price. The shoe store collects a total of \$54 from the customer. The \$4 sales tax is a current liability until distributed within the company's operating period to the government authority collecting sales tax.

Income taxes are required to be withheld from an employee's salary for payment to a federal, state, or local authority (hence they are known as *withholding taxes*). This withholding is a percentage of the employee's gross pay. Income taxes are discussed in greater detail in [Record Transactions Incurred in Preparing Payroll](#).

## LINK TO LEARNING

Businesses can use [the Internal Revenue Service's Sales Tax Deduction Calculator and associated tips and guidance \(https://openstax.org/l/50IRSTaxCalc\)](https://openstax.org/l/50IRSTaxCalc) to determine their estimated sales tax obligation owed to the state and local government authority.

## 12.2 Analyze, Journalize, and Report Current Liabilities

To illustrate current liability entries, we use transaction information from Sierra Sports (see [Figure 12.6](#)). Sierra Sports owns and operates a sporting goods store in the Southwest specializing in sports apparel and equipment. The company engages in regular business activities with suppliers, creditors, customers, and employees.



**Figure 12.6** Sierra Sports Logo. (attribution: Copyright Rice University, OpenStax, under CC BY-NC-SA 4.0 license)

### Accounts Payable

On August 1, Sierra Sports purchases \$12,000 of soccer equipment from a manufacturer (supplier) on credit. Assume for the following examples that Sierra Sports uses the perpetual inventory method, which uses the Inventory account when the company buys, sells, or adjusts the inventory balance, such as in the following example where they qualified for a discount. In the current transaction, credit terms are 2/10, n/30, the invoice date is August 1, and shipping charges are FOB shipping point (which is included in the purchase cost).

Recall from [Merchandising Transactions](#), that credit terms of 2/10, n/30 signal the payment terms and discount, and FOB shipping point establishes the point of merchandise ownership, the responsibility during transit, and which entity pays shipping charges. Therefore, 2/10, n/30 means Sierra Sports has ten days to pay its balance due to receive a 2% discount, otherwise Sierra Sports has net thirty days, in this case August 31, to pay in full but not receive a discount. FOB shipping point signals that since Sierra Sports takes ownership of the merchandise when it leaves the manufacturer, it takes responsibility for the merchandise in transit and will pay the shipping charges.

Sierra Sports would make the following journal entry on August 1.

JOURNAL			
Date	Account	Debit	Credit
Aug. 1	Inventory Accounts Payable <i>To recognize the purchase of equipment on credit, terms 2/10, n/30, invoice date Aug. 1</i>	12,000	12,000

The merchandise is purchased from the supplier on credit. In this case, Accounts Payable would increase (a credit) for the full amount due. Inventory, the asset account, would increase (a debit) for the purchase price of the merchandise.

If Sierra Sports pays the full amount owed on August 10, it qualifies for the discount, and the following entry would occur.

JOURNAL			
Date	Account	Debit	Credit
Aug. 10	Accounts Payable Inventory Cash <i>To recognize payment of the amount due, less discount</i>	12,000	240 11,760

Assume that the payment to the manufacturer occurs within the discount period of ten days (2/10, n/30) and is recognized in the entry. Accounts Payable decreases (debit) for the original amount due, Inventory decreases (credit) for the discount amount of \$240 ( $\$12,000 \times 2\%$ ), and Cash decreases (credit) for the remaining balance due after discount.

Note that Inventory is decreased in this entry because the value of the merchandise (soccer equipment) is reduced. When applying the perpetual inventory method, this reduction is required by generally accepted accounting principles (GAAP) (under the cost principle) to reflect the actual cost of the merchandise.

A second possibility is that Sierra will return part of the purchase before the ten-day discount window has expired. Assume in this example that \$1,000 of the \$12,000 purchase was returned to the seller on August 8 and the remaining account payable due was paid by Sierra to the seller on August 10, which means that Sierra qualified for the remaining eligible discount. The following two journal entries represent the return of inventory and the subsequent payment for the remaining account payable owed. The initial journal entry from August 1 will still apply, because we assume that Sierra intended to keep the full \$12,000 of inventory when the purchase was made.

When the \$1,000 in inventory was returned on August 8, the accounts payable account and the inventory accounts should be reduced by \$1,000 as demonstrated in this journal entry.

JOURNAL			
Date	Account	Debit	Credit
Aug. 8	Accounts Payable Inventory <i>To recognize return of inventory purchased</i>	1,000	1,000

After this transaction, Sierra still owed \$11,000 and still had \$11,000 in inventory from the purchase, assuming that Sierra had not sold any of it yet.

When Sierra paid the remaining balance on August 10, the company qualified for the discount. However, since Sierra only owed a remaining balance of \$11,000 and not the original \$12,000, the discount received was 2% of \$11,000, or \$220, as demonstrated in this journal entry. Since Sierra owed \$11,000 and received a discount of \$220, the supplier was paid \$10,780. This second journal entry is the same as the one that would have recognized an original purchase of \$11,000 that qualified for a discount.

JOURNAL			
Date	Account	Debit	Credit
Aug. 8	Accounts Payable Inventory Cash <i>To recognize payment of remaining accounts payable balance after qualifying for the discount</i>	11,000	220 10,780

Remember that since we are assuming that Sierra was using the perpetual inventory method, purchases,

payments, and adjustments in goods available for sale are reflected in the company's Inventory account. In our example, one of the potential adjustments is that discounts received are recorded as reductions to the Inventory account.

To demonstrate this concept, after buying \$12,000 in inventory, returning \$1,000 in inventory, and then paying for the remaining balance and qualifying for the discount, Sierra's Inventory balance increased by \$10,780, as shown.

<b>SIERRA SPORTS Inventory Account</b>	
Initial inventory purchase (Aug. 1)	\$12,000
Return of inventory (Aug. 8)	(1,000)
Subtotal (Aug. 8)	<u>\$11,000</u>
Discount allowed Aug. 10 (reduction in inventory)	(220)
Final Inventory after Account Payable	<u><u>\$10,780</u></u>

If Sierra had bought \$11,000 of inventory on August 1 and paid cash and taken the discount, after taking the \$220 discount, the increase of Inventory on their balance sheet would have been \$10,780, as it finally ended up being in our more complicated set of transactions on three different days. The important factor is that the company qualified for a 2% discount on inventory that had a retail price before discounts of \$11,000.

In a final possible scenario, assume that Sierra Sports remitted payment outside of the discount window on August 28, but inside of thirty days. In this case, they did not qualify for the discount, and assuming that they made no returns they paid the full, undiscounted balance of \$12,000.

<b>JOURNAL</b>			
Date	Account	Debit	Credit
Aug. 28	Accounts Payable Cash <i>To recognize payment of the amount due, no discount applied</i>	12,000	12,000

If this occurred, both Accounts Payable and Cash decreased by \$12,000. Inventory is not affected in this instance because the full cost of the merchandise was paid; so, the increase in value for the inventory was \$12,000, and not the \$11,760 value determined in our beginning transactions where they qualified for the discount.

## YOUR TURN

### Accounting for Advance Payments

You are the owner of a catering company and require advance payments from clients before providing catering services. You receive an order from the Coopers, who would like you to cater their wedding on June 10. The Coopers pay you \$5,500 cash on March 25. Record your journal entries for the initial payment from the Coopers, and when the catering service has been provided on June 10.

#### Solution

JOURNAL			
Date	Account	Debit	Credit
Mar. 25	Cash Unearned Revenue: Catering <i>To recognize advanced payment from client</i>	5,500	5,500
Jun. 10	Unearned Revenue: Catering Revenue: Catering <i>To recognize catering revenue earned</i>	5,500	5,500

## Unearned Revenue

Sierra Sports has contracted with a local youth football league to provide all uniforms for participating teams. The league pays for the uniforms in advance, and Sierra Sports provides the customized uniforms shortly after purchase. The following situation shows the journal entry for the initial purchase with cash. Assume the league pays Sierra Sports for twenty uniforms (cost per uniform is \$30, for a total of \$600) on April 3.

JOURNAL			
Date	Account	Debit	Credit
Apr. 3	Cash Unearned Uniform Revenue <i>To recognize advanced payment for 20 uniforms at \$30 each</i>	600	600

Sierra Sports would see an increase to Cash (debit) for the payment made from the football league. The revenue from the sale of the uniforms is \$600 (20 uniforms × \$30 per uniform). Unearned Uniform Revenue accounts reflect the prepayment from the league, which cannot be recognized as earned revenue until the uniforms are provided. Unearned Uniform Revenue is a current liability account that increases (credit) with the increase in outstanding product debt.

Sierra provides the uniforms on May 6 and records the following entry.

JOURNAL			
Date	Account	Debit	Credit
May 6	Unearned Revenue: Uniforms Revenue: Uniforms <i>To recognize uniform revenue as earned</i>	600	600
May 6	Cost of Goods Sold Inventory <i>To recognize cost of goods sold of uniform sales</i>	280	280

Now that Sierra has provided all of the uniforms, the unearned revenue can be recognized as earned. This satisfies the revenue recognition principle. Therefore, Unearned Uniform Revenue would decrease (debit), and Uniform Revenue would increase (credit) for the total amount.

Let's say that Sierra only provides half the uniforms on May 6 and supplies the rest of the order on June 2. The company may not recognize revenue until a product (or a portion of a product) has been provided. This means only half the revenue can be recognized on May 6 (\$300) because only half of the uniforms were provided. The rest of the revenue recognition will have to wait until June 2. Since only half of the uniforms were delivered on

May 6, only half of the costs of goods sold would be recognized on May 6. The other half of the costs of goods sold would be recognized on June 2 when the other half of the uniforms were delivered. The following entries show the separate entries for partial revenue recognition.

JOURNAL			
Date	Account	Debit	Credit
May 6	Unearned Revenue: Uniforms Revenue: Uniforms <i>To recognize partial uniform revenue as earned</i>	300	300
May 6	Cost of Goods Sold Inventory <i>To recognize cost of goods sold of uniform sales</i>	140	140
Jun. 2	Unearned Revenue: Uniforms Revenue: Uniforms <i>To recognize partial uniform revenue as earned</i>	300	300
Jun. 2	Cost of Goods Sold Inventory <i>To recognize cost of goods sold of uniform sales</i>	140	140

In another scenario using the same cost information, assume that on April 3, the league contracted for the production of the uniforms on credit with terms 5/10, n/30. They signed a contract for the production of the uniforms, so an account receivable was created for Sierra, as shown.

JOURNAL			
Date	Account	Debit	Credit
Apr. 3	Accounts Receivable Unearned Revenue: Uniforms <i>To recognize advanced payment on credit for 20 uniforms (5/10, n/30)</i>	600	600

Sierra and the league have worked out credit terms and a discount agreement. As such, the league can delay cash payment for ten days and receive a discount, or for thirty days with no discount assessed. Instead of cash increasing for Sierra, Accounts Receivable increases (debit) for the amount the football league owes.

The league pays for the uniforms on April 15, and Sierra provides all uniforms on May 6. The following entry shows the payment on credit.

JOURNAL			
Date	Account	Debit	Credit
Apr. 15	Cash Accounts Receivable <i>To recognize payment of the amount due; no discount applied</i>	600	600

The football league made payment outside of the discount period, since April 15 is more than ten days from the invoice date. Thus, they do not receive the 5% discount. Cash increases (debit) for the \$600 paid by the football league, and Accounts Receivable decreases (credit).

In the next example, let's assume that the league made payment within the discount window, on April 13. The following entry occurs.

JOURNAL			
Date	Account	Debit	Credit
Apr. 13	Cash Sales Discount Accounts Receivable <i>To recognize league payment with 5 percent discount</i>	570 30	600

In this case, Accounts Receivable decreases (credit) for the original amount owed, Sales Discount increases (debit) for the discount amount of \$30 ( $\$600 \times 5\%$ ), and Cash increases (debit) for the \$570 paid by the football league less discount.

When the company provides the uniforms on May 6, Unearned Uniform Revenue decreases (debit) and Uniform Revenue increases (credit) for \$600.

JOURNAL			
Date	Account	Debit	Credit
May 6	Unearned Revenue: Uniforms Revenue: Uniforms <i>To recognize uniform revenue as earned</i>	600	600

## ETHICAL CONSIDERATIONS

### Stock Options and Unearned Revenue Manipulation

The anticipated income of public companies is projected by stock market analysts through *whisper-earnings*, or forecasted earnings. It can be advantageous for a company to have its stock beat the stock market's expectation of earnings. Likewise, falling below the market's expectation can be a disadvantage. If a company's whisper-earnings are not going to be met, there could be pressure on the chief financial officer to misrepresent earnings through manipulation of unearned revenue accounts to better match the stock market's expectation.

Because many executives, other top management, and even employees have stock options, this can also provide incentive to manipulate earnings. A stock option sets a minimum price for the stock on a certain date. This is the date the option vests, at what is commonly called the *strike price*. Options are worthless if the stock price on the vesting date is lower than the price at which they were granted. This could result in a loss of income, potentially incentivizing earnings manipulation to meet the stock market's expectations and exceed the vested stock price in the option.

Researchers have found that when executive options are about to vest, companies are more likely to present financial statements meeting or just slightly beating the earnings forecasts of analysts. The proximity of the actual earnings to earnings forecasts suggests they were manipulated because of the vesting.<sup>[2]</sup> As Douglas R. Carmichael points out, "public companies that fail to report quarterly earnings which meet or exceed analysts' expectations often experience a drop in their stock prices. This can lead to practices that sometimes include fraudulent overstatement of quarterly revenue."<sup>[3]</sup> If earnings meet or exceed expectations, a stock price can hit or surpass the vested stock price in the option. For company members with stock options, this could result in higher income. Thus, financial statements that align

closely with analysts' estimates, rather than showing large projections above or below whisper-earnings, could indicate that accounting information has possibly been adjusted to meet the expected numbers. Such manipulations can be made in unearned revenue accounts.

In November 1998, the Securities and Exchange Commission (SEC) issued Practice Alert 98-3, Revenue Recognition Issues, SEC Practice Section Professional Issues Task Force, recognizing and discussing the manipulation of earnings used to exceed stock market and analysts' expectations. Accountants should watch for revenue recognition related issues in preparing the financial statements of their company or client, especially when employees' or management's stock options are about to vest.

## Current Portion of a Noncurrent Note Payable

Sierra Sports takes out a bank loan on January 1, 2017 to cover expansion costs for a new store. The note amount is \$360,000. The note has terms of repayment that include equal principal payments annually over the next twenty years. The annual interest rate on the loan is 9%. Interest accumulates each month based on the standard interest rate formula discussed previously, and on the current outstanding principal balance of the loan. Sierra records interest accumulation every three months, at the end of each third month. The initial loan (note) entry follows.

JOURNAL			
Date	Account	Debit	Credit
Jan. 1	Cash Notes Payable <i>To recognize long-term loan, interest rate 9%</i>	360,000	360,000

Notes Payable increases (credit) for the full loan principal amount. Cash increases (debit) as well. On March 31, the end of the first three months, Sierra records their first interest accumulation.

JOURNAL			
Date	Account	Debit	Credit
Mar. 31	Interest Expense Interest Payable <i>To recognize interest accumulated after three months</i>	8,100	8,100

Interest Expense increases (debit) as does Interest Payable (credit) for the amount of interest accumulated but unpaid at the end of the three-month period. The amount \$8,100 is found by using the interest formula, where the outstanding principal balance is \$360,000, interest rate of 9%, and the part of the year being three out of twelve months:  $\$360,000 \times 9\% \times (3/12)$ .

The same entry for interest will occur every three months until year-end. When accumulated interest is paid on January 1 of the following year, Sierra would record this entry.

2 Jena McGregor. "How Stock Options Lead CEOs to Put Their Own Interests First." *Washington Post*. February 11, 2014.

[https://www.washingtonpost.com/news/on-leadership/wp/2014/02/11/how-stock-options-lead-ceos-to-put-their-own-interests-first/?utm\\_term=.24d99a4fb1a5](https://www.washingtonpost.com/news/on-leadership/wp/2014/02/11/how-stock-options-lead-ceos-to-put-their-own-interests-first/?utm_term=.24d99a4fb1a5)

3 Douglas R. Carmichael. "Hocus-Pocus Accounting." *Journal of Accountancy*. October 1, 1999. <https://www.journalofaccountancy.com/issues/1999/oct/carmichl.html>

JOURNAL			
Date	Account	Debit	Credit
Jan. 1	Interest Payable Cash <i>To recognize interest payment for 2017</i>	32,400	32,400

Both Interest Payable and Cash decrease for the total interest amount accumulated during 2017. This is calculated by taking each three-month interest accumulation of \$8,100 and multiplying by the four recorded interest entries for the periods. You could also compute this by taking the original principal balance and multiplying by 9%.

On December 31, 2017, the first principal payment is due. The following entry occurs to show payment of this principal amount due in the current period.

JOURNAL			
Date	Account	Debit	Credit
Dec. 31	Notes Payable Cash <i>To recognize current principal payment for 2017</i>	18,000	18,000

Notes Payable decreases (debit), as does Cash (credit), for the amount of the noncurrent note payable due in the current period. This amount is calculated by dividing the original principal amount (\$360,000) by twenty years to get an annual current principal payment of \$18,000 ( $\$360,000/20$ ).

While the accounts used to record a reduction in Notes Payable are the same as the accounts used for a noncurrent note, the reporting on the balance sheet is classified in a different area. The current portion of the noncurrent note payable (\$18,000) is reported under Current Liabilities, and the remaining noncurrent balance of \$342,000 ( $\$360,000 - \$18,000$ ) is classified and displayed under noncurrent liabilities, as shown in

[Figure 12.7](#).

SIERRA SPORTS Balance Sheet December 31, 2017			
<b>Assets</b>		<b>Liabilities and Stockholders Equity</b>	
Current Assets		Current Liabilities	
Cash	\$ 21,580	Note Payable: Current	\$ 18,000
Account Receivable	<u>2,000</u>	Accounts Payable	9,000
Total Current Assets	23,580	Unearned Revenue	<u>4,000</u>
Property, Plant, and Equipment		Total Current Liabilities	31,000
Buildings	300,000	Long-term Liabilities	
Sporting Equipment	<u>60,000</u>	Notes Payable	342,000
Total Property, Plant, and Equipment	<u>360,000</u>	Stockholders' Equity	
		Common Stock	5,000
		Retained Earnings	<u>5,580</u>
		Total Stockholders' Equity	<u>10,580</u>
Total Assets	<u>\$383,580</u>	Total Liabilities and Stockholders' Equity	<u>\$383,580</u>

**Figure 12.7** Sierra Sports Balance Sheet. (attribution: Copyright Rice University, OpenStax, under CC BY-NC-SA 4.0 license)

## Taxes Payable

Let's consider our previous example where Sierra Sports purchased \$12,000 of soccer equipment in August. Sierra now sells the soccer equipment to a local soccer league for \$18,000 cash on August 20. The sales tax rate is 6%. The following revenue entry would occur.

JOURNAL			
Date	Account	Debit	Credit
Aug. 20	Cash	19,080	
	Sales Tax Payable		1,080
	Sales		18,000
	<i>To recognize soccer equipment sale, tax rate 6%</i>		

Cash increases (debit) for the sales amount plus sales tax. Sales Tax Payable increases (credit) for the 6% tax rate ( $\$18,000 \times 6\%$ ). Sierra's tax liability is owed to the State Tax Board. Sales increases (credit) for the original amount of the sale, not including sales tax. If Sierra's customer pays on credit, Accounts Receivable would increase (debit) for \$19,080 rather than Cash.

When Sierra remits payment to the State Tax Board on October 1, the following entry occurs.

JOURNAL			
Date	Account	Debit	Credit
Oct. 1	Sales Tax Payable	1,080	
	Cash		1,080
	<i>To recognize State Tax Board payment</i>		

Sales Tax Payable and Cash decrease for the payment amount of \$1,080. Sales tax is not an expense to the business because the company is holding it on account for another entity.

Sierra Sports payroll tax journal entries will appear in [Record Transactions Incurred in Preparing Payroll](#).

## YOUR TURN

### Accounting for Purchase Discounts

You own a shipping and packaging facility and provide shipping services to customers. You have worked out a contract with a local supplier to provide your business with packing materials on an ongoing basis. Terms of your agreement allow for delayed payment of up to thirty days from the invoice date, with an incentive to pay within ten days to receive a 5% discount on the packing materials. On April 3, you purchase 1,000 boxes (Box Inventory) from this supplier at a cost per box of \$1.25. You pay the amount due to the supplier on April 11. Record the journal entries to recognize the initial purchase on April 3, and payment of the amount due on April 11.

#### Solution

JOURNAL			
Date	Account	Debit	Credit
Apr. 3	Box Inventory Accounts Payable <i>To recognize purchases of boxes, 5/10, n/30</i>	1,250	1,250
Apr. 11	Accounts Payable Box Inventory Cash <i>To recognize payment, less discount</i>	1,250	62.50 1,187.50

## 12.3

## Define and Apply Accounting Treatment for Contingent Liabilities

What happens if your business anticipates incurring a loss or debt? Do you need to report this if you are uncertain it will occur? What if you know the loss or debt will occur but it has not happened yet? Do you have to report this event now, or in the future? These are questions businesses must ask themselves when exploring contingencies and their effect on liabilities.

A **contingency** occurs when a current situation has an outcome that is unknown or uncertain and will not be resolved until a future point in time. The outcome could be positive or negative. A **contingent liability** can produce a future debt or negative obligation for the company. Some examples of contingent liabilities include pending litigation (legal action), warranties, customer insurance claims, and bankruptcy.

While a contingency may be positive or negative, we only focus on outcomes that may produce a liability for the company (negative outcome), since these might lead to adjustments in the financial statements in certain cases. Positive contingencies do not require or allow the same types of adjustments to the company's financial statements as do negative contingencies, since accounting standards do not permit positive contingencies to be recorded.

Pending litigation involves legal claims against the business that may be resolved at a future point in time. The outcome of the lawsuit has yet to be determined but could have negative future impact on the business.

Warranties arise from products or services sold to customers that cover certain defects (see [Figure 12.8](#)). It is unclear if a customer will need to use a warranty, and when, but this is a possibility for each product or service sold that includes a warranty. The same idea applies to insurance claims (car, life, and fire, for example), and bankruptcy. There is an uncertainty that a claim will transpire, or bankruptcy will occur. If the contingencies do occur, it may still be uncertain when they will come to fruition, or the financial implications.



**Figure 12.8** One-Year Warranty. Companies may offer product or service warranties. (credit: modification of “Seal Guaranteed” by “harshahars”/Pixabay, CC0)

The answer to whether or not uncertainties must be reported comes from Financial Accounting Standards Board (FASB) pronouncements.

## Two Financial Accounting Standards Board (FASB) Requirements for Recognition of a Contingent Liability

There are two requirements for contingent liability recognition:

1. There is a likelihood of occurrence.
2. Measurement of the occurrence is classified as either estimable or inestimable.

### Application of Likelihood of Occurrence Requirement

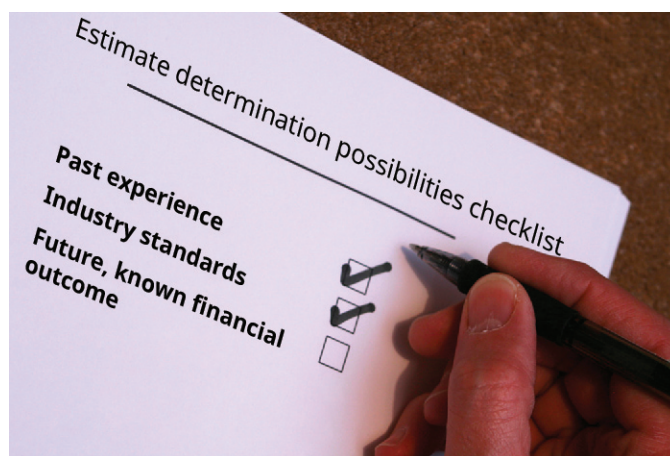
Let’s explore the likelihood of occurrence requirement in more detail.

According to the FASB, if there is a probable liability determination before the preparation of financial statements has occurred, there is a **likelihood of occurrence**, and the liability must be disclosed and recognized. This financial recognition and disclosure are recognized in the current financial statements. The income statement and balance sheet are typically impacted by contingent liabilities.

For example, Sierra Sports has a one-year warranty on part repairs and replacements for a soccer goal they sell. The warranty is good for one year. Sierra Sports notices that some of its soccer goals have rusted screws that require replacement, but they have already sold goals with this problem to customers. There is a probability that someone who purchased the soccer goal may bring it in to have the screws replaced. Not only does the contingent liability meet the probability requirement, it also meets the measurement requirement.

### Application of Measurement Requirement

The **measurement requirement** refers to the company’s ability to reasonably estimate the amount of loss. Even though a reasonable estimate is the company’s best guess, it should not be a frivolous number. For a financial figure to be reasonably estimated, it could be based on past experience or industry standards (see [Figure 12.9](#)). It could also be determined by the potential future, known financial outcome.



**Figure 12.9** Contingent Liabilities Estimation Checklist. These are possible ways to determine a contingent liability financial estimate. (credit: modification of “Checklist” by Alan Cleaver/Flickr, CC BY 2.0)

Let’s continue to use Sierra Sports’ soccer goal warranty as our example. If the warranties are honored, the company should know how much each screw costs, labor cost required, time commitment, and any overhead costs incurred. This amount could be a reasonable estimate for the parts repair cost per soccer goal. Since not all warranties may be honored (warranty expired), the company needs to make a reasonable determination for the amount of honored warranties to get a more accurate figure.

Another way to establish the warranty liability could be an estimation of honored warranties as a percentage of sales. In this instance, Sierra could estimate warranty claims at 10% of its soccer goal sales.

When determining if the contingent liability should be recognized, there are four potential treatments to consider.

Let’s expand our discussion and add a brief example of the calculation and application of warranty expenses. To begin, in many ways a warranty expense works similarly to the bad debt expense concept covered in [Accounting for Receivables](#) in that the anticipated expense is determined by examining past period expense experiences and then basing the current expense on current sales data. Also, as with bad debts, the warranty repairs typically are made in an accounting period sometimes months or even years after the initial sale of the product, which means that we need to estimate future costs to comply with the revenue recognition and matching principles of generally accepted accounting principles (GAAP).

Some industries have such a large number of transactions and a vast data bank of past warranty claims that they have an easier time estimating potential warranty claims, while other companies have a harder time estimating future claims. In our case, we make assumptions about Sierra Sports and build our discussion on the estimated experiences.

For our purposes, assume that Sierra Sports has a line of soccer goals that sell for \$800, and the company anticipates selling 500 goals this year (2019). Past experience for the goals that the company has sold is that 5% of them will need to be repaired under their three-year warranty program, and the cost of the average repair is \$200. To simplify our example, we concentrate strictly on the journal entries for the warranty expense recognition and the application of the warranty repair pool. If the company sells 500 goals in 2019 and 5% need to be repaired, then 25 goals will be repaired at an average cost of \$200. The average cost of  $\$200 \times 25$  goals gives an anticipated future repair cost of \$5,000 for 2019. Assume for the sake of our example that in

2020 Sierra Sports made repairs that cost \$2,800. Following are the necessary journal entries to record the expense in 2019 and the repairs in 2020. The resources used in the warranty repair work could have included several options, such as parts and labor, but to keep it simple we allocated all of the expenses to repair parts inventory. Since the company's inventory of supply parts (an asset) went down by \$2,800, the reduction is reflected with a credit entry to repair parts inventory. First, following is the necessary journal entry to record the expense in 2019.

JOURNAL			
Date	Account	Debit	Credit
2019	Warranty Expense Allowance for Warranty Expense <i>Anticipated future warranty expense allowance</i>	5,000	5,000

Next, here is the journal entry to record the repairs in 2020.

JOURNAL			
Date	Account	Debit	Credit
2020	Allowance for Warranty Expense Repair Parts Inventory <i>To reflect the repair of goals under warranty</i>	2,800	2,800

Before we finish, we need to address one more issue. Our example only covered the warranty expenses anticipated from the 2019 sales. Since the company has a three-year warranty, and it estimated repair costs of \$5,000 for the goals sold in 2019, there is still a balance of \$2,200 left from the original \$5,000. However, its actual experiences could be more, the same, or less than \$2,200. If it is determined that too much is being set aside in the allowance, then future annual warranty expenses can be adjusted downward. If it is determined that not enough is being accumulated, then the warranty expense allowance can be increased.

Since this warranty expense allocation will probably be carried on for many years, adjustments in the estimated warranty expenses can be made to reflect actual experiences. Also, sales for 2020, 2021, 2022, and all subsequent years will need to reflect the same types of journal entries for their sales. In essence, as long as Sierra Sports sells the goals or other equipment and provides a warranty, it will need to account for the warranty expenses in a manner similar to the one we demonstrated.

## THINK IT THROUGH

### Product Recalls: Contingent Liabilities?

Consider the following scenario: A hoverboard is a self-balancing scooter that uses body position and weight transfer to control the device. Hoverboards use a lithium-ion battery pack, which was found to overheat causing an increased risk for the product to catch fire or explode. Several people were badly injured from these fires and explosions. As a result, a recall was issued in mid-2016 on most hoverboard models. Customers were asked to return the product to the original point of sale (the retailer). Retailers were required to accept returns and provide repair when available. In some cases, retailers were held

accountable by consumers, and not the manufacturer of the hoverboards. You are the retailer in this situation and must decide if the hoverboard scenario creates any contingent liabilities. If so, what are the contingent liabilities? Do the conditions meet FASB requirements for contingent liability reporting? Which of the four possible treatments are best suited for the potential liabilities identified? Are there any journal entries or note disclosures necessary?

## Four Potential Treatments for Contingent Liabilities

If the contingency is **probable and estimable**, it is likely to occur and can be reasonably estimated. In this case, the liability and associated expense must be journalized and included in the current period's financial statements (balance sheet and income statement) along with note disclosures explaining the reason for recognition. The note disclosures are a GAAP requirement pertaining to the full disclosure principle, as detailed in [Analyzing and Recording Transactions](#).

If the contingent liability is **probable and inestimable**, it is likely to occur but cannot be reasonably estimated. In this case, a note disclosure is required in financial statements, but a journal entry and financial recognition should not occur until a reasonable estimate is possible.

If the contingency is **reasonably possible**, it could occur but is not probable. The amount may or may not be estimable. Since this condition does not meet the requirement of likelihood, it should not be journalized or financially represented within the financial statements. Rather, it is disclosed in the notes only with any available details, financial or otherwise.

If the contingent liability is considered **remote**, it is unlikely to occur and may or may not be estimable. This does not meet the likelihood requirement, and the possibility of actualization is minimal. In this situation, no journal entry or note disclosure in financial statements is necessary.

**Financial Statement Treatments**

	Journalize	Note Disclosure
Probable and estimable	Yes	Yes
Probable and inestimable	No	Yes
Reasonably possible	No	Yes
Remote	No	No

**Table 12.2** Four Treatments of Contingent Liabilities. Proper recognition of the four contingent liability treatments.

## LINK TO LEARNING

Google, a subsidiary of Alphabet Inc., has expanded from a search engine to a global brand with a variety of product and service offerings. Like many other companies, contingent liabilities are carried on Google's balance sheet, report expenses related to these contingencies on its income statement, and note disclosures are provided to explain its contingent liability treatments. Check out Google's contingent liability considerations in this [press release for Alphabet Inc.'s First Quarter 2017 Results \(https://openstax.org/l/50Alphabet2017\)](https://openstax.org/l/50Alphabet2017) to see a financial statement package, including note disclosures.

Let's review some contingent liability treatment examples as they relate to our fictitious company, Sierra Sports.

### Probable and Estimable

If Sierra Sports determines the cost of the soccer goal screws are \$30, the labor requirement is one hour at a rate of \$40 per hour, and there is no extra overhead applied, then the total estimated warranty repair cost would be \$70 per goal:  $\$30 + (1 \text{ hour} \times \$40 \text{ per hour})$ . Sierra Sports sold ten goals before it discovered the rusty screw issue. The company believes that only six of those goals will have their warranties honored, based on past experience. This means Sierra will incur a warranty liability of \$420 ( $\$70 \times 6 \text{ goals}$ ). The \$420 is considered probable and estimable and is recorded in Warranty Liability and Warranty Expense accounts during the period of discovery (current period).

JOURNAL			
Date	Account	Debit	Credit
	Warranty Expense Warranty Liability <i>To recognize estimated warranty liability for soccer goals</i>	420	420

An example of determining a warranty liability based on a percentage of sales follows. The sales price per soccer goal is \$1,200, and Sierra Sports believes 10% of sales will result in honored warranties. The company would record this warranty liability of \$120 ( $\$1,200 \times 10\%$ ) to Warranty Liability and Warranty Expense accounts.

JOURNAL			
Date	Account	Debit	Credit
	Warranty Expense Warranty Liability <i>To recognize estimated warranty liabilities for soccer goals as a percentage of sales</i>	120	120

When the warranty is honored, this would reduce the Warranty Liability account and decrease the asset used for repair (Parts: Screws account) or Cash, if applicable. The recognition would happen as soon as the warranty is honored. This first entry shown is to recognize honored warranties for all six goals.

JOURNAL			
Date	Account	Debit	Credit
	Warranty Liability Parts: Screws <i>To record an honored warranty for soccer goals</i>	420	420

This second entry recognizes an honored warranty for a soccer goal based on 10% of sales from the period.

JOURNAL			
Date	Account	Debit	Credit
	Warranty Liability Parts: Screws <i>To recognize an honored warranty for soccer goals at 10% of sales</i>	120	120

As you've learned, not only are warranty expense and warranty liability journalized, but they are also recognized on the income statement and balance sheet. The following examples show recognition of Warranty Expense on the income statement [Figure 12.10](#) and Warranty Liability on the balance sheet [Figure 12.11](#) for Sierra Sports.

SIERRA SPORTS Income Statement Year Ended December 31, 2017			
<b>Revenue</b>		\$19,500	
Cost of Goods Sold		<u>9,000</u>	
Gross Profit			10,500
<b>Expenses</b>			
Salaries Expense		2,700	
Administrative Expense		1,500	
Warranty Expense		420	
Utilities Expense		<u>300</u>	
Total Expenses			<u>4,920</u>
<b>Net Income</b>			<u>\$ 5,580</u>

**Figure 12.10** Sierra Sports' Income Statement. Warranty Expense is recognized on the income statement. (attribution: Copyright Rice University, OpenStax, under CC BY-NC-SA 4.0 license)

<b>SIERRA SPORTS</b>			
<b>Balance Sheet</b>			
<b>December 31, 2017</b>			
<b>Assets</b>		<b>Liabilities and Stockholders Equity</b>	
Current Assets		Current Liabilities	
Cash	\$ 21,580	Note Payable: Current	\$ 18,000
Accounts Receivable	2,000	Accounts Payable	8,580
Total Current Assets	<u>23,580</u>	Warranty Liability	420
Property, Plant, and Equipment		Unearned Revenue	4,000
Buildings	300,000	Total Current Liabilities	<u>31,000</u>
Sporting Equipment	60,000	Long-term Liabilities	
Total Property, Plant, and Equipment	<u>360,000</u>	Notes Payable	342,000
		Stockholders' Equity	
		Common Stock	5,000
		Retained Earnings	5,580
		Total Stockholders' Equity	<u>10,580</u>
Total Assets	<u>\$383,580</u>	Total Liabilities and Stockholders' Equity	<u>\$383,580</u>

**Figure 12.11** Sierra Sports' Balance Sheet. Warranty Liability is recognized on the balance sheet. (attribution: Copyright Rice University, OpenStax, under CC BY-NC-SA 4.0 license)

### Probable and Not Estimable

Assume that Sierra Sports is sued by one of the customers who purchased the faulty soccer goals. A settlement of responsibility in the case has been reached, but the actual damages have not been determined and cannot be reasonably estimated. This is considered probable but inestimable, because the lawsuit is very likely to occur (given a settlement is agreed upon) but the actual damages are unknown. No journal entry or financial adjustment in the financial statements will occur. Instead, Sierra Sports will include a note describing any details available about the lawsuit. When damages have been determined, or have been reasonably estimated, then journalizing would be appropriate.

Sierra Sports could say the following in its financial statement disclosures: "There is pending litigation against our company with the likelihood of settlement probable. Detailed terms and damages have not yet reached agreement, and a reasonable assessment of financial impact is currently unknown."

### Reasonably Possible

Sierra Sports may have more litigation in the future surrounding the soccer goals. These lawsuits have not yet been filed or are in the very early stages of the litigation process. Since there is a past precedent for lawsuits of this nature but no establishment of guilt or formal arrangement of damages or timeline, the likelihood of occurrence is reasonably possible. The outcome is not probable but is not remote either. Since the outcome is possible, the contingent liability is disclosed in Sierra Sports' financial statement notes.

Sierra Sports could say the following in their financial statement disclosures: "We anticipate more claimants filing legal action against our company with the likelihood of settlement reasonably possible. Assignment of guilt, detailed terms, and potential damages have not been established. A reasonable assessment of financial impact is currently unknown."

## Remote

Sierra Sports worries that as a result of pending litigation and losses associated with the faulty soccer goals, the company might have to file for bankruptcy. After consulting with a financial advisor, the company is pretty certain it can continue operating in the long term without restructuring. The chances are remote that a bankruptcy would occur. Sierra Sports would not recognize this remote occurrence on the financial statements or provide a note disclosure.

## IFRS CONNECTION

### Current Liabilities

US GAAP and International Financial Reporting Standards (IFRS) define “current liabilities” similarly and use the same reporting criteria for most all types of current liabilities. However, two primary differences exist between US GAAP and IFRS: the reporting of (1) debt due on demand and (2) contingencies.

Liquidity and solvency are measures of a company’s ability to pay debts as they come due. Liquidity measures evaluate a company’s ability to pay current debts as they come due, while solvency measures evaluate the ability to pay debts long term. One common liquidity measure is the current ratio, and a higher ratio is preferred over a lower one. This ratio—current assets divided by current liabilities—is lowered by an increase in current liabilities (the denominator increases while we assume that the numerator remains the same). When lenders arrange loans with their corporate customers, limits are typically set on how low certain liquidity ratios (such as the current ratio) can go before the bank can demand that the loan be repaid immediately.

In theory, debt that has not been paid and that has become “on demand” would be considered a current liability. However, in determining how to report a loan that has become “on-demand,” US GAAP and IFRS differ:

- Under US GAAP, debts on which payment has been demanded because of violations of the contractual agreement between the lender and creditor are only included in current liabilities if, by the financial statement presentation date, there have been no arrangements made to pay off or restructure the debt. This allows companies time between the end of the fiscal year and the actual publication of the financial statements (typically two months) to make arrangements for repayment of the loan. Most often these loans are refinanced.
- Under IFRS, any payment or refinancing arrangements must be made by the fiscal year-end of the debtor. This difference means that companies reporting under IFRS must be proactive in assessing whether their debt agreements will be violated and make appropriate arrangements for refinancing or differing payment options prior to final year-end numbers being reported.

A second set of differences exist regarding reporting contingencies. Where US GAAP uses the term “contingencies,” IFRS uses “provisions.” In both cases, gain contingencies are not recorded until they are essentially realized. Both systems want to avoid prematurely recording or overstating gains based on the principles of conservatism. Loss contingencies are recorded (accrued) if certain conditions are met:

- Under US GAAP, loss contingencies are accrued if they are probable and can be estimated. Probable means “likely” to occur and is often assessed as an 80% likelihood by practitioners.

- Under IFRS, probable is defined as “more likely than not” and is typically assessed at 50% by practitioners.

The determination of whether a contingency is probable is based on the judgment of auditors and management in both situations. This means a contingent situation such as a lawsuit might be accrued under IFRS but not accrued under US GAAP. Finally, how a loss contingency is measured varies between the two options as well. For example, if a company is told it will be probable that it will lose an active lawsuit, and the legal team gives a range of the dollar value of that loss, under IFRS, the discounted midpoint of that range would be accrued, and the range disclosed. Under US GAAP, the low end of the range would be accrued, and the range disclosed.

## 12.4 Prepare Journal Entries to Record Short-Term Notes Payable

If you have ever taken out a payday loan, you may have experienced a situation where your living expenses temporarily exceeded your assets. You need enough money to cover your expenses until you get your next paycheck. Once you receive that paycheck, you can repay the lender the amount you borrowed, plus a little extra for the lender’s assistance.

There is an ebb and flow to business that can sometimes produce this same situation, where business expenses temporarily exceed revenues. Even if a company finds itself in this situation, bills still need to be paid. The company may consider a short-term note payable to cover the difference.

A **short-term note payable** is a debt created and due within a company’s operating period (less than a year). Some key characteristics of this written promise to pay (see [Figure 12.12](#)) include an established date for repayment, a specific payable amount, interest terms, and the possibility of debt resale to another party. A short-term note is classified as a current liability because it is wholly honored within a company’s operating period. This payable account would appear on the balance sheet under Current Liabilities.

**PROMISSORY NOTE**

I, **(Borrower)** \_\_\_\_\_ agree and promise to pay the **amount** of (\$\_\_\_\_\_) to **(Lender)** \_\_\_\_\_ for value received at an annual **interest rate** of (%\_\_\_\_).

**First Payment Due Date** (30 days after date of this promissory note) \_\_\_\_\_.

**Final Payment Due Date** (120 days after date of this promissory note) \_\_\_\_\_.

Witnessed by \_\_\_\_\_ Notary Public: (Seal)

City \_\_\_\_\_ State \_\_\_\_\_ Date \_\_\_\_\_

**Figure 12.12** Short-Term Promissory Note. A promissory note includes terms of repayment, such as the date and interest rate. (attribution: Copyright Rice University, OpenStax, under CC BY-NC-SA 4.0 license)

Debt sale to a third party is a possibility with any loan, which includes a short-term note payable. The terms of the agreement will state this resale possibility, and the new debt owner honors the agreement terms of the original parties. A lender may choose this option to collect cash quickly and reduce the overall outstanding debt.

We now consider two short-term notes payable situations; one is created by a purchase, and the other is created by a loan.

## THINK IT THROUGH

### Promissory Notes: Time to Issue More Debt?

A common practice for government entities, particularly schools, is to issue short-term (promissory) notes to cover daily expenditures until revenues are received from tax collection, lottery funds, and other sources. School boards approve the note issuances, with repayments of principal and interest typically met within a few months.

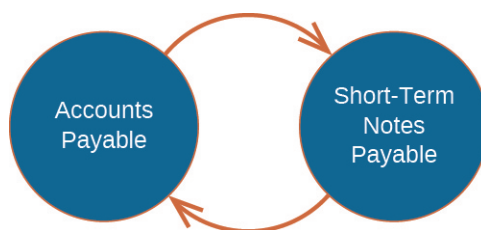
The goal is to fully cover all expenses until revenues are distributed from the state. However, revenues distributed fluctuate due to changes in collection expectations, and schools may not be able to cover their expenditures in the current period. This leads to a dilemma—whether or not to issue more short-term notes to cover the deficit.

Short-term debt may be preferred over long-term debt when the entity does not want to devote resources to pay interest over an extended period of time. In many cases, the interest rate is lower than long-term debt, because the loan is considered less risky with the shorter payback period. This shorter payback period is also beneficial with amortization expenses; short-term debt typically does not amortize, unlike long-term debt.

What would you do if you found your school in this situation? Would you issue more debt? Are there alternatives? What are some positives and negatives to the promissory note practice?

## Recording Short-Term Notes Payable Created by a Purchase

A short-term notes payable created by a purchase typically occurs when a payment to a supplier does not occur within the established time frame. The supplier might require a new agreement that converts the overdue accounts payable into a short-term note payable (see [Figure 12.13](#)), with interest added. This gives the company more time to make good on outstanding debt and gives the supplier an incentive for delaying payment. Also, the creation of the note payable creates a stronger legal position for the owner of the note, since the note is a negotiable legal instrument that can be more easily enforced in court actions.



**Figure 12.13** Accounts Payable Conversion. Accounts Payable may be converted into a short-term notes payable, if there is a default on payment. (attribution: Copyright Rice University, OpenStax, under CC BY-NC-SA 4.0 license)

To illustrate, let's revisit Sierra Sports' purchase of soccer equipment on August 1. Sierra Sports purchased \$12,000 of soccer equipment from a supplier on credit. Credit terms were 2/10, n/30, invoice date August 1. Let's assume that Sierra Sports was unable to make the payment due within 30 days. On August 31, the supplier renegotiates terms with Sierra and converts the accounts payable into a written note, requiring full payment in two months, beginning September 1. Interest is now included as part of the payment terms at an annual rate of 10%. The conversion entry from an account payable to a Short-Term Note Payable in Sierra's journal is shown.

JOURNAL			
Date	Account	Debit	Credit
Aug. 31	Accounts Payable Short-Term Notes Payable <i>To record conversion of Accounts Payable to short-term note, terms two-month repayment, 10% interest</i>	12,000	12,000

Accounts Payable decreases (debit) and Short-Term Notes Payable increases (credit) for the original amount owed of \$12,000. When Sierra pays cash for the full amount due, including interest, on October 31, the following entry occurs.

JOURNAL			
Date	Account	Debit	Credit
Oct. 31	Short-Term Notes Payable Interest Expense Cash <i>To record payment for short-term note, with interest</i>	12,000 200	12,200

Since Sierra paid the full amount due, Short-Term Notes Payable decreases (debit) for the principal amount of the debt. Interest Expense increases (debit) for two months of interest accumulation. Interest Expense is found from our earlier equation, where  $\text{Interest} = \text{Principal} \times \text{Annual interest rate} \times \text{Part of year}$  ( $\$12,000 \times 10\% \times [2/12]$ ), which is \$200. Cash decreases (credit) for \$12,200, which is the principal plus the interest due.

The other short-term note scenario is created by a loan.

## Recording Short-Term Notes Payable Created by a Loan

A short-term notes payable created by a loan transpires when a business incurs debt with a lender

[Figure 12.14](#). A business may choose this path when it does not have enough cash on hand to finance a capital expenditure immediately but does not need long-term financing. The business may also require an influx of

cash to cover expenses temporarily. There is a written promise to pay the principal balance and interest due on or before a specific date. This payment period is within a company's operating period (less than a year). Consider a short-term notes payable scenario for Sierra Sports.



**Figure 12.14** Bank Loan. A short-term note can be created from a loan. (credit: "Business Paperwork Deal" by "rawpixel"/Pixabay, CC0)

Sierra Sports requires a new apparel printing machine after experiencing an increase in custom uniform orders. Sierra does not have enough cash on hand currently to pay for the machine, but the company does not need long-term financing. Sierra borrows \$150,000 from the bank on October 1, with payment due within three months (December 31), at a 12% annual interest rate. The following entry occurs when Sierra initially takes out the loan.

JOURNAL			
Date	Account	Debit	Credit
Oct. 1	Cash Short-Term Notes Payable <i>To record short-term loan, 12% interest, payable in three months</i>	150,000	150,000

Cash increases (debit) as does Short-Term Notes Payable (credit) for the principal amount of the loan, which is \$150,000. When Sierra pays in full on December 31, the following entry occurs.

JOURNAL			
Date	Account	Debit	Credit
Dec. 31	Short-Term Notes Payable Interest Expense Cash <i>To record short-term loan, 12% interest, payable in three months</i>	150,000 4,500	154,500

Short-Term Notes Payable decreases (a debit) for the principal amount of the loan (\$150,000). Interest Expense

increases (a debit) for \$4,500 (calculated as \$150,000 principal  $\times$  12% annual interest rate  $\times$  [3/12 months]). Cash decreases (a credit) for the principal amount plus interest due.

## LINK TO LEARNING

Loan calculators can help businesses determine the amount they are able to borrow from a lender given certain factors, such as loan amount, terms, interest rate, and payback categorization (payback periodically or at the end of the loan, for example). A group of information technology professionals provides one such [loan calculator with definitions and additional information and tools](https://openstax.org/l/50LoanCalc) (<https://openstax.org/l/50LoanCalc>) to provide more information.

### 12.5

## Record Transactions Incurred in Preparing Payroll

Have you ever looked at your paycheck and wondered where all the money went? Well, it did not disappear; the money was used to contribute required and optional financial payments to various entities.

Payroll can be one of the largest expenses and potential liabilities for a business. Payroll liabilities include employee salaries and wages, and deductions for taxes, benefits, and employer contributions. In this section, we explain these elements of payroll and the required journal entries.

## Employee Compensation and Deductions

As an employee working in a business, you receive compensation for your work. This pay could be a monthly salary or hourly wages paid periodically. The amount earned by the employee before any reductions in pay occur is considered **gross income (pay)**. These reductions include involuntary and voluntary deductions. The remaining balance after deductions is considered **net income (pay)**, or “take-home-pay.” The take-home-pay is what employees receive and deposit in their bank accounts.

### Involuntary Deductions

**Involuntary deductions** are withholdings that neither the employer nor the employee have control over and are required by law.

Federal, state, and local income taxes are considered involuntary deductions. Income taxes imposed are different for every employee and are based on their W-4 Form, the Employee’s Withholding Allowance Certificate. An employee will fill in his or her marital status, number of allowances requested, and any additional reduction amounts. The employer will use this information to determine the **federal income tax withholding** amount from each paycheck. **State income tax withholding** may also use W-4 information or the state’s withholdings certificate. The federal income tax withholding and state income tax withholding amounts can be established with tax tables published annually by the Internal Revenue Service (IRS) (see [Figure 12.15](#)) and state government offices, respectively. Some states though do not require an income tax withholding, since they do not impose a state income tax. Federal and state income liabilities are held in payable accounts until disbursement to the governmental bodies that administer the tax compliance process

for their particular governmental entity.

### Wage Bracket Method Tables for Income Tax Withholding

#### SINGLE Persons—MONTHLY Payroll Period

(For Wages Paid through December 31, 2018)

And the wages are—		And the number of withholding allowances claimed is—										
At least	But less than	0	1	2	3	4	5	6	7	8	9	10
		The amount of income tax to be withheld is—										
\$ 0	\$305	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
305	325	1	0	0	0	0	0	0	0	0	0	0
325	345	3	0	0	0	0	0	0	0	0	0	0
345	365	5	0	0	0	0	0	0	0	0	0	0
365	385	7	0	0	0	0	0	0	0	0	0	0
385	405	9	0	0	0	0	0	0	0	0	0	0
405	425	11	0	0	0	0	0	0	0	0	0	0
425	445	13	0	0	0	0	0	0	0	0	0	0
445	465	15	0	0	0	0	0	0	0	0	0	0
465	485	17	0	0	0	0	0	0	0	0	0	0
485	505	19	0	0	0	0	0	0	0	0	0	0
505	525	21	0	0	0	0	0	0	0	0	0	0
525	545	23	0	0	0	0	0	0	0	0	0	0
545	565	25	0	0	0	0	0	0	0	0	0	0
565	585	27	0	0	0	0	0	0	0	0	0	0
585	605	29	0	0	0	0	0	0	0	0	0	0
605	645	32	0	0	0	0	0	0	0	0	0	0
645	685	36	1	0	0	0	0	0	0	0	0	0
685	725	40	5	0	0	0	0	0	0	0	0	0
725	765	44	9	0	0	0	0	0	0	0	0	0
765	805	48	13	0	0	0	0	0	0	0	0	0
805	845	52	17	0	0	0	0	0	0	0	0	0
845	885	56	21	0	0	0	0	0	0	0	0	0
885	925	60	25	0	0	0	0	0	0	0	0	0
925	965	64	29	0	0	0	0	0	0	0	0	0
965	1,005	68	33	0	0	0	0	0	0	0	0	0
1,005	1,045	72	37	3	0	0	0	0	0	0	0	0
1,045	1,085	76	41	7	0	0	0	0	0	0	0	0
1,085	1,125	80	45	11	0	0	0	0	0	0	0	0
1,125	1,165	85	49	15	0	0	0	0	0	0	0	0
1,165	1,205	89	53	19	0	0	0	0	0	0	0	0
1,205	1,245	94	57	23	0	0	0	0	0	0	0	0
1,245	1,285	99	61	27	0	0	0	0	0	0	0	0
1,285	1,325	104	65	31	0	0	0	0	0	0	0	0
1,325	1,365	109	69	35	0	0	0	0	0	0	0	0
1,365	1,405	113	73	39	4	0	0	0	0	0	0	0
1,405	1,445	118	77	43	8	0	0	0	0	0	0	0
1,445	1,485	123	81	47	12	0	0	0	0	0	0	0
1,485	1,525	128	86	51	16	0	0	0	0	0	0	0
1,525	1,565	133	91	55	20	0	0	0	0	0	0	0
1,565	1,605	137	96	59	24	0	0	0	0	0	0	0
1,605	1,645	142	101	63	28	0	0	0	0	0	0	0
1,645	1,685	147	105	67	32	0	0	0	0	0	0	0
1,685	1,725	152	110	71	36	1	0	0	0	0	0	0
1,725	1,765	157	115	75	40	5	0	0	0	0	0	0
1,765	1,805	161	120	79	44	9	0	0	0	0	0	0
1,805	1,845	166	125	83	48	13	0	0	0	0	0	0
1,845	1,885	171	129	88	52	17	0	0	0	0	0	0
1,885	1,925	176	134	93	56	21	0	0	0	0	0	0
1,925	1,965	181	139	98	60	25	0	0	0	0	0	0
1,965	2,005	185	144	102	64	29	0	0	0	0	0	0
2,005	2,045	190	149	107	68	33	0	0	0	0	0	0
2,045	2,085	195	153	112	72	37	3	0	0	0	0	0
2,085	2,125	200	158	117	76	41	7	0	0	0	0	0
2,125	2,165	205	163	122	80	45	11	0	0	0	0	0
2,165	2,205	209	168	126	85	49	15	0	0	0	0	0
2,205	2,245	214	173	131	90	53	19	0	0	0	0	0
2,245	2,285	219	177	136	94	57	23	0	0	0	0	0
2,285	2,325	224	182	141	99	61	27	0	0	0	0	0
2,325	2,365	229	187	146	104	65	31	0	0	0	0	0
2,365	2,405	233	192	150	109	69	35	0	0	0	0	0
2,405	2,445	238	197	155	114	73	39	4	0	0	0	0
2,445	2,485	243	201	160	118	77	43	8	0	0	0	0
2,485	2,525	248	206	165	123	82	47	12	0	0	0	0
2,525	2,565	253	211	170	128	87	51	16	0	0	0	0
2,565	2,605	257	216	174	133	91	55	20	0	0	0	0
2,605	2,645	262	221	179	138	96	59	24	0	0	0	0
2,645	2,685	267	225	184	142	101	63	28	0	0	0	0
2,685	2,725	272	230	189	147	106	67	32	0	0	0	0
2,725	2,765	277	235	194	152	111	71	36	2	0	0	0

**Figure 12.15** Wage Bracket Tax Withholding Table: Single Persons (2017). These are the monthly tax withholding amounts recommended by the IRS for wages earned by single persons in 2017. (credit:

“Employer’s Tax Guide” by Department of the Treasury Internal Revenue Service, Public Domain)

While not a common occurrence, **local income tax withholding** is applied to those living or working within a jurisdiction to cover schooling, social services, park maintenance, and law enforcement. If local income taxes are withheld, these remain current liabilities until paid.

Other involuntary deductions involve **Federal Insurance Contribution Act (FICA) taxes** for Social Security and Medicare. FICA mandates employers to withhold taxes from employee wages “to provide benefits for retirees, the disabled, and children.” The **Social Security tax rate** is 6.2% of employee gross wages. As of 2017, there is a maximum taxable earnings amount of \$127,200. Meaning, only the first \$127,200 of each employee’s gross wages has the Social Security tax applied. In 2018, the maximum taxable earnings amount increased to \$128,400. The **Medicare tax rate** is 1.45% of employee gross income. There is no taxable earnings cap for Medicare tax. The two taxes combined equal 7.65% (6.2% + 1.45%). Both the employer and the employee pay the two taxes on behalf of the employee.

More recent health-care legislation, the Affordable Care Act (ACA), requires an **additional medicare tax** withholding from employee pay of 0.9% for individuals who exceed an income threshold based on their filing status (married, single, or head of household, for example). This Additional Medicare Tax withholding is only applied to employee payroll.

<b>Jane's Business</b> 123 Main Street Sacramento, CA 95814 (916) 555-1234	<b>4567</b>	<b>Date April 19, 2019</b>
<b>Pay to the Order of</b>	<b>Joe Employee</b>	<b>\$ 375.78</b>
	Three hundred seventy five and 78/100 dollars	
<b>General Bank</b> 789 Main Street Sacramento, CA 95814 (800) 555-1234		
<b>123456789 99999999 123</b>	<i>Jane Employer</i>	

Payroll Check Stub	
<b>Jane's Business</b> 123 Main Street Sacramento, CA 95814	<b>Week of April 7-13, 2019</b> <b>Joe Employee</b> <b>123-45-6789</b>
<b>Salary</b>	<b>\$500.00</b>
<b>Taxes</b>	
1. Federal Withholding . . . . .	68.00
2. Social Security (6.2%) . . . . .	31.00
3. Medicare (1.45%) . . . . .	7.25
4. State Disability Insurance (.9%) . . . . .	4.50
5. State Withholding . . . . .	13.47
<b>Net -----</b>	<b>\$375.78</b>

**Figure 12.16** FICA Social Security and FICA Medicare Taxes. Deductions to payroll include FICA Social Security and FICA Medicare taxes. (credit: modification of work by California Tax Service Center, State of California/CA.gov, Public Domain)

Last, involuntary deductions may also include child support payments, IRS federal tax levies, court-ordered

wage garnishments, and bankruptcy judgments. All involuntary deductions are an employer's liability until they are paid.

## Voluntary Deductions

In addition to involuntary deductions, employers may withhold certain **voluntary deductions** from employee wages. Voluntary deductions are not required to be removed from employee pay unless the employee designates reduction of these amounts. Voluntary deductions may include, but are not limited to, health-care coverage, life insurance, retirement contributions, charitable contributions, pension funds, and union dues. Employees can cover the full cost of these benefits or they may cost-share with the employer.

Health-care coverage is a requirement for many businesses to provide as a result of the ACA. Employers may provide partial benefit coverage and request the employee to pay the remainder. For example, the employer would cover 30% of health-care cost, and 70% would be the employee's responsibility.

Retirement contributions may include those made to an employer-sponsored plan, such as a **defined contribution plan**, which "shelters" the income in a 401(k) or a 403(b). In simple terms, a defined contribution plan allows an employee to voluntarily contribute a specified amount or percentage of his or her pretax wages to a special account in order to defer the tax on those earnings. Usually, a portion of the employee's contribution is matched by his or her employer; employers often use this as an incentive to attract and keep highly skilled and valuable employees. Only when the employee eventually withdraws funds from the plan will he or she be required to pay the tax on those earnings. Because the amount contributed to the plan is not immediately taxed by the IRS, it enables the employee to accumulate funds for his or her retirement. This deferred income may be excluded from the employee's current federal taxable income but not FICA taxes. All voluntary deductions are considered employer liabilities until remitted. For more in-depth information on retirement planning, and using a 401(k) or a 403(b), refer to [Appendix C](#).



**Figure 12.17** Retirement Savings. Defined contribution plans can help you save for retirement. (credit: modification of "Money Coin Investment" by "nattanan23"/Pixabay, CC0)

As with involuntary deductions, voluntary deductions are held as a current liability until paid. When payroll is disbursed, journal entries are required.

## CONCEPTS IN PRACTICE

### Should You Start Saving for Retirement?

Should you save for retirement now or wait? As a student, you may be inclined to put off saving for retirement for many reasons. You may not be in a financial position to do so, you believe Social Security will be enough to cover your needs, or you may not have even thought about it up to this point.

According to a 2012 survey from the Bureau of Labor Statistics, of those who had access to a defined contribution plan, only 68% of employees contributed to their retirement plan. Many employees wait until their mid-thirties or forties to begin saving, and this can delay retirement, or may leave the retiree unable to cover his or her annual expenses. Some pitfalls contributing to this lack of saving are short-term negative spending practices such as high-interest loan debt, credit card purchases, and discretionary spending (optional expenses such as eating out or entertainment). To avoid these hazards, you should

1. Analyze your spending habits and make changes where possible.
2. Develop a financial plan with the help of a finance specialist.
3. Join a defined contribution plan and stick with the plan (do not withdraw funds early).
4. Try to contribute at least as much as your employer is willing to match.
5. Consider other short-term savings options like bonds, or high-interest bank accounts.
6. Have a specific savings goal for your retirement account. For example, many financial advisors recommend saving at least 15% of your monthly income for retirement. However, they usually include both the employee's contribution and the employer's. For example, assume that the company matches each dollar invested by the employee with a \$0.50 contribution from the employer, up to 8% for the employee. In this case, if the employee contributes 8% and the company provides 4%, that takes the employee to 80% of the recommended goal (12% of the recommended 15%).

Remember, the longer you wait to begin investing, the more you will have to save later on to have enough for retirement.

## Journal Entries to Report Employee Compensation and Deductions

We continue to use Sierra Sports as our example company to prepare journal entries.

Sierra Sports employs several people, but our focus is on one specific employee for this example. Billie Sanders works for Sierra Sports and earns a salary each month of \$2,000. She claims two withholdings allowances (see [Figure 12.15](#)). This amount is paid on the first of the following month. Withholdings for federal and state income taxes are assessed in the amount of \$102 and \$25, respectively. FICA Social Security is taxed at the 6.2% rate, and FICA Medicare is taxed at the 1.45% rate. Billie has voluntary deductions for health insurance and a 401(k) retirement contribution. She is responsible for 40% of her \$500 health-care insurance premium;

Sierra Sports pays the remaining 60% (as explained in employer payroll). The 401(k) contributions total \$150. The first entry records the salaries liability during the month of August.

JOURNAL			
Date	Account	Debit	Credit
Aug. 31	Salaries Expense	2,000	
	FICA Social Security Tax Payable		124
	FICA Medicare Tax Payable		29
	Federal Income Tax Payable		102
	State Income Tax Payable		25
	Health Insurance Payable		200
	401(k) Retirement Plan Payable		150
	Salaries Payable		1,370
	<i>To recognize employee payroll for August</i>		

Salaries Expense is an equity account used to recognize the accumulated (accrued) expense to the business during August (increase on the debit side). Salaries Expense represents the employee's gross income (pay) before any deductions. Each deduction liability is listed in its own account; this will help for ease of payment to the different entities. Note that Health Insurance Payable is in the amount of \$200, which is 40% of the employee's responsibility for the premium ( $\$500 \times 0.40 = \$200$ ). Salaries Payable represents net income (pay) or the "take-home pay" for Billie. Salaries Payable is \$1,370, which is found by taking gross income and subtracting the sum of the liabilities ( $\$2,000 - \$630 = \$1,370$ ). Since salaries are not paid until the first of the following month, this liability will remain during the month of August. All liabilities (payables) increase due to the company's outstanding debt (increase on the credit side).

The second entry records cash payment of accumulated salaries on September 1.

JOURNAL			
Date	Account	Debit	Credit
Aug. 31	Salaries Payable	1,370	
	Cash		1,370
	<i>To record payment of accrued salaries</i>		

Payment to Billie Sanders occurs on September 1. The payment is for salaries accumulated from the month of August. The payment decreases Salaries Payable (debit side) since the liability was paid and decreases Cash (credit side), because cash is the asset used for payment.

## LINK TO LEARNING

The IRS has developed a [simulation database with twenty different taxpayer simulations \(https://openstax.org/l/50TaxSim\)](https://openstax.org/l/50TaxSim) to help taxpayers understand their tax returns and withholdings.

## Employer Compensation and Deductions

At this point you might be asking yourself, "why am I having to pay all of this money and my employer isn't?" Your employer also has a fiscal and legal responsibility to contribute and match funds to certain payroll liability accounts.

## Involuntary Payroll Taxes

Employers must match employee contributions to FICA Social Security (6.2% rate) on the first \$127,200 of employee wages for 2017, and FICA Medicare (1.45% rate) on all employee earnings. Withholdings for these taxes are forwarded to the same place as employee contributions; thus, the same accounts are used when recording journal entries.

Employers are required by law to pay into an unemployment insurance system that covers employees in case of job disruption due to factors outside of their control (job elimination from company bankruptcy, for example). The tax recognizing this required payment is the **Federal Unemployment Tax Act (FUTA)**. FUTA is at a rate of 6%. This tax applies to the initial \$7,000 of each employee's wages earned during the year. This rate may be reduced by as much as 5.4% as a credit for paying into state unemployment on time, producing a lower rate of 0.6%. The **State Unemployment Tax Act (SUTA)** is similar to the FUTA process, but tax rates and minimum taxable earnings vary by state.



**Figure 12.18** Unemployment Support. Two common employer payroll deductions are federal and state unemployment taxes. (credit: "Laptop" by Unknown/pxhere, CC0)

## Voluntary Benefits Provided by the Employer

Employers offer competitive advantages (benefits) to employees in an effort to improve job satisfaction and increase employee morale. There is no statute mandating the employer cover these benefits financially. Some possible benefits are health-care coverage, life insurance, contributions to retirement plans, paid sick leave, paid maternity/paternity leave, and **vacation compensation**.

Paid sick leave, paid maternity/paternity leave, and vacation compensation help employees take time off when needed or required by providing a stipend while the employee is away. This compensation is often comparable to the wages or salary for the covered period. Some companies have policies that require vacation and paid sick leave to be used within the year or the employee risks losing that benefit in the current period. These benefits are considered estimated liabilities since it is not clear when, if, or how much the employee will use them. Let's now see the process for journalizing employer compensation and deductions.



**Figure 12.19** Employer-Provided Benefit. Providing employees with vacation benefits can increase job satisfaction. (credit: “Ellie relaxes by the palm tree” Darren Foreman/Flickr, CC BY 2.0)

## Journal Entries to Report Employer Compensation and Deductions

In addition to the employee payroll entries for Billie Sanders, Sierra Sports has an obligation to contribute taxes to federal unemployment, state unemployment, FICA Social Security, and FICA Medicare. They are also responsible for 60% of Billie’s health insurance premium payment. Assume Sierra Sports receives the FUTA credit and is only taxed at the rate of 0.6%, and SUTA taxes are \$100. August is Billie Sanders’ first month of pay for the year. The following entry represents the employer payroll liabilities and expense for the month of August. The second entry records the health insurance premium liability.

JOURNAL			
Date	Account	Debit	Credit
Aug. 31	Employer Payroll Taxes Expense	265	
	Federal Unemployment Tax Payable		12
	State Unemployment Tax Payable		100
	FICA Social Security Tax Payable		124
	FICA Medicare Tax Payable		29
	<i>To recognize employer payroll liabilities for August</i>		
Aug. 31	Benefits Expense	300	
	Health Insurance Payable		300
	<i>To recognize employer benefit liabilities for August</i>		

Employer Payroll Tax Expense is the equity account used to recognize payroll expenses during the period (increases on the debit side). The amount of \$265 is the sum of all liabilities from that period. Notice that FICA Social Security Tax Payable and FICA Medicare Tax Payable were used in the employee payroll entry earlier and again here in the employer payroll. You only need to use one account if the payments are for the same recipient and purpose. The amounts of Social Security (\$124) and Medicare (\$29) taxes withheld match the amounts withheld from employee payroll. Federal Unemployment Tax Payable and State Unemployment Tax Payable recognize the liabilities for federal and state unemployment deductions, respectively. The federal

unemployment tax (\$12) is computed by multiplying the federal unemployment tax rate of 0.6% by \$2,000. These liability accounts increase (credit side) when the amount owed increases.

The second entry recognizes the liability created from providing the voluntary benefit, health insurance coverage. Voluntary and involuntary employer payroll items should be separated. It is also important to separate estimated liabilities from certain voluntary benefits due to their uncertainty. Benefits Expense recognizes the health insurance expense from August. Health Insurance Payable recognizes the outstanding liability for health-care coverage covered by the employer ( $\$500 \times 60\% = \$300$ ).

The following entries represent payment of the employer payroll and benefit liabilities in the following period.

JOURNAL			
Date	Account	Debit	Credit
Aug. 31	Federal Unemployment Tax Payable	12	
	State Unemployment Tax Payable	100	
	FICA Social Security Tax Payable	124	
	FICA Medicare Tax Payable	29	
	Cash		265
	<i>To recognize payment of employer payroll liabilities</i>		
Aug. 31	Health Insurance Payable	300	
	Cash		300
	<i>To record payment of accrued health insurance premiums</i>		

When payment occurs, all payable accounts decrease (debit) because the company paid all taxes and benefits owed for those liabilities. Cash is the accepted form of payment at the payee organizations (Social Security Administration, and health plan administrator, for example).

## LINK TO LEARNING

The IRS oversees all tax-related activities on behalf of the US Department of the Treasury. In an effort to assist taxpayers with determining amounts they may owe, the IRS has established a [withholdings calculator \(https://openstax.org/l/50WithholdCalc\)](https://openstax.org/l/50WithholdCalc) that can let an employee know if he or she needs to submit a new W-4 form to the employer based on the results.

## Key Terms

- account payable** account for financial obligations to suppliers after purchasing products or services on credit
- Additional Medicare Tax** requirement for employers to withhold 0.9% from employee pay for individuals who exceed an income threshold based on their filing status
- contingency** current situation, where the outcome is unknown or uncertain and will not be resolved until a future point in time
- contingent liability** uncertain outcome to a current condition that could produce a future debt or negative obligation for the company
- current liability** debt or obligation due within one year or, in rare cases, a company's standard operating cycle, whichever is greater
- current portion of a note payable** portion of a long-term note due during the company's current operating period
- defined contribution plans** money set aside and held in account for employee's retirement with possible contribution from employers
- federal income tax withholding** amount withheld from employee pay based on employee responses given on Form W-4
- Federal Insurance Contribution Act (FICA) tax** involuntary tax mandated by FICA that requires employers to withhold taxes from employee wages "to provide benefits for retirees, the disabled, and children"
- Federal Unemployment Tax Act (FUTA)** response to a law requiring employers to pay into a federal unemployment insurance system that covers employees in case of job disruption due to factors outside of their control
- gross income (pay)** amount earned by the employee before any reductions in pay occur due to involuntary and voluntary deductions
- interest** monetary incentive to the lender, which justifies loan risk; interest is paid to the lender by the borrower
- involuntary deduction** withholding that neither the employer nor the employee have control over, and is required by law
- likelihood of occurrence** contingent liability must be recognized and disclosed if there is a probable liability determination before the preparation of financial statements has occurred
- local income tax withholding** applied to those living or working within a jurisdiction to cover schooling, social services, park maintenance, and law enforcement
- measurement requirement** company's ability to reasonably estimate the amount of loss
- Medicare tax rate** currently 1.45% of employee gross income with no taxable earnings cap
- net income (pay)** (also, take home pay) remaining employee earnings balance after involuntary and voluntary deductions from employee pay
- note payable** legal document between a borrower and a lender specifying terms of a financial arrangement; in most situations, the debt is long-term
- principal** initial borrowed amount of a loan, not including interest; also, face value or maturity value of a bond (the amount to be paid at maturity)
- probable and estimable** contingent liability is likely to occur and can be reasonably estimated
- probable and inestimable** contingent liability is likely to occur but cannot be reasonably estimated
- reasonably possible** contingent liability could occur but is not probable
- remote** contingent liability is unlikely to occur

**short-term note payable** debt created and due within a company's operating period (less than a year)

**Social Security tax rate** currently 6.2% of employees gross wage earnings with a maximum taxable earnings amount of \$127,200 in 2017 and \$128,400 in 2018

**state income tax withholding** reduction to employee pay determined by responses given on Form W-4, or on a state withholdings certificate

**State Unemployment Tax Act (SUTA)** response to a law requiring employers to pay into a state unemployment insurance system that covers employees in case of job disruption due to factors outside of their control

**taxes payable** liability created when a company collects taxes on behalf of employees and customers

**unearned revenue** advance payment for a product or service that has yet to be provided by the company; the transaction is a liability until the product or service is provided

**vacation compensation** stipend provided by the employer to employees when they take time off for vacation

**voluntary deduction** not required to be removed from employee pay unless the employee designates reduction of this amount



## Summary

### 12.1 Identify and Describe Current Liabilities

- Current liabilities are debts or obligations that arise from past business activities and are due for payment within a company's operating period (one year). Common examples of current liabilities include accounts payable, unearned revenue, the current portion of a noncurrent note payable, and taxes payable.
- Accounts payable is used to record purchases from suppliers on credit. Accounts payable typically does not include interest payments.
- Unearned revenue is recorded when customers pay in advance for products or services before receiving their benefits. The company maintains the liability until services or products are rendered.
- Notes payable is a debt to a lender with specific repayment terms, which can include principal and interest. Interest accrued can be computed with the annual interest rate, principal loan amount, and portion of the year accrued.
- Employers withhold taxes from employees and customers for payment to government agencies at a later date, but within the business operating period. Common taxes are sales tax and federal, state, and local income taxes.

### 12.2 Analyze, Journalize, and Report Current Liabilities

- When the merchandiser initially pays the supplier on credit, it increases both Accounts Payable (a credit) and the appropriate merchandise Inventory account (a debit). When the amount due is later paid, it decreases both Accounts Payable (a debit) and Cash (a credit).
- When the company collects payment from a customer in advance of providing a product or service, it increases both Unearned Revenue (a credit) and Cash (a debit). When the company provides the product or service, Unearned Revenue decreases (a debit), and Revenue increases (a credit) to realize the amount earned.
- To recognize payment of the current portion of a noncurrent note payable, both Notes Payable and Cash would decrease, resulting in a debit and a credit, respectively. To recognize interest accumulation, both Interest Expense and Interest Payable would increase, resulting in a debit and a credit, respectively.
- To recognize sales tax in the initial sale to a customer, Cash or Accounts Receivable increases (a debit), and Sales Tax Payable increases (a credit), as does Sales (a credit). When the company remits the sales tax

payment to the governing body, Sales Tax Payable decreases (a debit), as does Cash (a credit).

### 12.3 Define and Apply Accounting Treatment for Contingent Liabilities

- Contingent liabilities arise from a current situation with an uncertain outcome that may occur in the future. Contingent liabilities may include litigation, warranties, insurance claims, and bankruptcy.
- Two FASB recognition requirements must be met before declaring a contingent liability. There must be a probable likelihood of occurrence, and the loss amount is reasonably estimated.
- The four contingent liability treatments are probable and estimable, probable and inestimable, reasonably possible, and remote.
- Recognition in financial statements, as well as a note disclosure, occurs when the outcome is probable and estimable. Probable and not estimable and reasonably possible outcomes require note disclosures only. There is not recognition or note disclosure for a remote outcome.

### 12.4 Prepare Journal Entries to Record Short-Term Notes Payable

- Short-term notes payable is a debt created and due within a company's operating period (less than a year). This debt includes a written promise to pay principal and interest.
- If a company does not pay for its purchases within a specified time frame, a supplier will convert the accounts payable into a short-term note payable with interest. When the company pays the amount owed, short-term notes payable and Cash will decrease, while interest expense increases.
- A company may borrow from a bank because it does not have enough cash on hand to pay for a capital expenditure or cover temporary expenses. The loan will consist of short-term repayment with interest, affecting short-term notes payable, cash, and interest expense.

### 12.5 Record Transactions Incurred in Preparing Payroll

- An employee's net income (pay) results from gross income (pay) minus any involuntary and voluntary deductions. Employee payroll deductions may include federal, state, and local income taxes; FICA Social Security; FICA Medicare; and voluntary deductions such as health insurance, retirement plan contributions, and union dues.
- When recording employee payroll liabilities, Salaries Expense, Salaries Payable, and all payables for income taxes, Social Security, Medicare, and voluntary deductions, are reported. When the company pays the accrued salaries, Salaries Payable is reduced, as is cash.
- Employers are required to match employee withholdings for Social Security and Medicare. They must also remit FUTA and SUTA taxes, as well as voluntary deductions and benefits provided to employees.
- When recording employer payroll liabilities, Employer Payroll Taxes Expense and all payables associated with FUTA, SUTA, Social Security, Medicare, and voluntary deductions are required. When the company pays all employer liabilities, each payable and cash account decreases.

## Multiple Choice

1. **LO 12.1** Which of the following is *not* considered a current liability?
  - A. Accounts Payable
  - B. Unearned Revenue
  - C. the component of a twenty-year note payable due in year 20
  - D. current portion of a noncurrent note payable

2. **LO 12.1** A company regularly purchases materials from a manufacturer on credit. Payments for these purchases occur within the company's operating cycle. They do not include interest and are established with an invoice outlining purchase details, credit terms, and shipping charges. Which current liability situation does this best describe?

- A. sales tax payable
- B. accounts payable
- C. unearned revenue
- D. income taxes payable

3. **LO 12.1** The following is selected financial data from Block Industries:

Cash	\$20,000
Accounts receivable	13,400
Equipment	10,650
Prepaid expenses	5,000
Accounts payable	12,300
Unearned revenue	7,500
Long-term notes payable	10,000
Common stock	18,000
Revenue	11,700
Sales tax payable	6,000
Interest expense	4,500
Depreciation expense	1,000

How much does Block Industries have in current liabilities?

- A. \$19,800
- B. \$18,300
- C. \$12,300
- D. \$25,800

4. **LO 12.1** A ski company takes out a \$400,000 loan from a bank. The bank requires eight equal repayments of the loan principal, paid annually. Assume no interest is paid or accumulated on the loan until the final repayment. How much of the loan principal is considered a current portion of a noncurrent note payable in year 3?

- A. \$50,000
- B. \$150,000
- C. \$100,000
- D. \$250,000

5. **LO 12.2** Nido Co. has a standing agreement with a supplier for purchasing car parts. The terms of the agreement are 3/15, n/30 from the invoice date of September 1. The company makes a purchase on September 1 for \$5,000 and pays the amount due on September 13. What amount does Nido Co. pay in cash on September 13?

- A. \$5,000
- B. \$4,850
- C. \$150
- D. \$4,250

6. **LO 12.2** A client pays cash in advance for a magazine subscription to *Living Daily*. *Living Daily* has yet to provide the magazine to the client. What accounts would *Living Daily* use to recognize this advance payment?
- A. unearned subscription revenue, cash
  - B. cash, subscription revenue
  - C. subscription revenue, unearned subscription revenue
  - D. unearned subscription revenue, subscription revenue, cash
7. **LO 12.2** Lime Co. incurs a \$4,000 note with equal principal installment payments due for the next eight years. What is the amount of the current portion of the noncurrent note payable due in the second year?
- A. \$800
  - B. \$1,000
  - C. \$500
  - D. nothing, since this is a noncurrent note payable
8. **LO 12.3** Which of the following best describes a contingent liability that is likely to occur but cannot be reasonably estimated?
- A. reasonably possible
  - B. probable and estimable
  - C. probable and inestimable
  - D. remote
9. **LO 12.3** Blake Department Store sells television sets with one-year warranties that cover repair and replacement of television parts. In the month of June, Blake sells forty television sets with a per unit cost of \$500. If Blake estimates warranty fulfillment at 10% of sales, what would be the warranty liability reported in June?
- A. \$1,000
  - B. \$2,000
  - C. \$500
  - D. \$20,000
10. **LO 12.3** What accounts are used to record a contingent warranty liability that is probable and estimable but has yet to be fulfilled?
- A. warranty liability and cash
  - B. warranty expense and cash
  - C. warranty liability and warranty expense, cash
  - D. warranty expense and warranty liability
11. **LO 12.3** Which of the following best describes a contingent liability that is unlikely to occur?
- A. remote
  - B. probable and estimable
  - C. reasonably possible
  - D. probable and inestimable
12. **LO 12.4** Which of the following accounts are used when a short-term note payable with 5% interest is honored (paid)?
- A. short-term notes payable, cash
  - B. short-term notes payable, cash, interest expense
  - C. interest expense, cash
  - D. short-term notes payable, interest expense, interest payable

13. **L0** 12.4 Which of the following is not a characteristic of a short-term note payable?
- A. Payment is due in less than a year.
  - B. It bears interest.
  - C. It can result from an accounts payable conversion.
  - D. It is reported on the balance sheet under noncurrent liabilities.
14. **L0** 12.4 Sunlight Growers borrows \$250,000 from a bank at a 4% annual interest rate. The loan is due in three months. At the end of the three months, the company pays the amount due in full. How much did the company remit to the bank?
- A. \$250,000
  - B. \$10,000
  - C. \$252,500
  - D. \$2,500
15. **L0** 12.4 Marathon Peanuts converts a \$130,000 account payable into a short-term note payable, with an annual interest rate of 6%, and payable in four months. How much interest will Marathon Peanuts owe at the end of four months?
- A. \$2,600
  - B. \$7,800
  - C. \$137,800
  - D. \$132,600
16. **L0** 12.5 An employee earns \$8,000 in the first pay period. The FICA Social Security Tax rate is 6.2%, and the FICA Medicare tax rate is 1.45%. What is the employee's FICA taxes responsibility?
- A. \$535.50
  - B. \$612
  - C. None, only the employer pays FICA taxes
  - D. \$597.50
  - E. \$550
17. **L0** 12.5 Which of the following is considered an employer payroll tax?
- A. FICA Medicare
  - B. FUTA
  - C. SUTA
  - D. A and B only
  - E. B and C only
  - F. A, B, and C
18. **L0** 12.5 Employees at Rayon Enterprises earn one day a month of vacation compensation (twelve days total each year). Vacation compensation is paid at an hourly rate of \$45, based on an eight-hour work day. Rayon's first pay period is January. It is now April 30, how much vacation liability has accumulated if the company has four employees and no vacation compensation has been paid?
- A. \$1,440
  - B. \$4,320
  - C. \$5,760
  - D. \$7,200

19. **LO 12.5** An employee and employer cost-share health insurance. If the employee covers three-fourths of the cost and the employer covers the rest, what would be the employee's responsibility if the total premium was \$825?
- A. \$618.75
  - B. \$206.25
  - C. \$412.50
  - D. \$275

## Questions

1. **LO 12.1** Why is Accounts Payable classified as a current liability?
2. **LO 12.1** On which financial statement are current liabilities reported?
3. **LO 12.1** What is the difference between a noncurrent liability and a current liability?
4. **LO 12.1** How is the sales tax rate usually determined? Does the company get to keep the sales tax as earned revenue?
5. **LO 12.2** If Bergen Air Systems takes out a \$100,000 loan, with eight equal principal payments due over the next eight years, how much will be accounted for as a current portion of a noncurrent note payable each year?
6. **LO 12.2** What amount is payable to a state tax board if the original sales price is \$3,000, and the tax rate is 3.5%?
7. **LO 12.2** What specific accounts are recognized when a business purchases equipment on credit?
8. **LO 12.3** What is a contingent liability?
9. **LO 12.3** What are the two FASB required conditions for a contingent liability to be recognized?
10. **LO 12.3** If a bankruptcy is deemed likely to occur and is reasonably estimated, what would be the recognition and disclosure requirements for the company?
11. **LO 12.3** Name the four contingent liability treatments.
12. **LO 12.3** A company's sales for January are \$250,000. If the company projects warranty obligations to be 5% of sales, what is the warranty liability amount for January?
13. **LO 12.4** What is a key difference between a short-term note payable and a current portion of a noncurrent note payable?
14. **LO 12.4** What business circumstance could bring about a short-term note payable created from a purchase?
15. **LO 12.4** What business circumstance could produce a short-term notes payable created from a loan?
16. **LO 12.4** Jain Enterprises honors a short-term note payable. Principal on the note is \$425,000, with an annual interest rate of 3.5%, due in 6 months. What journal entry is created when Jain honors the note?
17. **LO 12.5** What are examples of involuntary deductions employers are required to collect for employee and employer payroll liabilities?

18. **L0** 12.5 What are the tax rates for FICA Social Security and FICA Medicare? What are the maximum taxable earnings amounts for each of these taxes?
19. **L0** 12.5 What are FUTA and SUTA taxes? Is there any possible reduction in the FUTA tax rate? If so, what is the reduction, and how is this determined?
20. **L0** 12.5 Use [Figure 12.15](#) as a reference to answer the following questions.
- If an employee makes \$1,400 per month and files as single with no withholding allowances, what would be his monthly income tax withholding?
  - What would it be if an employee makes \$2,500 per month and files as single with two withholding allowances?



## Exercise Set A

**EA1.** **L0** 12.1 Campus Flights takes out a bank loan in the amount of \$200,500 on March 1. The terms of the loan include a repayment of principal in ten equal installments, paid annually from March 1. The annual interest rate on the loan is 8%, recognized on December 31. (Round answers to the nearest whole dollar if needed.)

- Compute the interest recognized as of December 31 in year 1 rounded to the whole dollar.
- Compute the principal due in year 1.

**EA2.** **L0** 12.1 Consider the following accounts and determine if the account is a current liability, a noncurrent liability, or neither.

- cash
- federal income tax payable this year
- long-term note payable
- current portion of a long-term note payable
- note payable due in four years
- interest expense
- state income tax

**EA3.** **L0** 12.1 Lamplight Plus sells lamps to consumers. The company contracts with a supplier who provides them with lamp fixtures. There is an agreement that Lamplight Plus is not required to provide cash payment immediately and instead will provide payment within thirty days of the invoice date.

Additional information:

- Lamplight purchases thirty light fixtures for \$20 each on August 1, invoice date August 1, with no discount terms
- Lamplight returns ten light fixtures (receiving a credit amount for the total purchase price per fixture of \$20 each) on August 3.
- Lamplight purchases an additional fifteen light fixtures for \$15 each on August 19, invoice date August 19, with no discount terms.
- Lamplight pays \$100 toward its account on August 22.

What amount does Lamplight Plus still owe to the supplier on August 30? What account is used to recognize this outstanding amount?

**EA4.** **LO 12.2** Review the following transactions and prepare any necessary journal entries for Olinda Pet Supplies.

- A. On March 2, Olinda Pet Supplies receives advance cash payment from a customer for forty dog food dishes (from their Dish inventory), costing \$25 each. Olinda had yet to supply the dog food bowls as of March 2.
- B. On April 4, Olinda provides all of the dog food bowls to the customer.

**EA5.** **LO 12.2** Review the following transactions and prepare any necessary journal entries for Tolbert Enterprises.

- A. On April 7, Tolbert Enterprises contracts with a supplier to purchase 300 water bottles for their merchandise inventory, on credit, for \$10 each. Credit terms are 2/10, n/60 from the invoice date of April 7.
- B. On April 15, Tolbert pays the amount due in cash to the supplier.

**EA6.** **LO 12.2** Elegant Electronics sells a cellular phone on September 2 for \$450. On September 6, Elegant sells another cellular phone for \$500. Sales tax is computed at 3.5% of the total sale. Prepare journal entries for each sale, including sales tax, and the remittance of all sales tax to the tax board on October 23.

**EA7.** **LO 12.2** Homeland Plus specializes in home goods and accessories. In order for the company to expand its business, the company takes out a long-term loan in the amount of \$650,000. Assume that any loans are created on January 1. The terms of the loan include a periodic payment plan, where interest payments are accumulated each year but are only computed against the outstanding principal balance during that current period. The annual interest rate is 8.5%. Each year on December 31, the company pays down the principal balance by \$80,000. This payment is considered part of the outstanding principal balance when computing the interest accumulation that also occurs on December 31 of that year.

- A. Determine the outstanding principal balance on December 31 of the first year that is computed for interest.
- B. Compute the interest accrued on December 31 of the first year.
- C. Make a journal entry to record interest accumulated during the first year, but not paid as of December 31 of that first year.

**EA8.** **LO 12.2** Bhakti Games is a chain of board game stores. Record entries for the following transactions related to Bhakti's purchase of inventory.

- A. On October 5, Bhakti purchases and receives inventory from XYZ Entertainment for \$5,000 with credit terms of 2/10 net 30.
- B. On October 7, Bhakti returns \$1,000 worth of the inventory purchased from XYZ.
- C. Bhakti makes payment in full on its purchase from XYZ on October 14.

**EA9.** **LO 12.3** Following is the unadjusted trial balance for Sun Energy Co. on December 31, 2017.

<b>SUN ENERGY CO.</b>		
<b>Unadjusted Trial Balance</b>		
<b>Year Ended December 31, 2017</b>		
<b>Account</b>	<b>Debit</b>	<b>Credit</b>
Cash	\$ 5,000	
Account Receivable	2,000	
Merchandise Inventory	4,500	
Buildings	2,400	
Equipment	3,200	
Accounts Payable		\$ 5,700
Salaries Payable		2,500
Common Stock		1,500
Dividends		
Sales Revenue		<u>13,700</u>
COGS	3,800	
Salaries Expense	<u>2,500</u>	
<b>Totals</b>	<b><u>\$23,400</u></b>	<b><u>\$23,400</u></b>

You are also given the following supplemental information: A pending lawsuit, claiming \$2,700 in damages, is considered likely to favor the plaintiff and can be reasonably estimated. Sun Energy Co. believes a customer may win a lawsuit for \$3,500 in damages, but the outcome is only reasonably possible to occur. Sun Energy calculated warranty expense estimates of \$210.

- A. Using the unadjusted trial balance and supplemental information for Sun Energy Co., construct an income statement for the year ended December 31, 2017. Pay particular attention to expenses resulting from contingencies.
- B. Construct a balance sheet, for December 31, 2017, from the given unadjusted trial balance, supplemental information, and income statement for Sun Energy Co., paying particular attention to contingent liabilities.
- C. Prepare any necessary contingent liability note disclosures for Sun Energy Co. Only give one to three sentences for each contingency note disclosure.

**EA10.** **LO 12.4** Barkers Baked Goods purchases dog treats from a supplier on February 2 at a quantity of 6,000 treats at \$1 per treat. Terms of the purchase are 2/10, n/30. Barkers pays half the amount due in cash on February 28 but cannot pay the remaining balance due in four days. The supplier renegotiates the terms on March 4 and allows Barkers to convert its purchase payment into a short-term note, with an annual interest rate of 6%, payable in 9 months.

Show the entries for the initial purchase, the partial payment, and the conversion.

**EA11.** **LO 12.4** Use information from [EA10](#). Compute the interest expense due when Barkers honors the note. Show the journal entry to recognize payment of the short-term note on December 4.

**EA12.** **LO 12.4** Scrimiger Paints wants to upgrade its machinery and on September 20 takes out a loan from the bank in the amount of \$500,000. The terms of the loan are 2.9% annual interest rate and payable in 8 months. Interest is due in equal payments each month.

Compute the interest expense due each month. Show the journal entry to recognize the interest payment on October 20, and the entry for payment of the short-term note and final interest payment on May 20. Round to the nearest cent if required.

**EA13.** **L0** 12.5 Following are payroll deductions for Mars Co. Classify each payroll deduction as either a voluntary or involuntary deduction. Record a (V) for voluntary and an (I) for involuntary.

**Payroll Deductions**

Payroll Deduction	Voluntary (V) or Involuntary (I)?
FICA Social Security Tax	
Vacation pay	
401(k) retirement plan contribution	
Charitable contributions	
Federal Unemployment Tax (FUTA)	
Health insurance plan contribution	
FICA Medicare Tax	
State Unemployment Tax (SUTA)	

**Table 12.3**

**EA14.** **L0** 12.5 Toren Inc. employs one person to run its solar management company. The employee's gross income for the month of May is \$6,000. Payroll for the month of May is as follows: FICA Social Security tax rate at 6.2%, FICA Medicare tax rate at 1.45%, federal income tax of \$400, state income tax of \$75, health-care insurance premium of \$200, and union dues of \$50. The employee is responsible for covering 30% of his or her health insurance premium.

- A. Record the journal entry to recognize employee payroll for the month of May, dated May 31, 2017.
- B. Record remittance of the employee's salary with cash on June 1.

**EA15.** **L0** 12.5 In [EA14](#), you prepared the journal entries for the employee of Toren Inc. You have now been given the following additional information:

- May is the first pay period for this employee. FUTA taxes are 0.6% and SUTA taxes are 5.4% of the first \$7,000 paid to the employee. FICA Social Security and FICA Medicare match employee deductions. The employer is responsible for 70% of the health insurance premium.

Using the information from [EA14](#) and the additional information provided:

- A. Record the employer payroll for the month of May, dated May 31, 2017.
- B. Record the payment in cash of all employer liabilities only on June 1.

**EA16.** **L0** 12.5 An employee and employer cost-share pension plan contributions and health insurance premium payments. If the employee covers 35% of the pension plan contribution and 25% of the health insurance premium, what would be the employee's total benefits responsibility if the total pension contribution was \$900, and the health insurance premium was \$375?

Include the journal entry representing the payroll benefits accumulation for the employer in the month of February.



## Exercise Set B

**EB1.** **LO 12.1** Everglades Consultants takes out a loan in the amount of \$375,000 on April 1. The terms of the loan include a repayment of principal in eight, equal installments, paid annually from the April 1 date. The annual interest rate on the loan is 5%, recognized on December 31. (Round answers to the nearest cent, if needed.)

- A. Compute the interest recognized as of December 31 in year 1.
- B. Compute the principal due in year 1.

**EB2.** **LO 12.1** Match each of the following accounts with the appropriate transaction or description.

A. Sales Tax Payable	i. A customer pays in advance for services
B. Income Taxes Payable	ii. A risk incentive rate for a loan
C. Current portion of a long-term note payable	iii. State withholding from an employee's paycheck
D. Interest Payable	iv. The portion of a note due within the operating period
E. Accounts Payable	v. A credit line between a purchaser and a supplier
F. Unearned Revenue	vi. Extra tax collected on the sale of a product

**EB3.** **LO 12.1** Pianos Unlimited sells pianos to customers. The company contracts with a supplier who provides it with replacement piano keys. There is an agreement that Pianos Unlimited is not required to provide cash payment immediately, and instead will provide payment within thirty days of the invoice date.

Additional information:

- Pianos Unlimited purchases 400 piano keys for \$7 each on September 1, invoice date September 1, with discount terms 2/10, n/30.
- Pianos Unlimited returns 150 piano keys (receiving a credit amount for the total purchase price per key of \$7 each) on September 8.
- The company purchases an additional 230 keys for \$5 each on September 15, invoice date September 15, with no discount terms.
- The company pays 50% of the total amount due to the supplier on September 24.

What amount does Pianos Unlimited still owe to the supplier on September 30? What account is used to recognize this outstanding amount?

**EB4.** **LO 12.2** Review the following transactions and prepare any necessary journal entries for Bernard Law Offices.

- A. On June 1, Bernard Law Offices receives an advance cash payment of \$4,500 from a client for three months of legal services.
- B. On July 31, Bernard recognizes legal services provided.

**EB5.** **LO 12.2** Review the following transactions and prepare any necessary journal entries for Lands Inc.

- A. On December 10, Lands Inc. contracts with a supplier to purchase 450 plants for its merchandise inventory, on credit, for \$12.50 each. Credit terms are 4/15, n/30 from the invoice date of December 10.
- B. On December 28, Lands pays the amount due in cash to the supplier.

**EB6.** **L0** 12.2 Monster Drinks sells twenty-four cases of beverages on October 18 for \$120 per case. On October 25, Monster sells another thirty-five cases for \$140 per case. Sales tax is computed at 4% of the total sale. Prepare journal entries for each sale, including sales tax, and the remittance of all sales tax to the tax board on November 5.

**EB7.** **L0** 12.2 McMasters Inc. specializes in BBQ accessories. In order for the company to expand its business, they take out a long-term loan in the amount of \$800,000. Assume that any loans are created on January 1. The terms of the loan include a periodic payment plan, where interest payments are accumulated each year but are only computed against the outstanding principal balance during that current period. The annual interest rate is 9%. Each year on December 31, the company pays down the principal balance by \$50,000. This payment is considered part of the outstanding principal balance when computing the interest accumulation that also occurs on December 31 of that year.

- A. Determine the outstanding principal balance on December 31 of the first year that is computed for interest.
- B. Compute the interest accrued on December 31 of the first year.
- C. Make a journal entry to record interest accumulated during the first year, but not paid as of December 31 of that first year.

**EB8.** **L0** 12.3 Following is the unadjusted trial balance for Pens Unlimited on December 31, 2017.

<b>PENS UNLIMITED</b> <b>Unadjusted Trial Balance</b> <b>Year Ended December 31, 2017</b>		
<b>Account</b>	<b>Debit</b>	<b>Credit</b>
Cash	\$ 8,500	
Account Receivable	3,000	
Merchandise Inventory	6,750	
Buildings	5,600	
Equipment	4,000	
Accounts Payable		\$ 7,500
Salaries Payable		4,250
Common Stock		5,000
Dividends		
Sales Revenue		<u>20,750</u>
COGS	5,400	
Salaries Expense	<u>4,250</u>	
<b>Totals</b>	<b><u>\$37,500</u></b>	<b><u>\$37,500</u></b>

You are also given the following supplemental information: A pending lawsuit, claiming \$4,200 in damages, is considered likely to favor the plaintiff and can be reasonably estimated. Pens Unlimited believes a customer may win a lawsuit for \$5,000 in damages, but the outcome is only reasonably possible to occur. Pens Unlimited records warranty estimates on the basis of 2% of annual sales revenue.

- A. Using the unadjusted trial balance and supplemental information for Pens Unlimited, construct an income statement for the year ended December 31, 2017. Pay particular attention to expenses resulting from contingencies.
- B. Construct a balance sheet, for December 31, 2017, from the given unadjusted trial balance, supplemental information, and income statement for Pens Unlimited. Pay particular attention to contingent liabilities.
- C. Prepare any necessary contingent liability note disclosures for Pens Unlimited. Only give one to three sentences for each contingency note disclosure.

**EB9.** **L0 12.4** Airplanes Unlimited purchases airplane parts from a supplier on March 19 at a quantity of 4,800 parts at \$12.50 per part. Terms of the purchase are 3/10, n/30. Airplanes pays one-third of the amount due in cash on March 30 but cannot pay the remaining balance due. The supplier renegotiates the terms on April 18 and allows Airplanes to convert its purchase payment into a short-term note, with an annual interest rate of 9%, payable in six months.

Show the entries for the initial purchase, the partial payment, and the conversion.

**EB10.** **L0 12.4** Use information from [EB9](#). Compute the interest expense due when Airplanes Unlimited honors the note. Show the journal entry to recognize payment of the short-term note on October 18.

**EB11.** **L0 12.4** Whole Leaves wants to upgrade their equipment, and on January 24 the company takes out a loan from the bank in the amount of \$310,000. The terms of the loan are 6.5% annual interest rate, payable in three months. Interest is due in equal payments each month.

Compute the interest expense due each month. Show the journal entry to recognize the interest payment on February 24, and the entry for payment of the short-term note and final interest payment on April 24. Round to the nearest cent if required.

**EB12.** **L0 12.5** Reference [Figure 12.15](#) and use the following information to complete the requirements.

Employee	Monthly Gross Income	Withholding Allowances
Debbie	\$1,150	0
Michael	\$1,270	2
Karen	\$2,600	1

- Determine the federal income tax withholdings amount per monthly pay period for each employee.
- Record the employee payroll entry (all employees) for the month of January assuming FICA Social Security is 6.2%, FICA Medicare is 1.45%, and state income tax is equal to 3% of gross income. (Round to the nearest cent if necessary.)

**EB13.** **L0 12.5** Marc & Associates employs Janet Evanovich at its law firm. Her gross income for June is \$7,500. Payroll for the month of June follows: federal income tax of \$650, state income tax of \$60, local income tax of \$30, FICA Social Security tax rate at 6.2%, FICA Medicare tax rate at 1.45%, health-care insurance premium of \$300, donations to a charity of \$50, and pension plan contribution of \$200. The employee is responsible for covering 40% of his or her health insurance premium.

- Record the journal entry to recognize employee payroll for the month of June; dated June 30, 2017.
- Record remittance of the employee's salary with cash on July 1.

**EB14.** **L0 12.5** In [EB13](#), you prepared the journal entries for Janet Evanovich, an employee of Marc & Associates. You have now been given the following additional information: June is the first pay period for this employee. FUTA taxes are 0.6% and SUTA taxes are 5.4% of the first \$7,000 paid to the employee. FICA Social Security and FICA Medicare match employee deductions. The employer is responsible for 60% of the health insurance premium. The employer matches 50% of employee pension plan contributions.

Using the information from [EB13](#) and the additional information provided:

- Record the employer payroll for the month of June, dated June 30, 2017.
- Record the payment in cash of all employer liabilities only on July 1.

**EB15.** **LO 12.5** An employee and employer cost-share 401(k) plan contributions, health insurance premium payments, and charitable donations. The employer also provides annual vacation compensation equal to ten days of pay at a rate of \$30 per hour, eight-hour work day. The employee makes a gross wage of \$3,000 monthly. The employee decides to use five days of vacation during the current pay period. Employees cover 30% of the 401(k) plan contribution and 30% of the health insurance premium. The employee also donates 1% of gross pay to a charitable organization.

- A. What would be the employee's total benefits responsibility if the total 401(k) contribution is \$700 and the health insurance premium is \$260?
- B. Include the journal entry representing the payroll benefits accumulation for the employer in the month of March, if the employer matches the employee's charitable donation of 1%.



## Problem Set A

**PA1.** **LO 12.1** Consider the following situations and determine (1) which type of liability should be recognized (specific account), and (2) how much should be recognized in the current period (year).

- A. A business sets up a line of credit with a supplier. The company purchases \$10,000 worth of equipment on credit. Terms of purchase are 5/10, n/30.
- B. A customer purchases a watering hose for \$25. The sales tax rate is 5%.
- C. Customers pay in advance for season tickets to a soccer game. There are fourteen customers, each paying \$250 per season ticket. Each customer purchased two season tickets.
- D. A company issues 2,000 shares of its common stock with a price per share of \$15.

**PA2.** **LO 12.1** Stork Enterprises delivers care packages for special occasions. They charge \$45 for a small package, and \$80 for a large package. The sales tax rate is 6%. During the month of May, Stork delivers 38 small packages and 22 large packages.

- A. What is the total tax charged to the customer per small package? What is the overall charge per small package?
- B. What is the total tax charged to the customer per large package? What is the overall charge per large package?
- C. How much sales tax liability does Stork Enterprises have for the month of May?
- D. What accounts are used to recognize this tax situation for the month of May?
- E. When Stork remits payment to the sales tax governing body, what happens to the sales tax liability?

**PA3.** **LO 12.2** Review the following transactions, and prepare any necessary journal entries for Renovation Goods.

- A. On May 12, Renovation Goods purchases 750 square feet of flooring (Flooring Inventory) at \$3.00 per square foot from a supplier, on credit. Terms of the purchase are 2/10, n/30 from the invoice date of May 12.
- B. On May 15, Renovation Goods purchases 200 measuring tapes (Tape Inventory) at \$5.75 per tape from a supplier, on credit. Terms of the purchase are 4/15, n/60 from the invoice date of May 15.
- C. On May 22, Renovation Goods pays cash for the amount due to the flooring supplier from the May 12 transaction.
- D. On June 3, Renovation Goods pays cash for the amount due to the tape supplier from the May 15 transaction.

**PA4.** **LO 12.2** Review the following transactions, and prepare any necessary journal entries for Juniper Landscaping Services.

- A. On November 5, Juniper receives advance cash payment from a customer for landscaping services in the amount of \$3,500. Juniper had yet to provide landscaping services as of November 5.
- B. On December 11, Juniper provides all of the landscaping services to the customer from November 5.
- C. On December 14, Juniper receives advance payment from another customer for landscaping services in the amount of \$4,400. Juniper has yet to provide landscaping services as of December 14.
- D. On January 19 of the following year, Juniper provides and recognizes 80% of landscaping services to the customer from December 14.

**PA5.** **LO 12.2** Review the following transactions, and prepare any necessary journal entries.

- A. On July 16, Arrow Corp. purchases 200 computers (Equipment) at \$500 per computer from a supplier, on credit. Terms of the purchase are 4/10, n/50 from the invoice date of July 16.
- B. On August 10, Hondo Inc. receives advance cash payment from a client for legal services in the amount of \$9,000. Hondo had yet to provide legal services as of August 10.
- C. On September 22, Jack Pies sells thirty pies for \$25 cash per pie. The sales tax rate is 8%.
- D. On November 8, More Supplies paid a portion of their noncurrent note in the amount of \$3,250 cash.

**PA6.** **LO 12.3** Machine Corp. has several pending lawsuits against its company. Review each situation and (1) determine the treatment for each situation as probable and estimable, probable and inestimable, reasonably possible, or remote; (2) determine what, if any, recognition or note disclosure is required; and (3) prepare any journal entries required to recognize a contingent liability.

- A. A pending lawsuit, claiming \$100,000 in damages, is considered likely to favor the plaintiff and can be reasonably estimated.
- B. Machine Corp. believes there might be other potential lawsuits about this faulty machinery, but this is unlikely to occur.
- C. A claimant sues Machine Corp. for damages, from a dishonored service contract agreement; the plaintiff will likely win the case but damages cannot be reasonably estimated.
- D. Machine Corp. believes a customer will win a lawsuit it filed, but the outcome is not likely and is not remote. It is possible the customer will win.

**PA7.** **LO 12.3** Emperor Pool Services provides pool cleaning and maintenance services to residential clients. It offers a one-year warranty on all services. Review each of the transactions, and prepare any necessary journal entries for each situation.

- A. March 31: Emperor provides cleaning services for fifteen pools during the month of March at a sales price per pool of \$550 cash. Emperor records warranty estimates when sales are recognized and bases warranty estimates on 2% of sales.
- B. April 5: A customer files a warranty claim that Emperor honors in the amount of \$100 cash.
- C. April 13: Another customer, J. Jones, files a warranty claim that Emperor does not honor due to customer negligence.
- D. June 8: J. Jones files a lawsuit requesting damages related to the dishonored warranty in the amount of \$1,500. Emperor determines that the lawsuit is likely to end in the plaintiff's favor and the \$1,500 is a reasonable estimate for damages.

**PA8.** **LO 12.4** Serene Company purchases fountains for its inventory from Kirkland Inc. The following transactions take place during the current year.

- A. On July 3, the company purchases thirty fountains for \$1,200 per fountain, on credit. Terms of the purchase are 2/10, n/30, invoice dated July 3.
- B. On August 3, Serene does not pay the amount due and renegotiates with Kirkland. Kirkland agrees to convert the debt owed into a short-term note, with an 8% annual interest rate, payable in two months from August 3.
- C. On October 3, Serene Company pays its account in full.

Record the journal entries to recognize the initial purchase, the conversion, and the payment.

**PA9.** **LO 12.4** Mohammed LLC is a growing consulting firm. The following transactions take place during the current year.

- A. On June 10, Mohammed borrows \$270,000 from a bank to cover the initial cost of expansion. Terms of the loan are payment due in four months from June 10, and annual interest rate of 5%.
- B. On July 9, Mohammed borrows an additional \$100,000 with payment due in four months from July 9, and an annual interest rate of 12%.
- C. Mohammed pays their accounts in full on October 10 for the June 10 loan, and on November 9 for the July 9 loan.

Record the journal entries to recognize the initial borrowings, and the two payments for Mohammed.

**PA10.** **LO 12.5** Lemur Corp. is going to pay three employees a year-end bonus. The amount of the year-end bonus and the amount of federal income tax withholding are as follows.

Employee	Filing Status	Allowances	Gross Income	Federal Income Withholding
Sarah	Married	4	\$10,000	\$ 962
Joe	Single	2	\$ 9,000	\$1,362
Kevin	Single	1	\$ 4,000	\$ 357

Lemur's payroll deductions include FICA Social Security at 6.2%, FICA Medicare at 1.45%, FUTA at 0.6%, SUTA at 5.4%, federal income tax as previously shown, state income tax at 5% of gross pay, and 401(k) employee contributions at 2% of gross pay.

Record the entry for the employee payroll on December 31.

**PA11.** **LO 12.5** Record the journal entries for each of the following payroll transactions.

Apr. 2	Paid \$650 and \$340 cash to a federal depository for FICA Social Security and FICA Medicare, respectively
Apr. 4	Paid accumulated employee salaries of \$15,220
Apr. 11	Issued checks in the amounts of \$480 for federal income tax and \$300 for state income tax to an IRS-approved bank
Apr. 14	Paid cash to health insurance carrier for total outstanding health insurance liability of \$800
Apr. 22	Remitted cash payments for FUTA and SUTA to federal and state unemployment agencies in the amounts of \$130 and \$250, respectively



## Problem Set B

**PB1.** **LO 12.1** Consider the following situations and determine (1) which type of liability should be recognized (specific account), and (2) how much should be recognized in the current period (year).

- A. A business depreciates a building with a book value of \$12,000, using straight-line depreciation, no salvage value, and a remaining useful life of six years.
- B. An organization has a line of credit with a supplier. The company purchases \$35,500 worth of inventory on credit. Terms of purchase are 3/20, n/60.
- C. An employee earns \$1,000 in pay and the employer withholds \$46 for federal income tax.
- D. A customer pays \$4,000 in advance for legal services. The lawyer has previously recognized 30% of the services as revenue. The remainder is outstanding.

**PB2.** **LO 12.1** Perfume Depot sells two different tiers of perfume products to customers. They charge \$30 for tier 1 perfume and \$100 for tier 2 perfume. The sales tax rate is 4.5%. During the month of October, Perfume Depot sells 75 tier 1 perfumes, and 60 tier 2 perfumes.

- A. What is the total tax charged to the customer per tier 1 perfume? What is the overall charge per tier 1 category perfume?
- B. What is the total tax charged to the customer per tier 2 perfume? What is the overall charge per tier 2 category perfume?
- C. How much sales tax liability does Perfume Depot have for the month of October?
- D. What accounts are used to recognize this tax situation for the month of October?
- E. When Perfume Depot remits payment to the sales tax governing body, what happens to the sales tax liability?

**PB3.** **LO 12.2** Review the following transactions, and prepare any necessary journal entries for Sewing Masters Inc.

- A. On October 3, Sewing Masters Inc. purchases 800 yards of fabric (Fabric Inventory) at \$9.00 per yard from a supplier, on credit. Terms of the purchase are 1/5, n/40 from the invoice date of October 3.
- B. On October 8, Sewing Masters Inc. purchases 300 more yards of fabric from the same supplier at an increased price of \$9.25 per yard, on credit. Terms of the purchase are 5/10, n/20 from the invoice date of October 8.
- C. On October 18, Sewing Masters pays cash for the amount due to the fabric supplier from the October 8 transaction.
- D. On October 23, Sewing Masters pays cash for the amount due to the fabric supplier from the October 3 transaction.

**PB4.** **LO 12.2** Review the following transactions and prepare any necessary journal entries for *Woodworking Magazine*. *Woodworking Magazine* provides one issue per month to subscribers for a service fee of \$240 per year. Assume January 1 is the first day of operations for this company, and no new customers join during the year.

- A. On January 1, *Woodworking Magazine* receives advance cash payment from forty customers for magazine subscription services. Handyman had yet to provide subscription services as of January 1.
- B. On April 30, *Woodworking* recognizes subscription revenues earned.
- C. On October 31, *Woodworking* recognizes subscription revenues earned.
- D. On December 31, *Woodworking* recognizes subscription revenues earned.

**PB5.** LO 12.2 Review the following transactions and prepare any necessary journal entries.

- A. On January 5, Bunnet Co. purchases 350 aprons (Supplies) at \$25 per apron from a supplier, on credit. Terms of the purchase are 3/10, n/30 from the invoice date of January 5.
- B. On February 18, Melon Construction receives advance cash payment from a client for construction services in the amount of \$20,000. Melon had yet to provide construction services as of February 18.
- C. On March 21, Noonan Smoothies sells 875 smoothies for \$4 cash per smoothie. The sales tax rate is 6.5%.
- D. On June 7, Organic Methods paid a portion of their noncurrent note in the amount of \$9,340 cash.

**PB6.** LO 12.3 Roundhouse Tools has several potential warranty claims as a result of damaged tool kits. Review each situation and (1) determine the treatment for each situation as probable and estimable, probable and inestimable, reasonably possible, or remote; (2) determine what, if any, recognition or note disclosure is required; and (3) prepare any journal entries required to recognize a contingent liability.

- A. Roundhouse Tools has several claims for replacement of another tool kit not listed as one of their damaged tool kits. The honored warranty for these tool kits is not likely but is not remote. It is possible.
- B. A pending warranty claim has been received with the projected cost to be \$450. Roundhouse Tools believes honoring that warranty claim is likely to occur and that figure is reasonably estimated.
- C. Roundhouse Tools believes other potential warranties may have to be honored outside of the warranty period, but this is unlikely to occur.
- D. Warranty replacements will cost the company a percentage of sales for the period. This amount allotted for warranty replacements cannot be reasonably estimated but is likely to occur.

**PB7.** LO 12.3 Shoe Hut sells custom, handmade shoes. It offers a one-year warranty on all shoes for repair or replacement. Review each of the transactions and prepare any necessary journal entries for each situation.

- A. May 31: Shoe Hut sells 100 pairs of shoes during the month of May at a sales price per pair of shoes of \$240 cash. Shoe Hut records warranty estimates when sales are recognized and bases warranty estimates on 4% of sales.
- B. June 2: A customer files a warranty claim that Shoe Hut honors in the amount of \$30 for repair to laces. Laces Inventory corresponds to shoelace inventory used for repairs.
- C. June 4: Another customer files a warranty claim that Shoe Hut honors. Shoe Hut replaces the damaged shoes at a cost of \$200, affecting their Shoe Replacement Inventory account.
- D. August 10: Shoe Hut explores the possibility of bankruptcy, given the current economic conditions (recession). It determines the bankruptcy is unlikely to occur (remote).

**PB8.** LO 12.4 Air Compressors Inc. purchases compressor parts for its inventory from a supplier. The following transactions take place during the current year:

- A. On April 5, the company purchases 400 parts for \$8.30 per part, on credit. Terms of the purchase are 4/10, n/30, invoice dated April 5.
- B. On May 5, Air Compressors does not pay the amount due and renegotiates with the supplier. The supplier agrees to \$400 cash immediately as partial payment on note payable due, converting the debt owed into a short-term note, with a 7% annual interest rate, payable in three months from May 5.
- C. On August 5, Air Compressors pays its account in full.

Record the journal entries to recognize the initial purchase, the conversion plus cash, and the payment.

**PB9.** **LO 12.4** Pickles R Us is a pickle farm located in the Northeast. The following transactions take place:

- A. On November 6, Pickles borrows \$820,000 from a bank to cover the initial cost of expansion. Terms of the loan are payment due in six months from November 6, and annual interest rate of 3%.
- B. On December 12, Pickles borrows an additional \$200,000 with payment due in three months from December 12, and an annual interest rate of 10%.
- C. Pickles pays its accounts in full on March 12, for the December 12 loan, and on May 6 for the November 6 loan.

Record the journal entries to recognize the initial borrowings, and the two payments for Pickles.

**PB10.** **LO 12.5** Use [Figure 12.15](#) to complete the following problem. Roland Inc. employees' monthly gross pay information and their W-4 Form withholding allowances follow.

Employee	Monthly Gross Income	Withholding Allowances
Jim	\$1,000	1
Amy	\$1,200	2
Stephanie	\$2,300	3

Roland's payroll deductions include FICA Social Security at 6.2%, FICA Medicare at 1.45%, FUTA at 0.6%, SUTA at 5.4%, federal income tax (based on withholdings table) of gross pay, state income tax at 3% of gross pay, and health insurance coverage premiums of \$1,000 split 50% employees and 50% employer. Assume each employee files as single, gross income is the same amount each month, October is the first month of business operation for the company, and salaries have yet to be paid.

Record the entry or entries for accumulated employee and employer payroll for the month of October; dated October 31.

**PB11.** **LO 12.5** Use the information from [PB10](#) to complete this problem. Record entries for each transaction listed.

Nov. 1	Paid cash to a federal depository for FICA Social Security and FICA Medicare; paid accumulated salaries
Nov. 3	Remitted cash payment for FUTA and SUTA to federal and state unemployment agencies
Nov. 10	Issued a check to an IRS-approved bank for federal and state income taxes
Nov. 12	Paid cash to health insurance carrier for total outstanding health insurance liability



## Thought Provokers

**TP1.** **LO 12.1** Research a Major League Baseball team's season ticket prices. Pick one season ticket price level and answer the following questions:

- What team did you choose, and what are the ticket prices for a season?
- What is the sales tax rate for the purchase of season tickets?
- How many games are included in the season package?
- What are the refund and exchange policies for purchases?
- What are some benefits to the team with customers paying in advance for season tickets?
- Explain in detail the unearned revenue liability created from season ticket sales.
- When does the team recognize this future revenue as earned?
- What effect does the refund or exchange policy have on the unearned revenue account, and the ability of the team to recognize revenue?
- If unearned revenue was split equally among all games (not including playoff games), how much would be recognized per game?
- Explain in detail the sales tax liability created from season ticket sales.
- When does the team collect sales tax?
- What is the final purchase price of the season ticket with sales tax?
- Where does the team recognize the sales tax liability (which statement and account[s])?
- To whom does the team pay the sales tax collected?
- When is sales tax payment required?

**TP2.** **LO 12.2** Review [TP1](#). Review current season ticket prices for one Major League Baseball team. Choose one season ticket price area to review.

- A. Determine what is recognized as per ticket revenue after each game is played for your chosen season ticket price area. Assume an equal amount is distributed per game. Do not include playoff games or preseason games in your computations. If parking and other amenities are factored into the season ticket price, please continue to include them in your calculations.
- B. Determine an average attendance figure for this team during the 2016 season for all seating areas, and per game (assume equal distribution of game attendance), and use this as a projection for future attendance. You may use Ballparks of Baseball <http://www.ballparksofbaseball.com/2010s-ballpark-attendance/> for attendance figures.
- C. Assume that attendance is distributed equally between all season ticket areas. Determine the attendance for your season ticket area for the season and per game.
- D. Determine the total unearned ticket revenue amount before the season begins. Assume all season ticket holders paid with cash, in full.
- E. Prepare the journal entry to recognize unearned ticket revenue at the beginning of the season for your chosen season ticket area. Assume all seats are filled by season ticket holders. Show any support calculations and documentation used.
- F. Prepare the journal entry to recognize ticket revenue earned after the first game is played in your chosen season ticket area.
- G. Suppose the team only records revenues every three months (at the end of each month), record the journal entry to recognize the first three months of ticket revenue earned during the season in your chosen season ticket area.

**TP3.** **LO 12.3** **Toyota** is a car manufacturer that has issued several recalls over the years. One major recall centered on faulty air bags from **Takata**. A prior recall focused on unintentional pedal acceleration. Research information about the car manufacturer, and one of the two recall situations described. Answer the following questions:

- What are some of the main points discussed in the supplements you researched?
- What negative impact did this recall have on Toyota?
- As a result of the recall, what contingent liabilities were (or could be) created?
- How did Toyota handle the reporting of these contingent liabilities?
- How did Toyota determine the estimated liability amounts?
- Do you agree with Toyota's treatment assignment for reported liabilities (probable and estimable, probable and inestimable, for example)?
- What note disclosures accompanied the recognized contingent liabilities?
- What long-term effect, if any, did the recall have on Toyota's financials and reputation?

**TP4.** **LO 12.4** You own a farm and grow seasonal products such as pumpkins, squash, and pine trees. Most of your business revenues are earned during the months of October to December. The rest of your year supports the growing process, where revenues are minimal and expenses are high. In order to cover the expenses from January to September, you consider borrowing a short-term note from a bank for \$300,000.

- Research the lending practices of a local bank.
- Determine the interest rate charged for a \$300,000 loan.
- What collateral does the bank require to secure the loan?
- Determine your overall payback amount if you were to repay the loan in less than one year. Choose either a payback with periodic payments or all at the end of the loan term, and compare the outcomes.
- After conducting your research, would you consider borrowing the money?
- What positive and negative outcomes accompany borrowing the money?

**TP5.** **LO 12.5** Payroll Comparison Research Paper: Search the Internet for local public K–12 school districts, community colleges, and public universities that publish their employees' salary (pay) schedules. Also research any available data on employee benefits provided to each of these schools. Review federal and state taxation rates on income, unemployment, Social Security, and Medicare. Write a comprehensive paper addressing the following questions and situations. You must provide scholarly data and source information to support your claims.

- Which schools did you compare?
- How do the salaries compare for each school entity?
- What voluntary benefits were provided by the employer (school district)?
- What involuntary deductions would be taken out of these salaries?
- What would your federal, state, and local income tax rates be if you worked for one of these schools?  
Hint: Choose one of the salaries from the schedule.
- Create a Form W-4 to determine your tax liability.
- Assume you are the employer for your chosen school. Prepare journal entries to record January's employee and employer payroll (assume January is the first pay period and you are preparing the entry for one employee). You must record the liabilities from the January 31 payroll, along with the payment of these liabilities on February 1.
- Record any observations you have made at the culmination of your research, and connect these observations to what you've learned about current liabilities.

**Figure 13.1** Car Purchase. Purchasing a vehicle can be an exciting experience. A vehicle is a significant financial investment and buyers want to ensure they are getting a good value for their money. (credit left: modification of “Auto” by unknown/Pixabay, CC0; credit right: modification of “Guy” by unknown/Pixabay, CC0)

## Chapter Outline

- LO 13.1** Explain the Pricing of Long-Term Liabilities
- LO 13.2** Compute Amortization of Long-Term Liabilities Using the Effective-Interest Method
- LO 13.3** Prepare Journal Entries to Reflect the Life Cycle of Bonds
- LO 13.4** Appendix: Special Topics Related to Long-Term Liabilities



### Why It Matters

Olivia is excited to be shopping for her very first car. She has saved up money from birthdays, holidays, and household chores and would like to get a vehicle so she can get a summer job. Her mother mentioned that a coworker is selling one of their vehicles.

Olivia and her family decide to go look at the vehicle and take it for a test drive. After inspecting the vehicle and taking it for a test drive, Olivia decides she would like to purchase the car. Olivia planned on spending up to \$6,000 (the amount that she has saved), but the seller is asking \$9,000 for this particular vehicle. Because the car has been well-maintained and has many extra features, Olivia decides it is worth spending the extra money in order to get reliable transportation. However, she is not sure how to come up with the additional \$3,000. Olivia’s parents tell her she can get a bank loan of \$3,000 to cover the difference, but she will have to repay the bank more than the \$3,000 she is borrowing. This is because the loan will be repaid over a period of time, say twelve months, and the loan will require that she pay interest in addition to repaying the \$3,000 in principal that she is borrowing. After meeting with the bank and signing the necessary paperwork to secure

the \$3,000 loan, a few days later Olivia returns to the seller with a check for \$9,000 and is overjoyed to have purchased her first vehicle.

## 13.1 Explain the Pricing of Long-Term Liabilities

Businesses have several ways to secure financing and, in practice, will use a combination of these methods to finance the business. As you've learned, net income does not necessarily mean cash. In some cases, in the long-run, profitable operations will provide businesses with sufficient cash to finance current operations and to invest in new opportunities. However, situations might arise where the cash flow generated is insufficient to cover future anticipated expenses or expansion, and the company might need to secure additional funding.

If the extra amount needed is somewhat temporary or small, a short-term source, such as a loan, might be appropriate. Short-term (current) liabilities were covered in [Current Liabilities](#). When additional long-term funding needs arise, a business can choose to sell stock in the company (equity-based financing) or obtain a **long-term liability** (debt-based financing), such as a loan that is spread over a period longer than a year.

### Types of Long-Term Funding

If a company needs additional funding for a major expenditure, such as expansion, the source of funding would typically be repaid over several years, or in the case of equity-based financing, over an indefinite period of time. With equity-based financing, the company sells an interest in the company's ownership by issuing shares of the company's common stock. This financing option is equity financing, and it will be addressed in detail in [Corporation Accounting](#). Here, we will focus on two major long-term debt-based options: long-term loans and bonds.

Debt as an option for financing is an important source of funding for businesses. If a company chooses a debt-based option, the business can borrow money on an intermediate (typically two to four years) or long-term (longer than four years) basis from lenders. In the case of bonds, the funds would be provided by investors. While loans and bonds are similar in that they borrow money on which the borrower will pay interest and eventually repay the lenders, they have some important differences. First, a company can raise funds by borrowing from an individual, bank, or other lender, while a bond is typically sold to numerous investors. When a company chooses a loan, the business signs what is known as a note, and a legal relationship called a **note payable** is created between the borrower and the lender. The document lists the conditions of the financial arrangement, a fixed predetermined interest rate (or, if the agreement allows, a variable interest rate), the amount borrowed, the borrowing costs to be charged, and the timing of the payments. In some cases, companies will secure an **interest-only loan**, which means that for the life of the loan the organization pays only the interest expense that has accrued and upon maturity repays the original amount that it borrowed and still owes. For individuals a student loan, car loan, or a mortgage can all be types of notes payable. For Olivia's car purchase in [Why It Matters](#), a document such as a **promissory note** is typically created, representing a personal loan agreement between a lender and borrower. [Figure 13.2](#) shows a sample promissory note that might be used for a simple, relatively intermediate-term loan. If we were considering a loan that would be repaid over a several-year period the document might be a little more complicated, although it would still have many of the same components of Olivia's loan document.

<b>PROMISSORY NOTE</b>	
<b>Loan Agreement Effective Date:</b> <i>[DD/MM/YYYY]</i>	
<b>Borrower:</b> _____	<b>Lender:</b> _____
_____	_____
<i>Address Line 1 (street address)</i>	<i>Address Line 1 (street address)</i>
_____	_____
<i>Address Line 2 (city/state/zip code)</i>	<i>Address Line 2 (city/state/zip code)</i>
<p><b>Promise to pay: in U.S. Dollars \$</b> _____ <b>within</b> _____ <b>months from today, in equal continuous monthly payments of \$</b> _____ <b>each on the</b> _____ <b>day of each month, beginning on</b> _____ <b>and ending on</b> _____.</p> <p>Borrower promises to pay the Lender the principal listed above plus interest at the APR % rate of: _____.</p>	
<p><b>Value Received for Property as described:</b></p> <p>_____.</p>	
<p><i>If this note is not paid in full upon date due, I/we agree to pay all reasonable costs for collection, including all attorney fees.</i></p>	

**Figure 13.2** Promissory Note. A personal loan agreement is a formal contract between a lender and borrower. The document lists the conditions of the loan, including the amount borrowed, the borrowing costs to be charged, and the timing of the payments. (attribution: Copyright Rice University, OpenStax, under CC BY-NC-SA 4.0 license)

If debt instruments are created with a variable interest rate that can fluctuate up or down, depending upon predetermined factors, an inflation measurement must also be included in the documentation. The Federal Funds Rate, for example, is a commonly used tool for potential adjustments in interest rates. To keep our discussion simple, we will use a fixed interest rate in our subsequent calculations.

Another difference between loans and bonds is that the note payable creates an obligation for the borrower to repay the lender on a specified date. To demonstrate the mechanics of a loan, with loans, a note payable is created for the borrower when the loan is initiated. This example assumes the loan will be paid in full by the maturity or due date. Typically, over the life of the loan, payments will be composed of both principal and interest components. The principal component paid typically reduces the amount that the borrower owes the lender. For example, assume that a company borrowed \$10,000 from a lender under the following terms: a five-year life, an annual interest rate of 10%, and five annual payments at the end of the year.

Under these terms, the annual payment would be \$2,637.97. The first year's payment would be allocated to an interest expense of \$1,000, and the remaining amount of the payment would go to reduce the amount borrowed (principal) by \$1,637.97. After the first year's payment, the company would owe a remaining balance of \$8,362.03 (\$10,000 – \$1637.97.) Additional detail on this type of calculation will be provided in [Compute Amortization of Long-Term Liabilities Using the Effective-Interest Method](#).

Typical long-term loans have other characteristics. For example, most long-term notes are held by one entity,

meaning one party provides all of the financing. If a company bought heavy-duty equipment from Caterpillar, it would be common for the seller of the equipment to also have a division that would provide the financing for the transaction. An additional characteristic of a long-term loan is that in many, if not most, situations, the initial creator of the loan will hold it and receive and process payments until it matures.

Returning to the differences between long-term debt and bonds, another difference is that the process for issuing (selling) bonds can be very complicated, especially for companies that are subject to regulation. The bond issue must be approved by the appropriate regulatory agency, and then outside parties such as investment banks sell the bonds to, typically, a large audience of investors. It is not unusual for several months to pass between the time that the company's board of directors approves the bond offering, gets regulatory approval, and then markets and issues the bonds. This additional time is often the reason that the market rate for similar bonds in the outside business environment is higher or lower than the stated interest rate that the company committed to pay when the bond process was first begun. This difference can lead to bonds being issued (sold) at a discount or premium.

Finally, while loans can normally be paid off before they are due, in most cases bonds must be held by an owner until they mature. Because of this last characteristic, a bond, such as a thirty-year bond, might have several owners over its lifetime, while most long-term notes payable will only have one owner.

## ETHICAL CONSIDERATIONS

### Bond Fraud

The U.S. Department of the Treasury (DOT) defines historical bonds as “those bonds that were once valid obligations of American entities but are now worthless as securities and are quickly becoming a favorite tool of scam artists.”<sup>[1]</sup> The DOT also warns against scams selling non-existent “limited edition” U.S. Treasury securities. The scam involves approaching broker-dealers and banks to act as fiduciaries for transactions. Further, the DOT notes: “The proposal to sell these fictitious securities makes misrepresentations about the way marketable securities are bought and sold, and it also misrepresents the role that we play in the original sale and issuance of our securities.”<sup>[2]</sup> Many fraudulent attempts are made to sell such bonds.

According to *Business Insider*, in the commonest scam, a fake bearer bond is offered for sale for far less than its stated cover price. The difference in the cost and the cover price entices the victim to buy the bond. Again, from *Business Insider*: “Another variation is a flavor of the ‘Nigerian prince’ scheme; the fraudster will ask for the victim’s help in depositing a recently obtained ‘fortune’ in bonds, promising the victim a cut in return.”<sup>[3]</sup>

A diligent accountant is both educated about the investments of their company or organization and is skeptical about any investment that looks too good to be true.

1 U.S. Department of the Treasury. “Historical Bond Fraud.” September 21, 2012. <https://www.treasury.gov/about/organizational-structure/ig/Pages/Scams/Historical-Bond-Fraud.aspx>

2 U.S. Department of the Treasury. “Examples of Known Phony Securities.” April 5, 2013. <https://www.treasury.gov/about/organizational-structure/ig/Pages/Scams/Examples-of-Known-Phony-Securities.aspx>

3 Lawrence Delavigne. “Fake Bearer Bonds Were Just the Beginning of Huge Wave of Bond-Fraud.” *Business Insider*. October 12, 2009. <https://www.businessinsider.com/bond-fraud-is-on-the-rise-2009-10>

## YOUR TURN

### Current versus Long-Term Liabilities

Below is a portion of the 2017 Balance Sheet of **Emerson, Inc.** (shown in millions of dollars).<sup>[4]</sup> There are several observations we can make from this information.

	2016	2017
<b>Current liabilities</b>		
Short-term borrowings and current maturities of long-term debt	\$2,584	862
<b>Long-term debt</b>	4,051	3,794

Notice the company lists separately the Current Liabilities (listed as “Short-term borrowings and current maturities of long-term debt”) and Long-term Liabilities (listed as “Long-term debt”). Also, under the “Current liabilities” heading, notice the “Short-term borrowings and current maturities of long-term debt” decreased significantly from 2016 to 2017. In 2016, Emerson held \$2.584 billion in short-term borrowings and current maturities of long-term debt. This amount decreased by \$1.722 billion in 2017, which is a 67% decrease. During the same timeframe, long-term debt decreased \$257 million, going from \$4.051 billion to \$3.794 billion, which is a 6.3% decrease.

Thinking about the primary purpose of accounting, why do you think accountants separate liabilities into current liabilities and long-term liabilities?

#### Solution

The primary purpose of accounting is to provide stakeholders with financial information that is useful for decision making. It is important for stakeholders to understand how much cash will be required to satisfy liabilities within the next year (liquidity) as well as how much will be required to satisfy long-term liabilities (solvency). Stakeholders, especially lenders and owners, are concerned with both liquidity and solvency of the business.

## Fundamentals of Bonds

Now let us look at bonds in more depth. A **bond** is a type of financial instrument that a company issues directly to investors, bypassing banks or other lending institutions, with a promise to pay the investor a specified rate of interest over a specified period of time. When a company borrows money by selling bonds, it is said the company is “issuing” bonds. This means the company exchanges cash for a promise to repay the cash, along with interest, over a set period of time. As you’ve learned, bonds are formal legal documents that contain specific information related to the bond. In short, it is a legal contract—called a bond certificate (as shown in [Figure 13.3](#)) or an indenture—between the issuer (the business borrowing the money) and the lender (the investor lending the money). Bonds are typically issued in relatively small denominations, such as \$1,000 so they can be placed in the market and are accessible to a greater market of investors compared to notes. The

4 Emerson. 2017 Annual Report. Emerson Electric Company. 2017. <https://www.emerson.com/documents/corporate/2017emersonannualreport-en-2883292.pdf>

**bond indenture** is a contract that lists the features of the bond, such as the amount of money that will be repaid in the future, called the **principal** (also called face value or maturity value); the **maturity date**, the day the bond holder will receive the principal amount; and the **stated interest rate**, which is the rate of interest the issuer agrees to pay the bondholder throughout the term of the bond.



**Figure 13.3** Bond Certificate. If you bought this \$1,000 bond on July 1, 2018 and received this bond certificate, it had three important pieces of information: the maturity date (June 30, 2023, 5 years from the issue date when the company will pay back the \$1,000); the principal amount (\$1,000) which is the amount you will receive in 2023; and the stated annual interest rate (5%) which they will use to determine how much cash to send you each year ( $0.05 \times \$1,000 = \$50$  interest a year for 5 years). (attribution: Copyright Rice University, OpenStax, under CC BY-NC-SA 4.0 license)

For a typical bond, the issuer commits to paying a stated interest rate either once a year (annually) or twice a year (semiannually). It is important to understand that the stated rate will not go up or down over the life of the bond. This means the borrower will pay the same semiannual or annual interest payment on the same dates for the life of the bond. In other words, when an investor buys a typical bond, the investor will receive, in the future, two major cash flows: periodic interest payments paid either annually or semiannually based on the stated rate of the bond, and the maturity value, which is the total amount paid to the owner of the bond on the maturity date.

## LINK TO LEARNING

The website for the [nonprofit Kiva \(https://openstax.org/l/50Kiva\)](https://openstax.org/l/50Kiva) allows you to lend money to people around the world. The borrower makes monthly payments to pay the loan back. The companies [Prosper \(https://openstax.org/l/50Prosper\)](https://openstax.org/l/50Prosper) and [LendingClub \(https://openstax.org/l/50LendingClub\)](https://openstax.org/l/50LendingClub) let you borrow or lend money to people in the U.S. who then make monthly payments, with interest, to pay it

back.

The process of preparing a bond issuance for sale and then selling on the primary market is lengthy, complex, and is usually performed by underwriters—finance professionals who specialize in issuing bonds and other financial instruments. Here, we will only examine transactions concerning issuance, interest payments, and the sale of existing bonds.

There are two other important characteristics of bonds to discuss. First, for most companies, the total value of bonds issued can often range from hundreds of thousands to several million dollars. The primary reason for this is that bonds are typically used to help finance significant long-term projects or activities, such as the purchase of equipment, land, buildings, or another company.

## CONCEPTS IN PRACTICE

### Apple Inc. Issues Bonds

On May 11, 2017, **Apple Inc.** issued bonds to get cash. **Apple Inc.** submitted a form to the Securities and Exchange Commission ([www.sec.gov](http://www.sec.gov)) to announce their intentions.

Apple Bonds Issued May 11, 2017		
Maturity	Interest Rate	Bond Amount
2020	Floating rate (variable)	\$ 500,000,000.00
2022	Floating rate (variable)	750,000,000.00
2020	1.80% fixed	1,000,000,000.00
2022	2.30% fixed	1,000,000,000.00
2024	2.85% fixed	1,750,000,000.00
2027	3.20% fixed	<u>2,000,000,000.00</u>
		\$7,000,000,000.00

On May 3 of the same year, **Apple Inc.** had issued their 10-Q (quarterly report) that showed the following assets.

APPLE INC.		
Condensed Consolidated Balance Sheets (Unaudited)		
(In millions, except number of shares which are reflected in thousands and par value)		
Assets	April 1, 2017	September 24, 2016
Current assets:		
Cash and cash equivalents	\$15,157	\$20,484

**Apple Inc.** reported it had \$15 billion dollars in cash and a total of \$101 billion in Current Assets. Why did it need to issue bonds to raise \$7 billion more?

Analysts suggested that **Apple** would use the cash to pay shareholder dividends. Even though **Apple** reported billions of dollars in cash, most of the cash was in foreign countries because that was where the products had been sold. Tax laws vary by country, but if **Apple** transferred the cash to a US bank account,

they would have to pay US income tax on it, at a tax rate as high as 39%. So, **Apple** was much better off borrowing and paying 3.2% interest, which is tax deductible, than bringing the cash to the US and paying a 39% income tax.

However, it's important to remember that in the United States, Congress can change tax laws at any time, so what was then current tax law when this transaction occurred could change in the future.

The second characteristic of bonds is that bonds are often sold to several investors instead of to one individual investor.

When establishing the stated rate of interest the business will pay on a bond, bond underwriters consider many factors, including the interest rates on government treasury bonds (which are assumed to be risk-free), rates on comparable bond offerings, and firm-specific factors related to the business's risk (including its ability to repay the bond). The more likely the possibility that a company will default on the bond, meaning they either miss an interest payment or do not return the maturity amount to the bond's owner when it matures, the higher the interest rate is on the bond. It is important to understand that the stated rate will not change over the life of any one bond once it is issued. However, the stated rate on future new bonds may change as economic circumstances and the company's financial position changes.

Bonds themselves can have different characteristics. For example, a **debenture** is an unsecured bond issued based on the good name and reputation of the company. These companies are not pledging other assets to cover the amount in case they fail to pay the debt, or **default**. The opposite of a debenture is a **secured bond**, meaning the company is pledging a specific asset as collateral for the bond. With a secured bond, if the company goes under and cannot pay back the bond, the pledged asset would be sold, and the proceeds would be distributed to the bondholders.

There are **term bonds**, or single-payment bonds, meaning the entire bond will be repaid all at once, rather than in a series of payments. And there are **serial bonds**, or bonds that will mature over a period of time and will be repaid in a series of payments.

A **callable bond** (also known as a redeemable bond) is one that can be repurchased or "called" by the issuer of the bond. If a company sells callable bonds with an 8% interest rate and the interest rate the bank is offering subsequently drops to 5%, the company can borrow at that new rate of 5%, call the 8% bonds, and pay them off (even if the purchaser does not want to sell them back). In essence, the institution would be lowering its rate of interest to borrow money from 8% to 5% by calling the bond.

**Puttable bonds** give the bondholder the right to decide whether to sell it back early or keep it until it matures. It is essentially the opposite of a callable bond.

A **convertible bond** can be converted to common stock in a one-way, one-time conversion. Under what conditions would it make sense to convert? Suppose the face-value interest rate of the bond is 8%. If the company is doing well this year, such that there is an expectation that shareholders will receive a significant dividend and the stock price will rise, the stock might appear to be more valuable than the return on the bond.

## THINK IT THROUGH

### Callable versus Puttable Bonds

Which type of bond is better for the corporation issuing the bond: callable or puttable?

## ETHICAL CONSIDERATIONS

### Junk Bonds

Junk bonds, which are also called speculative or high-yield bonds, are a specific type of bond that can be attractive to certain investors. On one hand, junk bonds are attractive because the bonds pay a rate of interest that is significantly higher than the average market rate. On the other hand, the bonds are riskier because the issuing company is deemed to have a higher risk of defaulting on the bonds. If the economy or the company's financial condition deteriorates, the company will be unable to repay the money borrowed. In short, junk bonds are deemed to be high risk, high reward investments.

The development of the junk bond market, which occurred during the 1970s and 1980s, is attributed to Michael Milken, the so-called "junk bond king." Milken amassed a large fortune by using junk bonds as a means of financing corporate mergers and acquisitions. It is estimated that during the 1980s, Milken earned between \$200 million and \$550 million per year.<sup>[5]</sup> In 1990, however, Milken's winning streak came to an end when, according to the *New York Times*, he was indicted on "98 counts of racketeering, securities fraud, mail fraud and other crimes."<sup>[6]</sup> He later pleaded guilty to six charges, resulting in a 10-year prison sentence, of which he served two, and was also forced to pay over \$600 million in fines and settlements.<sup>[7]</sup>

Today, Milken remains active in philanthropic activities and, as a cancer survivor, remains committed to medical research.

### Pricing Bonds

Imagine a concert-goer who has an extra ticket for a good seat at a popular concert that is sold out. The concert-goer purchased the ticket from the box office at its face value of \$100. Because the show is sold out, the ticket could be resold at a premium. But what happens if the concert-goer paid \$100 for the ticket and the show is not popular and does not sell out? To convince someone to purchase the ticket from her instead of the box office, the concert-goer will need to sell the ticket at a discount. Bonds behave in the same way as this concert ticket.

Bond quotes can be found in the financial sections of newspapers or on the Internet on many financial websites. Bonds are quoted as a percentage of the bond's maturity value. The percentage is determined by

5 James Chen. "Micheal Milken." January 22, 2018. <https://www.investopedia.com/terms/m/michaelmilken.asp>

6 Kurt Eichenwald. "Milken Set to Pay a \$600 Million Fine in Wall St. Fraud." April 21, 1990. <https://www.nytimes.com/1990/04/21/business/milken-set-to-pay-a-600-million-fine-in-wall-st-fraud.html?pagewanted=all>

7 Michael Buchanan. "November 21, 1990, Michael Milken Sentenced to 10 Years for Security Law Violations." November 20, 2011. <http://reasonable-doubt.org/criminallawblog/entry/november-21-1990-michael-milken-sentenced-to-10-years-for-security-law-violations-today-in-crime-history-1>

dividing the current market (selling) price by the maturity value, and then multiplying the value by 100 to convert the decimal into a percentage. In the case of a \$30,000 bond discounted to \$27,591.94 because of an increase in the market rate of interest, the bond quote would be  $\$27,591.24/\$30,000 \times 100$ , or 91.9708. Using another example, a quote of 88.50 would mean that the bonds in question are selling for 88.50% of the maturity value. If an investor were considering buying a bond with a \$10,000 maturity value, the investor would pay 88.50% of the maturity value of \$10,000, or \$8,850.00. If the investor was considering bonds with a maturity value of \$100,000, the price would be \$88,500. If the quote were over 100, this would indicate that the market interest rate has decreased from its initial rate. For example, a quote of 123.45 indicates that the investor would pay \$123,450 for a \$100,000 bond.

Figure 13.4 shows a bond issued on July 1, 2018. It is a promise to pay the holder of the bond \$1,000 on June 30, 2023, and 5% of \$1,000 every year. We will use this bond to explore how a company addresses interest rate changes when issuing bonds.



**Figure 13.4** Bond Certificate. A bond certificate shows the terms of the bond. (attribution: Copyright Rice University, OpenStax, under CC BY-NC-SA 4.0 license)

On this bond certificate, we see the following:

- The \$1,000 principal or maturity value.
- The interest rate printed on the face of the bond is the stated interest rate, the contract rate, the face rate, or the **coupon rate**. This rate is the interest rate used to calculate the interest payment on bonds.

### Issuing Bonds When the Contract and Market Rates Are the Same

If the stated rate and the market rate are both 5%, the bond will be issued at **par value**, which is the value assigned to stock in the company's charter, typically set at a very small arbitrary amount, which serves as legal capital; in our example, the part value is \$1,000. The purchaser will give the company \$1,000 today and will receive \$50 at the end of every year for 5 years. In 5 years, the purchaser will receive the maturity value of the \$1,000. The bond's quoted price is 100.00. That is, the bond will sell at 100% of the \$1,000 face value, which means the seller of the bond will receive (and the investor will pay) \$1,000.00. You will learn the calculations

used to determine a bond's quoted price later; here, we will provide the quoted price for any calculations.

## LINK TO LEARNING

The Securities and Exchange Commission website [Investor.gov](https://investor.gov) provides an explanation of corporate bonds (<https://openstax.org/l/50SECBonds>) to learn more.

### Issuing Bonds at a Premium

The stated interest rate is not the only rate affecting bonds. There is also the market interest rate, also called the effective interest rate or bond yield. The amount of money that borrowers receive on the date the bonds are issued is influenced by the terms stated on the bond indenture *and* on the market interest rate, which is the rate of interest that investors can earn on similar investments. The market interest rate is influenced by many factors external to the business, such as the overall strength of the economy, the value of the U.S. dollar, and geopolitical factors.

This **market interest rate** is the rate determined by supply and demand, the current overall economic conditions, and the credit worthiness of the borrower, among other factors. Suppose that, while a company has been busy during the long process of getting its bonds approved and issued (it might take several months), the interest rate changed because circumstances in the market changed. At this point, the company cannot change the rate used to market the bond issue. Instead, the company might have to sell the bonds at a price that will be the equivalent of having a different stated rate (one that is equivalent to a market rate based on the company's financial characteristics at the time of the issuance (sale) of the bonds).

If the company offers 5% (the bond rate used to market the bond issue) and the market rate prior to issuance drops to 4%, the bonds will be in high demand. The company is scheduled to pay a higher interest rate than everyone else, so it can issue them for more than face value, or at a premium. In this example, where the stated interest rate is higher than the market interest rate, let's say the bond's quoted price is 104.46. That is, the bond will sell at 104.46% of the \$1,000 face value, which means the seller of the bond will receive and the investor will pay \$1,044.60.

### Issuing Bonds at a Discount

Now let's consider a situation when the company's bonds prior to issuance are scheduled to pay 5% and the market rate jumps to 7% at issuance. No one will want to buy the bonds at 5% when they can earn more interest elsewhere. The company will have to sell the \$1,000 bond for less than \$1,000, or at a discount. In this example, where the stated interest rate is lower than the market interest rate, the bond's quoted price is 91.80. That is, the bond will sell at 91.80% of the \$1,000 face value, which means the seller of the bond will receive (and the investor will pay) \$918.00.

### Sale of Bonds before Maturity

Let's look at bonds from the perspective of the issuer and the investor. As we previously discussed, bonds are often classified as long-term liabilities because the money is borrowed for long periods of time, up to 30 years in some cases. This provides the business with the money necessary to fund long-term projects and investments in the business. Due to unanticipated circumstances, the investors, on the other hand, may not

want to wait up to 30 years to receive the maturity value of the bond. While the investor will receive periodic interest payments while the bond is held, investors may want to receive the current market value prior to the maturity date. Therefore, from the investor's perspective, one of the advantages of investing in bonds is that they are typically easy to sell in the secondary market should the investor need the money before the maturity date, which may be many years in the future. The **secondary market** is an organized market where previously issued stocks and bonds can be traded after they are issued.

If a bond sells on the secondary market after it has been issued, the terms of the bond (a particular interest rate, at a determined timeframe, and a given maturity value) do not change. If an investor buys a bond after it is issued or sells it before it matures, there is the possibility that the investor will receive more or less for the bond than the amount the bond was originally sold for. This change in value may occur if the market interest rate differs from the stated interest rate.

## CONTINUING APPLICATION AT WORK

### Debt Considerations for Grocery Stores

Every company faces internal decisions when it comes to borrowing funds for improvements and/or expansions. Consider the improvements your local grocery stores have made over the past couple of years. Just like any large retail business, if grocery stores don't invest in each property by adding services, upgrading the storefront, or even making more energy efficient changes, the location can fall out of popularity.

Such investments require large amounts of capital infusion. The primary available investment funds for privately-owned grocery chains are bank loans or owners' capital. This limitation often restricts the expansions or upgrades such a company can do at any one time. Publicly-traded grocery chains can also borrow funds from a bank, but other options, like issuing bonds or more stock can also help fund development. Thus publicly-traded grocery chains have more options to fund improvements and can therefore expand their share of the market more easily, unlike their private smaller counterparts who must decide what improvement is the most critical.

## Fundamentals of Interest Calculation

Since interest is paid on long-term liabilities, we now need to examine the process of calculating interest. Interest can be calculated in several ways, some more common than others. For our purposes, we will explore interest calculations using the simple method and the compounded method. Regardless of the method involved, there are three components that we need when calculating interest:

1. Amount of money borrowed (called the principal).
2. Interest rate for the time frame of the loan. Note that interest rates are usually stated in annual terms (e.g., 8% per year). If the timeframe is excluded, an annual rate should be assumed. Pay particular attention to how often the interest is to be paid because this will affect the rate used in the calculation:

$$\text{Interest rate} = \text{Annual rate} / \text{Payments per period}$$

For example, if the rate on a bond is 6% per year but the interest is paid semi-annually, the rate used in the interest calculation should be 3% because the interest applies to a 6-month timeframe ( $6\% \div 2$ ). Similarly, if the rate on a bond is 8% per year but the interest is paid quarterly, the rate used in the interest calculation should be 2% ( $8\% \div 4$ ).

3. Time period for which we are calculating the interest.

Let's explore simple interest first. We use the following formula to calculate interest in dollars:

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

*Principal* is the amount of money invested or borrowed, *interest rate* is the interest rate paid or earned, and *time* is the length of time the principal is borrowed or invested. Consider a bank deposit of \$100 that remains in the account for 3 years, earning 6% per year with the bank paying simple interest. In this calculation, the interest rate is 6% a year, paid once at the end of the year. Using the interest rate formula from above, the interest rate remains 6% ( $6\% \div 1$ ). Using 6% interest per year earned on a \$100 principal provides the following results in the first three years ([Figure 13.5](#)):

- Year 1: The \$100 in the bank earns 6% interest, and at the end of the year, the bank pays \$6.00 in interest, making the amount in the bank account \$106 (\$100 principal + \$6 interest).
- Year 2: Assuming we do not withdraw the interest, the \$106 in the bank earns 6% interest on the principal (\$100), and at the end of the year, the bank pays \$6 in interest, making the total amount \$112.
- Year 3: Again, assuming we do not withdraw the interest, \$112 in the bank earns 6% interest on the principal (\$100), and at the end of the year, the bank pays \$6 in interest, making the total amount \$118.

Year	1	2	3
Initial investment	\$ 100.00	\$ 100.00	\$ 100.00
Annual interest rate, 6%	0.06	0.06	0.06
Interest earned	\$ 6.00	\$ 6.00	\$ 6.00
Add amount to date	\$100.00	\$106.00	\$112.00
= Total cash	\$106.00	\$112.00	\$118.00

**Figure 13.5** Simple Interest. Simple interest earns money only on the principal. (attribution: Copyright Rice University, OpenStax, under CC BY-NC-SA 4.0 license)

With simple interest, the amount paid is always based on the principal, not on any interest earned.

Another method commonly used for calculating interest involves compound interest. **Compound interest** means that the interest earned also earns interest. [Figure 13.6](#) shows the same deposit with compounded interest.

Year	1	2	3
Initial investment	\$100.00	\$106.00	\$112.36
Annual interest rate, 6%	0.06	0.06	0.06
Interest earned	\$ 6.00	\$ 6.36	\$ 6.74
Add amount to date	\$100.00	\$106.00	\$112.36
= Total cash	\$106.00	\$112.36	\$119.10

**Figure 13.6** Compound Interest. Compound interest earns money on the principal plus interest earned in a previous period. (attribution: Copyright Rice University, OpenStax, under CC BY-NC-SA 4.0 license)

In this case, investing \$100 today in a bank that pays 6% per year for 3 years with compound interest will produce \$119.10 at the end of the three years, instead of \$118.00, which was earned with simple interest.

At this point, we need to provide an assumption we make in this chapter. Since financial institutions typically cannot deal in fractions of a cent, in calculations such as the above, we will round the final answer to the nearest cent, if necessary. For example, the final cash total at the end of the third year in the above example would be \$119.1016. However, we rounded the answer to the nearest cent for convenience. In the case of a car or home loan, the rounding can lead to a higher or lower adjustment in your final payment. For example, you might finance a car loan by borrowing \$20,000 for 48 months with monthly payments of \$469.70 for the first 47 months and \$469.74 for the final payment.

## LINK TO LEARNING

Go to the [Securities and Exchange Commission website for an explanation of US Savings Bonds \(https://openstax.org/l/50SECSaveBond\)](https://openstax.org/l/50SECSaveBond) to learn more.

### 13.2 Compute Amortization of Long-Term Liabilities Using the Effective-Interest Method

In our discussion of long-term debt amortization, we will examine both notes payable and bonds. While they have some structural differences, they are similar in the creation of their amortization documentation.

#### Pricing of Long-Term Notes Payable

When a consumer borrows money, she can expect to not only repay the amount borrowed, but also to pay interest on the amount borrowed. When she makes periodic loan payments that pay back the principal and interest over time with payments of equal amounts, these are considered **fully amortized notes**. In these timed payments, part of what she pays is interest. The amount borrowed that is still due is often called the principal. After she has made her final payment, she no longer owes anything, and the loan is fully repaid, or amortized. **Amortization** is the process of separating the principal and interest in the loan payments over the life of a loan. A fully amortized loan is fully paid by the end of the maturity period.

In the following example, assume that the borrower acquired a five-year, \$10,000 loan from a bank. She will repay the loan with five equal payments at the end of the year for the next five years. The bank's required interest rate is an annual rate of 12%.

Interest rates are typically quoted in annual terms. Since her interest rate is 12% a year, the borrower must pay 12% interest each year on the principal that she owes. As stated above, these are equal annual payments, and each payment is first applied to any applicable interest expenses, with the remaining funds reducing the principal balance of the loan.

After each payment in a fully amortizing loan, the principal is reduced, which means that since the five payment amounts are equal, the portion allocated to interest is reduced each year, and the amount allocated to principal reduction increases an equal amount.

We can use an amortization table, or schedule, prepared using Microsoft Excel or other financial software, to show the loan balance for the duration of the loan. An amortization table calculates the allocation of interest and principal for each payment and is used by accountants to make journal entries. These journal entries will be discussed later in this chapter.

The first step in preparing an amortization table is to determine the annual loan payment. The \$10,000 loan amount is the value today and, in financial terms, is called the present value (PV). Since repayment will be in a series of five equal payments, it is an annuity. Look up the PV from an annuity table for 5 periods and 12% interest. The factor is 3.605. Dividing the principal, \$10,000, by the factor 3.605 gives us \$2,773.93, which is the amount of each yearly payment. For the rest of the chapter, we will provide the necessary data, such as bond prices and payment amounts; you will not need to use the present value tables.

When the first payment is made, part of it is interest and part is principal. To determine the amount of the payment that is interest, multiply the principal by the interest rate ( $\$10,000 \times 0.12$ ), which gives us \$1,200. This is the amount of interest charged that year. The payment itself (\$2,773.93) is larger than the interest owed for that period of time, so the remainder of the payment is applied against the principal.

Figure 13.7 shows an amortization table for this \$10,000 loan, over five years at 12% annual interest. Assume that the final payment will be \$2,774.99 in order to eliminate the potential rounding error of \$1.06.

Year	Beginning Balance	Payment	Interest	To Principal	Ending Balance
1	\$10,000.00	\$2,773.93	\$1,200.00	\$1,573.93	\$8,426.07
2	8,426.07	2,773.93	1,011.13	1,762.80	6,663.27
3	6,663.27	2,773.93	799.59	1,974.34	4,688.93
4	4,688.93	2,773.93	562.67	2,211.26	2,477.67
5	\$ 2,477.67	2,774.99	297.32	2,477.67	\$ 0

**Figure 13.7** Amortization Table. An amortization table shows how payments are applied to interest in principal for the life of the loan. (attribution: Copyright Rice University, OpenStax, under CC BY-NC-SA 4.0 license)

## YOUR TURN

### Creating Your Own Amortization Table

You want to borrow \$100,000 for five years when the interest rate is 5%. You will make yearly payments of \$23,097.48 for 5 years. Fill in the blanks in the amortization table below. Assume that the loan was

created on January 1, 2018 and totally repaid by December 31, 2022, after five equal, annual payments.

Date	Beginning Balance	Cash Payment	Interest Expense	To Principal	Ending Balance
Year 1	\$100,000.00	\$ 23,097.48			
Year 2		23,097.48			
Year 3		23,097.48			
Year 4		23,097.48			
Year 5		23,097.48			

### Solution

Multiply the \$100,000 by the 5% interest rate and \$5,000 is the amount of interest you owe for year 1. Subtract the interest from the payment of \$23,097.48 to find \$18,097.48 is applied toward the principal (\$100,000), leaving \$81,902.52 as the ending balance. In year 2, \$81,902.52 is charged 5% interest (\$4,095.13), but the rest of the 23,097.48 payment goes toward the loan balance. Follow the same process for years 3 through 5.

Date	Beginning Balance	Cash Payment	5% Interest Expense	To Principal	Ending Balance
12/31/2018	\$100,000.00	\$ 23,097.48	\$ 5,000.00	\$ 18,097.48	\$81,902.52
12/31/2019	81,902.52	23,097.48	4,095.13	19,002.35	62,900.17
12/31/2020	62,900.17	23,097.48	3,145.01	19,952.47	42,947.69
12/31/2021	42,947.69	23,097.48	2,147.38	20,950.10	21,997.60
12/31/2022	<u>21,997.60</u>	<u>23,097.48</u>	<u>1,099.88</u>	<u>21,997.60</u>	<u>(0.00)</u>
		115,487.40	15,487.40	\$100,000.00	

## Bonds Payable

As you've learned, each time a company issues an interest payment to bondholders, amortization of the discount or premium, if one exists, impacts the amount of interest expense that is recorded. Amortization of the discounts increases the amount of interest expense and premiums reduce the amount of interest expense. There are two methods used to amortize bond discounts or premiums: the effective-interest method and the straight-line method.

Our calculations have used what is known as the **effective-interest method**, a method that calculates interest expense based on the carrying value of the bond and the market interest rate. Generally accepted accounting principles (GAAP) require the use of the effective-interest method unless there is no significant difference between the effective-interest method and the straight-line method, a method that allocates the same amount of the bond discount or premium for each interest payment. The effective interest amortization method is more accurate than the straight-line method. International Financial Reporting Standards (IFRS) require the use of the effective-interest method, with no exceptions.

The **straight-line method** doesn't base its calculation of amortization for a period base on a changing carrying value like the effective-interest method does; instead, it allocates the same amount of premium or

discount amortization for each of the bond's payment periods.

For example, assume that \$500,000 in bonds were issued at a price of \$540,000 on January 1, 2019, with the first annual interest payment to be made on December 31, 2019. Assume that the stated interest rate is 10% and the bond has a four-year life. If the straight-line method is used to amortize the \$40,000 premium, you would divide the premium of \$40,000 by the number of payments, in this case four, giving a \$10,000 per year amortization of the premium. [Figure 13.8](#) shows the effects of the premium amortization after all of the 2019 transactions are considered. The net effect of creating the \$40,000 premium and writing off \$10,000 of it gives the company an interest expense of \$40,000 instead of \$50,000, since the \$50,000 expense is reduced by the \$10,000 premium write down at the end of the year.

<b>JOURNAL</b>			
<b>Date</b>	<b>Account</b>	<b>Debit</b>	<b>Credit</b>
Jan. 1, 2019	Cash	540,000	
	Bonds Payable		500,000
	Premium on Bonds Payable		40,000
Jan. 1, 2019	Interest Expense	50,000	
	Cash		50,000
Jan. 1, 2019	Premium on Bonds Payable	10,000	
	Interest Expense		10,000

**Figure 13.8** Premium Amortization Using the Straight-Line Method. (attribution: Copyright Rice University, OpenStax, under CC BY-NC-SA 4.0 license)

### Issued When Market Rate Equals Contract Rate

Assume a company issues a \$100,000 bond with a 5% stated rate when the market rate is also 5%. The bond was issued at par, meaning it sold for \$100,000. There was no premium or discount to amortize, so there is no application of the effective-interest method in this example.

### Issued at a Premium

The same company also issued a 5-year, \$100,000 bond with a stated rate of 5% when the market rate was 4%. This bond was issued at a premium, for \$104,460. The amount of the premium is \$4,460, which will be amortized over the life of the bond using the effective-interest method. This method of amortizing the interest expense associated with a bond is similar to the amortization of the note payable described earlier, in which the principal was separated from the interest payments using the interest rate times the principal.

Begin by assuming the company issued all the bonds on January 1 of year 1 and the first interest payment will be made on December 31 of year 1. The amortization table begins on January 1, year 1, with the carrying value of the bond: the face value of the bond plus the bond premium.

On December 31, year 1, the company will have to pay the bondholders \$5,000 ( $0.05 \times \$100,000$ ). The *cash interest payment* is the amount of interest the company must pay the bondholder. The company promised 5% when the market rate was 4% so it received more money. But the company is only paying interest on \$100,000—not on the full amount received. The difference in the sale price was a result of the difference in the interest rates so both rates are used to compute the true interest expense.

Year	Cash Interest Payment	Interest on Carrying Value	Amortization of Premium	Carrying Value
Jan. 1 Year 1				104,460
Dec. 31 Year 1	5,000	4,178	822	103,638

Assets		=	Liabilities		+	Equity		+	Revenue		-	Expenses	
Cash		=	Bonds Payable			Premium on Bonds Payable			Interest Expense				
	5,000	=		100,000			4,460			5,000			
						822				822			
						3,638				4,178			

The interest on the carrying value is the market rate of interest times the carrying value:  $0.04 \times \$104,460 = \$4,178$ . If the company had issued the bonds with a stated rate of 4%, and received \$104,460, it would be paying \$4,178 in interest. The difference between the cash interest payment and the interest on the carrying value is the amount to be amortized the first year. The complete amortization table for the bond is shown in [Figure 13.9](#). The table is necessary to provide the calculations needed for the adjusting journal entries.

Year	Cash Interest Payment	Interest on Carrying Value	Amortization of Premium	Carrying Value
Jan. 1 Year 1				104,460
Dec. 31 Year 1	5,000	4,178	822	103,638
Dec. 31 Year 2	5,000	4,146	854	102,784
Dec. 31 Year 3	5,000	4,111	889	101,895
Dec. 31 Year 4	5,000	4,076	924	100,971
Dec. 31 Year 5	5,000	4,039	961	100,010

\$10 Rounding Error

**Figure 13.9** Bond Amortization Table. (attribution: Copyright Rice University, OpenStax, under CC BY-NC-SA 4.0 license)

## Issued at a Discount

The company also issued \$100,000 of 5% bonds when the market rate was 7%. It received \$91,800 cash and recorded a Discount on Bonds Payable of \$8,200. This amount will need to be amortized over the 5-year life of the bonds. Using the same format for an amortization table, but having received \$91,800, interest payments are being made on \$100,000.

Year	Cash Interest Payment	Interest on Carrying Value	Amortization of Discount	Carrying Value
Jan. 1 Year 1				91,800
Dec. 31 Year 1	5,000	6,426	1,426	93,226

The cash interest payment is still the stated rate times the principal. The interest on carrying value is still the market rate times the carrying value. The difference in the two interest amounts is used to amortize the discount, but now the amortization of discount amount is added to the carrying value.

Year	Cash Interest Payment	Interest on Carrying Value	Amortization of Discount	Carrying Value
Jan. 1 Year 1				91,800
Dec. 31 Year 1	5,000	6,426	1,426	93,226
Dec. 31 Year 2	5,000	6,526	1,526	94,752
Dec. 31 Year 3	5,000	6,633	1,633	96,384
Dec. 31 Year 4	5,000	6,747	1,747	98,131
Dec. 31 Year 5	5,000	6,869	1,869	100,000

Figure 13.10 illustrates the relationship between rates whenever a premium or discount is created at bond issuance.



**Figure 13.10** Stated Rate and Market Rate. When the stated rate is higher than the market rate, the bond is issued at a premium. When the stated rate is lower than the market rate, the bond is issued at a discount. (attribution: Copyright Rice University, OpenStax, under CC BY-NC-SA 4.0 license)

## CONCEPTS IN PRACTICE

### Bond Ratings

Investors intending to purchase corporate bonds may find it overwhelming to decide which company would be the best to invest in. Investors are concerned with two primary factors: the return *on* the investment (meaning, the periodic interest payments) and the return *of* the investment (meaning, payment of the face value on the maturity date). While there are risks with any investment, attempting to maximize the return *on* the investment and maximizing the likelihood receiving the return *of* the investment would take a significant amount of time for the investor. To become informed and make a wise investment, the investor would have to spend many hours analyzing the financial statements of potential companies to invest in.

One resource investors find useful when screening investment opportunities is through the use of rating agencies. Rating agencies specialize in analyzing financial and other company information in order to assess and rate a company's riskiness as an investment. A particularly useful website is [Investopedia](https://openstax.org/l/50Investopedia) (<https://openstax.org/l/50Investopedia>) which highlights the rating system for three large rating agencies—Moody's, Standard & Poor's, and Fitch Ratings. The rating systems, shown below, are somewhat similar to academic grading scales, with rankings ranging from A (highest quality) to D (lowest quality):

Rating Agencies<sup>[8]</sup>

Credit Risk	Moody's	Standard & Poor's	Fitch Ratings
Investment Grade	—	—	—
Highest Quality	Aaa	AAA	AAA
High Quality	Aa1, Aa2, Aa3	AA+, AA, AA-	AA+, AA, A-
Upper Medium	A1, A2, A3	A+, A, A-	A+, A, A-
Medium	Baa1, Baa2, Baa3	BBB+, BBB, BBB-	BBB+, BBB, BBB-
Not Investment Grade	Ba1	BB+	BB+
Speculative Medium	Ba2, Ba3	BB, BB-	BB, BB-
Speculative Lower Grade	B1, B2, B3	B+, B, B-	B+, B, B-
Speculative Risky	Caa1	CCC+	CCC
Speculative Poor Standing	Caa2, Caa3	CCC, CCC-	—
No Payments / Bankruptcy	Ca / C	—	—
In Default	—	D	DDD, DD, D

Table 13.1

8 Michael Schmidt. "When to Trust Bond Rating Agencies." Investopedia. September 29, 2018. <https://www.investopedia.com/articles/bonds/09/bond-rating-agencies.asp>

### 13.3 Prepare Journal Entries to Reflect the Life Cycle of Bonds

Recall from the discussion in [Explain the Pricing of Long-Term Liabilities](#) that one way businesses can generate long-term financing is by borrowing from lenders.

In this section, we will explore the journal entries related to bonds. Earlier, we found that cash flows related to a bond include the following:

1. The receipt of cash when the bond is issued
2. Payment of interest each period
3. Repayment of the bond at maturity

A journal entry must be made for each of these transactions. As we go through the journal entries, it is important to understand that we are analyzing the accounting transactions from the perspective of the issuer of the bond. These are considered long-term liabilities. The investor would make the opposite journal entries. For example, on the issue date of a bond, the borrower receives cash while the lender pays cash.

A final point to consider relates to accounting for the interest costs on the bond. Recall that the bond indenture specifies how much interest the borrower will pay with each periodic payment based on the stated rate of interest. The periodic interest payments to the buyer (investor) will be the same over the course of the bond. It may help to think of personal loan examples. For example, if you or your family have ever borrowed money from a bank for a car or home, the payments are typically the same each month. The interest payments will be the same because of the rate stipulated in the bond indenture, regardless of what the market rate does. The amount of interest cost that we will recognize in the journal entries, however, will change over the course of the bond term, assuming that we are using the effective interest.

#### IFRS CONNECTION

##### Defining Long-Term Liabilities

Under both IFRS and US GAAP, the general definition of a long-term liability is similar. However, there are many types of long-term liabilities, and various types have specific measurement and reporting criteria that may differ between the two sets of accounting standards. With two exceptions, bonds payable are primarily the same under the two sets of standards.

The first difference pertains to the method of interest amortization. Beyond FASB's preferred method of interest amortization discussed here, there is another method, the straight-line method. This method is permitted under US GAAP if the results produced by its use would not be materially different than if the effective-interest method were used. IFRS does not permit straight-line amortization and only allows the effective-interest method.

The second difference pertains to how the bonds are reported on the books. Under US GAAP, bonds are recorded at face value and the premium or discount is recorded in a separate account. IFRS does not use "premium" or "discount" accounts. Instead, under IFRS, the carrying value of bonds issued at either a premium or discount is shown on the balance sheet at its net. For example, \$100,000 bonds issued at a discount of \$4,000 would be recorded under US GAAP as

JOURNAL			
Date	Account	Debit	Credit
	Cash	94,000	
	Discount on Bonds Payable	6,000	
	Bonds Payable		100,000

Under IFRS, these bonds would be reported as

JOURNAL			
Date	Account	Debit	Credit
	Cash	94,000	
	Bonds Payable		94,000

Obviously, the above example implies that, in the subsequent entries to recognize interest expense, under IFRS, the Bonds Payable account is amortized directly for the increase or reduction in bond principal. Suppose in this example that the cash interest was \$200 and the interest expense for the first interest period was \$250. The entry to record the transaction under the two different standards would be as follows:

Under US GAAP:

JOURNAL			
Date	Account	Debit	Credit
	Bond Interest Expense	250	
	Discount on Bonds Payable		50
	Cash		200

Under IFRS:

JOURNAL			
Date	Account	Debit	Credit
	Bond Interest Expense	250	
	Bonds Payable		50
	Cash		200

Note that under either method, the interest expense and the carrying value of the bonds stays the same.

## Issuance of Bonds

Since the process of underwriting a bond issuance is lengthy and extensive, there can be several months between the determination of the specific characteristics of a bond issue and the actual issuance of the bond. Before the bonds can be issued, the underwriters perform many time-consuming tasks, including setting the bond interest rate. The bond interest rate is influenced by specific factors relating to the company, such as existing debt balances and the ability of the company to repay the funds, as well as the market rate, which is influenced by many external economic factors.

Because of the time lag caused by underwriting, it is not unusual for the market rate of the bond to be

different from the stated interest rate. The difference in the stated rate and the market rate determine the accounting treatment of the transactions involving bonds. When the bond is issued at par, the accounting treatment is simplest. It becomes more complicated when the stated rate and the market rate differ.

### Issued When Market Rate Equals Contract Rate

First, we will explore the case when the stated interest rate is equal to the market interest rate when the bonds are issued.

Returning to our example of a \$1,000, 5-year bond with a stated interest rate of 5%, at issuance, the market rate was 5% and the sales price was quoted at 100, which means the seller of the bond will receive (and the investor will pay) 100% of the \$1,000 face value of the bond. The journal entry to record the sale of 100 of these bonds is:

JOURNAL			
Date	Account	Debit	Credit
	Cash	100,000	
	Bonds Payable		100,000
	<i>To record issuance of 100, \$1,000, 5% bonds with an effective interest rate of 5%</i>		

Since the book value is equal to the amount that will be owed in the future, no other account is included in the journal entry.

Assets = Liabilities + Equity			
Cash	=	Bonds Payable	
100,000		100,000	
<b>Balance Sheet Presentation</b>			
Bonds Payable		\$100,000	

### Issued at a Premium

If, during the timeframe of establishing the bond stated rate and issuing the bonds, the market rate drops below the stated interest, the bonds would become more valuable. In other words, the investors will earn a higher rate on these bonds than if the investors purchased similar bonds elsewhere in the market. Naturally, investors would want to purchase these bonds and earn a higher interest rate. The increased demand drives up the bond price to a point where investors earn the same interest as similar bonds. Earlier, we found that the sale price of a \$1,000, 5-year bond with a stated rate of 5% and a market rate of 4% is 104.46. That is, the bond will sell at 104.46% of the \$1,000 face value, which means the seller of the bond will receive (and the investor will pay) \$1,044.60.

Selling 100 of these bonds, would yield \$104,460.

JOURNAL			
Date	Account	Debit	Credit
	Cash	104,460	
	Premium on Bonds Payable		4,460
	Bonds Payable		100,000
	<i>To record issuance of 100, \$1,000, 5% bonds with an effective interest rate of 4%</i>		

The financial statement presentation looks like this:

Balance Sheet Presentation	
Bonds Payable	\$100,000
Premium on Bonds Payable	<u>4,460</u>
Carrying (Book) Value	\$104,460

On the date that the bonds were issued, the company received cash of \$104,460.00 but agreed to pay \$100,000.00 in the future for 100 bonds with a \$1,000 face value. The difference in the amount received and the amount owed is called the *premium*. Since they promised to pay 5% while similar bonds earn 4%, the company received more cash up front. In other words, they sold the bond at a premium. They did this because the cost of the premium plus the 5% interest on the face value is mathematically the same as receiving the face value but paying 4% interest. The interest rate was effectively the same.

The **premium on bonds payable** account is a contra liability account. It is contra because it increases the amount of the Bonds Payable liability account. It is “married” to the Bonds Payable account on the balance sheet. If one of the accounts appears, both must appear. The Premium will disappear over time as it is amortized, but it will decrease the interest expense, which we will see in subsequent journal entries.

Taken together, the Bond Payable liability of \$100,000 and the Premium on Bond Payable contra liability of \$4,460 show the bond’s carrying value or **book value**—the value that assets or liabilities are recorded at in the company’s financial statements.

The effect on the accounting equation looks like this:

Assets = Liabilities + Equity					
Cash		=	Bonds Payable		Premium on Bonds Payable
104,460			100,000		4,460

It looks like the issuer will have to pay back \$104,460, but this is not quite true. If the bonds were to be paid off today, the full \$104,460 would have to be paid back. But as time passes, the Premium account is amortized until it is zero. The bondholders have bonds that say the issuer will pay them \$100,000, so that is all that is owed at maturity. The premium will disappear over time and will reduce the amount of interest incurred.

### Issued at a Discount

Bonds issued at a discount are the exact opposite in concept as bonds issued at a premium. If, during the timeframe of establishing the bond stated rate and issuing the bonds, the market rate rises above the stated

interest on the bonds, the bonds become less valuable because investors can earn a higher rate of interest on other similar bonds. In other words, the investors will earn a lower rate on these bonds than if the investors purchased similar bonds elsewhere in the market. Naturally, investors would not want to purchase these bonds and earn a lower interest rate than could be earned elsewhere. The decreased demand drives down the bond price to a point where investors earn the same interest for similar bonds. Earlier, we found the sale price of a \$1,000, 5-year bond with a stated interest rate of 5% and a market rate of 7% is 91.80. That is, the bond will sell at 91.80% of the \$1,000 face value, which means the seller of the bond will receive (and the investor will pay) \$918.00. On selling 100 of the \$1,000 bonds today, the journal entry would be:

JOURNAL			
Date	Account	Debit	Credit
	Cash	91,800	
	Discount on Bonds Payable	8,200	
	Bonds Payable		100,000
	<i>To record issuance of 100, \$1,000, 5% bonds with an effective interest rate of 7%</i>		

Balance Sheet Presentation	
Bonds Payable	\$100,000
Premium on Bonds Payable	4,460
Carrying (Book) Value	\$104,460

Today, the company receives cash of \$91,800.00, and it agrees to pay \$100,000.00 in the future for 100 bonds with a \$1,000 face value. The difference in the amount received and the amount owed is called the *discount*. Since they promised to pay 5% while similar bonds earn 7%, the company, accepted less cash up front. In other words, they sold the bond at a discount. They did this because giving a discount but still paying only 5% interest on the face value is mathematically the same as receiving the face value but paying 7% interest. The interest rate was effectively the same.

Like the Premium on Bonds Payable account, the **discount on bonds payable** account is a contra liability account and is “married” to the Bonds Payable account on the balance sheet. The Discount will disappear over time as it is amortized, but it will increase the interest expense, which we will see in subsequent journal entries.

The effect on the accounting equation looks like this:

Assets = Liabilities + Equity					
Cash		=	Bonds Payable		Discount on Bonds Payable
91,800			100,000	8,200	

## First and Second Semiannual Interest Payment

When a company issues bonds, they make a promise to pay interest annually or sometimes more often. If the interest is paid annually, the journal entry is made on the last day of the bond’s year. If interest was promised

semiannually, entries are made twice a year.

## CONCEPTS IN PRACTICE

### Municipal Bonds

Municipal bonds are a specific type of bonds that are issued by governmental entities such as towns and school districts. These bonds are issued in order to finance specific projects (such as water treatment plants and school building construction) that require a large investment of cash. The primary benefit to the issuing entity (i.e., the town or school district) is that cash can be obtained more quickly than, for example, collecting taxes and fees over a long period of time. This allows the project to be completed sooner, which is a benefit to the community.

Municipal bonds, like other bonds, pay periodic interest based on the stated interest rate and the face value at the end of the bond term. However, corporate bonds often pay a higher rate of interest than municipal bonds. Despite the lower interest rate, one benefit of municipal bonds relates to the tax treatment of the periodic interest payments for investors. With corporate bonds, the periodic interest payments are considered taxable income to the investor. For example, if an investor receives \$1,000 of interest and is in the 25% tax bracket, the investor will have to pay \$250 of taxes on the interest, leaving the investor with an after-tax payment of \$750. With municipal bonds, interest payments are exempt from federal tax. So the same investor receiving \$1,000 of interest from a municipal bond would pay no income tax on the interest income. This tax-exempt status of municipal bonds allows the entity to attract investors and fund projects more easily.

### Interest Payment: Issued When Market Rate Equals Contract Rate

Recall that the Balance Sheet presentation of the bond when the market rate equals the stated rate is as follows:

Balance Sheet Presentation	
Bonds Payable	\$100,000

In this example, the company issued 100 bonds with a face value of \$1,000, a 5-year term, and a stated interest rate of 5% when the market rate was 5% and received \$100,000. As previously discussed, since the bonds were sold when the market rate equals the stated rate, the carrying value of the bonds is \$100,000. These bonds did not specify when interest was paid, so we can assume that it is an annual payment. If the bonds were issued on January 1, the company would pay interest on December 31 and the journal entry would be:

JOURNAL			
Date	Account	Debit	Credit
	Interest Expense (0.05 × \$100,000)	5,000	
	Cash (0.05 × \$100,000)		5,000
	<i>To record interest expense on 5% bonds sold with effective interest rate of 5%</i>		

The interest expense is calculated by taking the Carrying Value (\$100,000) multiplied by the market interest rate (5%). The stated rate is used when calculating the interest cash payment. The company is obligated by the

bond indenture to pay 5% per year based on the face value of the bond. When the situation changes and the bond is sold at a discount or premium, it is easy to get confused and incorrectly use the market rate here. Since the market rate and the stated rate are the same in this example, we do not have to worry about any differences between the amount of interest expense and the cash paid to bondholders. This journal entry will be made every year for the 5-year life of the bond.

When performing these calculations, the rate is adjusted for more frequent interest payments. If the company had issued 5% bonds that paid interest semiannually, interest payments would be made twice a year, but each interest payment would only be half an annual interest payment. Earning interest for a full year at 5% annually is the equivalent of receiving half of that amount each six months. So, for semiannual payments, we would divide 5% by 2 and pay 2.5% every six months.

## CONCEPTS IN PRACTICE

### Mortgage Debt

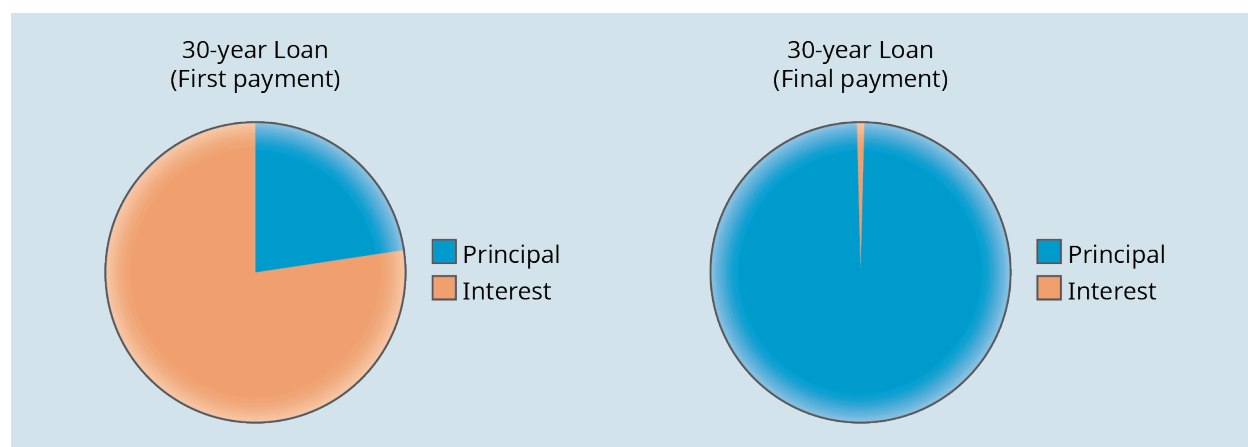
According to [Statista \(https://openstax.org/l/50Statista\)](https://openstax.org/l/50Statista) the amount of mortgage debt—debt incurred to purchase homes—in the United States was \$14.9 trillion on 2017. This value does not include the interest cost—the cost of borrowing—related to the debt.

A common loan term for those borrowing money to buy a house is 30 years. Each month, the borrower must make payments on the loan, which would add up to 360 payments for a 30-year loan. Recall from previous discussions on amortization that each payment can be divided into two components: the interest expense and the amount that is applied to reduce the principal.

In order to calculate the amount of interest and principal reduction for each payment, banks and borrowers often use amortization tables. While amortization tables are easily created in Microsoft Excel or other spreadsheet applications, there are many websites that have easy-to-use amortization tables. The popular lending website [Zillow \(https://openstax.org/l/50Zillow\)](https://openstax.org/l/50Zillow) has a loan calculator to calculate the monthly payments of a loan as well as an amortization table that shows how much interest and principal reduction is applied for each payment.

For example, borrowing \$200,000 for 30 years at an interest rate of 5% would require the borrow to repay a total \$386,513. The monthly payment on this loan is \$1,073.64. This amount represents the \$200,000 borrowed and \$186,513 of interest cost. If the borrower chose a 15-year loan, the total payments drops significantly to \$266,757, but the monthly payments increase to \$1,581.59.

Because interest is calculated based on the outstanding loan balance, the amount of interest paid in the first payment is much more than the amount of interest in the final payment. The pie charts below show the amount of the \$1,073.64 payment allocated to interest and loan reduction for the first and final payments, respectively, on the 30-year loan.



### Interest Payment: Issued at a Premium

Recall that the Balance Sheet presentation of the bond when the market rate at issue is lower than the stated rate is as follows:

Balance Sheet Presentation	
Bonds Payable	\$100,000
Premium on Bonds Payable	4,460
Carrying (Book) Value	<u>\$104,460</u>

In this scenario, the sale price of a \$1,000, 5-year bond with a stated rate of 5% and a market rate of 4% was \$1,044.60. If the company sold 100 of these bonds, it would receive \$104,460 and the journal entry would be:

JOURNAL			
Date	Account	Debit	Credit
	Cash	104,460	
	Premium on Bonds Payable		4,460
	Bonds Payable		100,000
	<i>To record issuance of 100, \$1,000, 5% bonds with an effective interest rate of 4%</i>		

Again, let's assume that the bonds pay interest annually. At the end of the bond's year, we would record the interest expense:

JOURNAL			
Date	Account	Debit	Credit
	Interest Expense (0.04 × \$104,460)	4,178	
	Premium on Bonds Payable (Difference)	822	
	Cash (0.05 × \$100,000)		5,000
	<i>To record payment of interest on bonds payable</i>		

The interest expense determination is calculated using the *effective interest* amortization interest method. Under the effective-interest method, the interest expense is calculated by taking the Carrying (or Book) Value (\$104,460) multiplied by the market interest rate (4%). The amount of the cash payment in this example is calculated by taking the face value of the bond (\$100,000) multiplied by the stated rate.

Since the market rate and the stated rate are different, we need to account for the difference between the

amount of interest expense and the cash paid to bondholders. The amount of the premium amortization is simply the difference between the interest expense and the cash payment. Another way to think about amortization is to understand that, with each cash payment, we need to reduce the amount carried on the books in the Bond Premium account. Since we originally credited Bond Premium when the bonds were issued, we need to debit the account each time the interest is paid to bondholders because the carrying value of the bond has changed. Note that the company received more for the bonds than face value, but it is only paying interest on \$100,000.

The partial effect of the first period's interest payment on the company's accounting equation in year one is:

Assets		=	Liabilities	+	Equity	+	Revenue	-	Expenses
Cash		=	Bonds Payable				Premium on Bonds Payable		Interest Expense
	5,000				100,000			4,460	
							822		5,000
									822
							3,638		4,178

And the financial-statement presentation at the end of year 1 is:

Balance Sheet Presentation	
Bonds Payable	\$100,000
Bond Premium	3,638
Carrying (Book) Value	\$103,638

Income Statement Presentation	
Bonds Interest Expense	\$4,178

The journal entry for year 2 is:

JOURNAL			
Date	Account	Debit	Credit
	Interest Expense (0.04 × \$103,638)	4,146	
	Premium on Bonds Payable (Difference)	854	
	Cash (0.05 × \$100,000)		5,000
	<i>To record payment of interest to bondholders and to amortize the bond premium</i>		

The interest expense is calculated by taking the Carrying (or Book) Value (\$103,638) multiplied by the market interest rate (4%). The amount of the cash payment in this example is calculated by taking the face value of the bond (\$100,000) multiplied by the stated rate (5%). Since the market rate and the stated rate are different, we again need to account for the difference between the amount of interest expense and the cash paid to bondholders.

The partial effect on the accounting equation in year two is:

Assets		=	Liabilities + Equity		+	Revenue		-	Expenses	
Cash		=	Bonds Payable		Premium on Bonds Payable		Interest Expense			
	5,000			100,000		3,638		5,000		
						854		854		
						2,784		4,146		

And the financial-statement presentation at the end of year 2 is:

Balance Sheet Presentation		Income Statement Presentation	
Bonds Payable	\$100,000	Bonds Interest Expense	\$4,146
Bond Premium	2,784		
Carrying (Book) Value	\$102,784		

By the end of the 5th year, the bond premium will be zero, and the company will only owe the Bonds Payable amount of \$100,000.

## LINK TO LEARNING

A [mortgage calculator \(https://openstax.org/l/50MortgageCalc\)](https://openstax.org/l/50MortgageCalc) provides monthly payment estimates for a long-term loan like a mortgage. To use the calculator, enter the cost of the house to be purchased, the amount of cash to be borrowed, the number of years over which the mortgage is to be paid back (generally 30 years), and the current interest rate. The calculator returns the amount of the mortgage payment. Mortgages are long-term liabilities that are used to finance real estate purchases. We tend to think of them as home loans, but they can also be used for commercial real estate purchases.

### Interest Payment: Issued at a Discount

Recall that the Balance Sheet presentation of the bond when the market rate at issue was higher than the stated rate is as follows:

Balance Sheet Presentation	
Bonds Payable	\$100,000
Discount on Bonds Payable	(8,200)
Carrying (Book) Value	\$ 91,800

We found the sale price of a \$1,000, 5-year bond with a stated interest rate of 5% and a market rate of 7% was \$918.00. We then showed the journal entry to record sale of 100 bonds:

JOURNAL			
Date	Account	Debit	Credit
	Cash	91,800	
	Discount on Bonds Payable	8,200	
	Bonds Payable		100,000
	<i>To record issuance of 100, \$1,000, 5% bonds with an effective interest rate of 7%</i>		

At the end of the bond's first year, we make this journal entry:

JOURNAL			
Date	Account	Debit	Credit
	Interest Expense ( $0.07 \times \$91,800$ )	6,426	
	Cash ( $0.05 \times \$100,000$ )		5,000
	Discount on Bonds Payable (Difference)		1,426
	<i>To record payment of interest on bonds payable</i>		

The interest expense is calculated by taking the Carrying Value (\$91,800) multiplied by the market interest rate (7%). The amount of the cash payment in this example is calculated by taking the face value of the bond (\$100,000) and multiplying it by the stated rate (5%). Since the market rate and the stated rate are different, we need to account for the difference between the amount of interest expense and the cash paid to bondholders. The amount of the discount amortization is simply the difference between the interest expense and the cash payment. Since we originally debited Bond Discount when the bonds were issued, we need to credit the account each time the interest is paid to bondholders because the carrying value of the bond has changed. Note that the company received less for the bonds than face value but is paying interest on the \$100,000.

The partial effect on the accounting equation in year one is:

Assets = Liabilities + Equity + Revenue - Expenses							
Cash	=	Bonds Payable	Discount on Bonds Payable	Interest Expense			
5,000		100,000	8,200	5,000			
			1,426	1,426			
			6,774	6,426			

And the financial-statement presentation at the end of year 1 is:

Balance Sheet Presentation		Income Statement Presentation	
Bonds Payable	\$100,000	Bonds Interest Expense	\$6,426
Discount on Bonds Payable	(6,774)		
Carrying (Book) Value	\$ 93,226		

The journal entry for year 2 is:

JOURNAL			
Date	Account	Debit	Credit
	Interest Expense ( $0.07 \times \$93,226$ )	6,526	
	Cash ( $0.05 \times \$100,000$ )		5,000
	Discount on Bonds Payable (Difference)		1,526
	<i>To record payment of interest on bonds payable</i>		

The interest expense is calculated by taking the Carrying Value (\$93,226) multiplied by the market interest rate (7%). The amount of the cash payment in this example is calculated by taking the face value of the bond (\$100,000) multiplied by the stated rate (5%). Again, we need to account for the difference between the amount of interest expense and the cash paid to bondholders by crediting the Bond Discount account.

The partial effect on the accounting equation in year two is:

Assets = Liabilities + Equity + Revenue - Expenses					
Cash	=	Bonds Payable	Discount on Bonds Payable	Interest Expense	
5,000		100,000	6,774		5,000
				1,526	1,526
			5,248		6,526

And the financial statement presentation at the end of year 2 is:

Balance Sheet Presentation		Income Statement Presentation	
Bonds Payable	\$100,000	Bonds Interest Expense	\$6,526
Discount on Bonds Payable	(5,248)		
Carrying (Book) Value	\$ 94,752		

By the end of the 5th year, the bond premium will be zero and the company will only owe the Bonds Payable amount of \$100,000.

## Retirement of Bonds When the Bonds Were Issued at Par

At some point, a company will need to record **bond retirement**, when the company pays the obligation. Often, they will retire bonds when they mature. For example, earlier we demonstrated the issuance of a five-year bond, along with its first two interest payments. If we had carried out recording all five interest payments, the next step would have been the maturity and retirement of the bond. At this stage, the bond issuer would pay the maturity value of the bond to the owner of the bond, whether that is the original owner or a secondary investor.

This example demonstrates the least complicated method of a bond issuance and retirement at maturity. There are other possibilities that can be much more complicated and beyond the scope of this course. For example, a bond might be callable by the issuing company, in which the company may pay a call premium paid to the current owner of the bond. Also, a bond might be called while there is still a premium or discount on the bond, and that can complicate the retirement process. Situations like these will be addressed in later accounting courses.

To continue with our example, assume that the company issued 100 bonds with a face value of \$1,000, a 5-year term, and a stated interest rate of 5% when the market rate was 5% and received \$100,000. It was recorded in this way:

JOURNAL			
Date	Account	Debit	Credit
	Cash	100,000	
	Bonds Payable		100,000
	<i>To record issuance of 100, \$1,000, 5% bonds with an effective interest rate of 5%</i>		

At the end of 5 years, the company will retire the bonds by paying the amount owed. To record this action, the company would debit Bonds Payable and credit Cash. Remember that the bond payable retirement debit entry will always be the face amount of the bonds since, when the bond matures, any discount or premium will have been completely amortized.

JOURNAL			
Date	Account	Debit	Credit
	Bonds Payable	100,000	
	Cash		100,000
	<i>To record the retirement of bonds payable</i>		

## 13.4

## Appendix: Special Topics Related to Long-Term Liabilities

Here we will address some special topics related to long-term liabilities.

### Brief Comparison between Equity and Debt Financing

Although we briefly addressed equity versus debt financing in [Explain the Pricing of Long-Term Liabilities](#), we will now review the two options. Let's consider Maria, who wants to buy a business. The venture is for sale for \$1 million, but she only has \$200,000. What are her options? In this situation, a business owner can use debt financing by borrowing money or equity financing by selling part of the company, or she can use a combination of both.

**Debt financing** means borrowing money that will be repaid on a specific date in the future. Many companies have started by incurring debt. To decide whether this is a viable option, the owners need to determine whether they can afford the monthly payments to repay the debt. One positive to this scenario is that interest paid on the debt is tax deductible and can lower the company's tax liability. On the other hand, businesses can struggle to make these payments every month, especially as they are starting out.

With **equity financing**, a business owner sells part of the business to obtain money to finance business operations. With this type of financing, the original owner gives up some portion of ownership in the company in return for cash. In Maria's case, partners would supplement her \$200,000 and would then own a share of the business. Each partner's share is based on their financial or other contributions.

If a business owner forms a corporation, each owner will receive shares of stock. Typically, those making the largest financial investment have the largest say in decisions about business operations. The issuance of dividends should also be considered in this set-up. Paying dividends to shareholders is not tax deductible, but dividend payments are also not required. Additionally, a company does not have to buy back any stock it sells.

## ETHICAL CONSIDERATIONS

### Debt versus Equity Financing

Many start-ups and small companies with just one or two owners struggle to obtain the cash to run their operations. Owners may want to use lending, or debt financing, to obtain the money to run operations, but have to turn to investors, or equity financing. Ethical and legal obligations to investors are typically greater than ethical and legal obligations to lenders. This is because a company's owners have an ethical and legal responsibility to take investors' interests into account when making business decisions, even if the decision is not in the founding owners' best interest. The primary obligation to lenders, however, is only to pay back the money borrowed with interest. When determining which type of financing is appropriate for a business operation, the different ethical and legal obligations between having lenders or investors need to be considered.<sup>[9]</sup>

### Equity Financing

For a corporation, equity financing involves trading or selling shares of stock in the business to raise funds to run the business. For a sole proprietorship, selling part of the business means it is no longer a sole proprietorship: the subsequent transaction could create either a corporation or partnership. The owners would choose which of the two to create. Equity means ownership. However, business owners can be creative in selling interest in their venture. For example, Maria might sell interest in the building housing her candy store and retain all revenues for herself, or she may decide to share interest in the operations (sales revenues) and retain sole ownership of the building.

The main benefit of financing with equity is that the business owner is not required to pay back the invested funds, so revenue can be re-invested in the company's growth. Companies funded this way are also more likely to succeed through their initial years. The Small Business Administration suggests a new business should have access to enough cash to operate for six months without having to borrow. The disadvantages of this funding method are that someone else owns part of the business and, depending on the arrangement, may have ideas that conflict with the original owner's ideas but that cannot be disregarded.

The following characteristics are specific to equity financing:

1. No required payment to owners or shareholders; dividends or other distributions are optional. Stock owners typically invest in stocks for two reasons: the dividends that many stocks pay or the appreciation in the market value of the stocks. For example, a stock holder might buy Walmart stock for \$100 per share with the expectation of selling it for much more than \$100 per share at some point in the future.
2. Ownership interest held by the original or current owners can be diluted by issuing additional new shares of common stock.
3. Unlike bonds that mature, common stocks do not have a definite life. To convert the stock to cash, some of the shares must be sold.
4. In the past, common stocks were typically sold in even 100-share lots at a given market price per share. However, with Internet brokerages today, investors can buy any particular quantity they want.

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9 Nolo. "Financing a Small Business: Equity or Debt?" *Forbes*. January 5, 2007. [https://www.forbes.com/2007/01/05/equity-debt-smallbusiness-ent-fin-cx\\_nl\\_0105nolofinancing.html#bd27de55819f](https://www.forbes.com/2007/01/05/equity-debt-smallbusiness-ent-fin-cx_nl_0105nolofinancing.html#bd27de55819f)

## Debt Financing

As you have learned, debt is an obligation to pay back an amount of money at some point in the future. Generally, a term of less than one year is considered short-term, and a term of one year or longer is considered long-term. Borrowing money for college or a car with a promise to pay back the amount to the lender generates debt. Formal debt involves a signed written document with a due date, an interest rate, and the amount of the loan. A student loan is an example of a formal debt.

The following characteristics are specific to debt financing:

1. The company is required to make timely interest payments to the holders of the bonds or notes payable.
2. The interest in cash that is to be paid by the company is generally locked in at the agreed-upon rate, and thus the same dollar payments will be made over the life of the bond. Virtually all bonds will have a maturity point. When the bond matures, the maturity value, which was the same as the contract or issuance value, is paid to whoever owns the bond.
3. The interest paid is deductible on the company's income tax return.
4. Bonds or notes payable do not dilute the company's ownership interest. The holders of the long-term liabilities do not have an ownership interest.
5. Bonds are typically sold in \$1,000 increments.

## CONCEPTS IN PRACTICE

### Short-Term Debt

Businesses sometimes offer lines of credit (short-term debt) to their customers. For example, **Wilson Sporting Goods** offers open credit to tennis clubs around the country. When the club needs more tennis balls, a club manager calls **Wilson** and says, "I'd like to order some tennis balls." The person at **Wilson** says, "What's your account number," and takes the order. **Wilson** does not ask the manager to sign a note but does expect to be paid back. If the club does not pay within 120 days, **Wilson** will not let them order more items until the bill is paid. Ordering on open credit makes transactions simpler for the club and for **Wilson**, since there is not a need to formalize every order. But collecting on the amount might be difficult for **Wilson** if the club delays payment. For this reason, typically customers must fill out applications, or have a history with the vendor to go on open credit.

## Effect of Interest Points and Loan Term in Years on a Loan

A mortgage loan is typically a long-term loan initiated by a potential home buyer through a mortgage lender. These lenders can be banks and other financial institutions or specialized mortgage lenders. [Figure 13.11](#) shows some examples of the major categories of loans. The table demonstrates some interesting characteristics of home loans.

TODAY'S MORTGAGE RATES AND REFINANCE RATES		
Product	Interest Rate	APR
<b>Conforming and Government Loans</b>		
30-Year Fixed Rate	4.375%	4.435%
30-Year Fixed-Rate VA	4.375%	4.681%
20-Year Fixed Rate	4.250%	4.297%
15-Year Fixed Rate	3.875%	3.978%
7/1 ARM	4.125%	4.379%
5/1 ARM	4.000%	4.397%
<b>Jumbo Loans—Amounts that exceed conforming loan limits</b>		
30-Year Fixed — Rate Jumbo	4.375%	4.386%
15-Year Fixed-Rate Jumbo	4.250%	4.266%
7/1 ARM Jumbo	4.000%	4.269%
10/1 ARM Jumbo	4.125%	4.276%

Source: [www.wellsfargo.com/mortgage/rates/](http://www.wellsfargo.com/mortgage/rates/)

**Figure 13.11** Home Loans. There are a number of different types of mortgages, each with varying interest rates, based on the individual loan characteristics. (attribution: Copyright Rice University, OpenStax, under CC BY-NC-SA 4.0 license)

The first characteristic is that loans can be classified into several categories. One category is the length of the loan, usually 15 years, 20 years, or 30 years. Some mortgages lock in a fixed interest rate for the life of the loan, while others only lock in the rate for a period of time. An adjustable rate mortgage (ARM), such as a 5-year or 7-year ARM, locks in the interest rate for 5 or 7 years. After that period, the interest rate adjusts to the market rate, which could be higher or lower. Some loans are based on the fair market value (FMV) of the home. For example, above a certain purchase price, the mortgage would be considered a *jumbo loan*, with a slightly higher interest rate than a conforming loan with a lower FMV.

The second characteristic demonstrated by the table is the concept of *points*. People pay points up front (at the beginning of the loan) to secure a lower interest rate when they take out a home loan. For example, potential borrowers might be informed by their loan officer that they could secure a 30-year loan at 5.0%, with no points or a 30-year loan at 4.75% by paying one point. A point is 1% of the amount of the loan. For example, one point on a \$100,000 loan would be \$1,000.

Whether or not buying down a lower interest rate by paying points is a smart financial move is beyond the scope of this course. However, when you take a real estate course or decide to buy and finance a home, you will want to conduct your own research on the function of points in a mortgage.

The third and final characteristic is that when you apply for and secure a home loan, there will typically be an assortment of other costs that you will pay, such as loan origination fees and a survey fee, for example. These additional costs are reflected in the loan's annual percentage rate (or APR). These additional costs are considered part of the costs of the loan and explain why the APR rates in the table are higher than the interest rates listed for each loan.

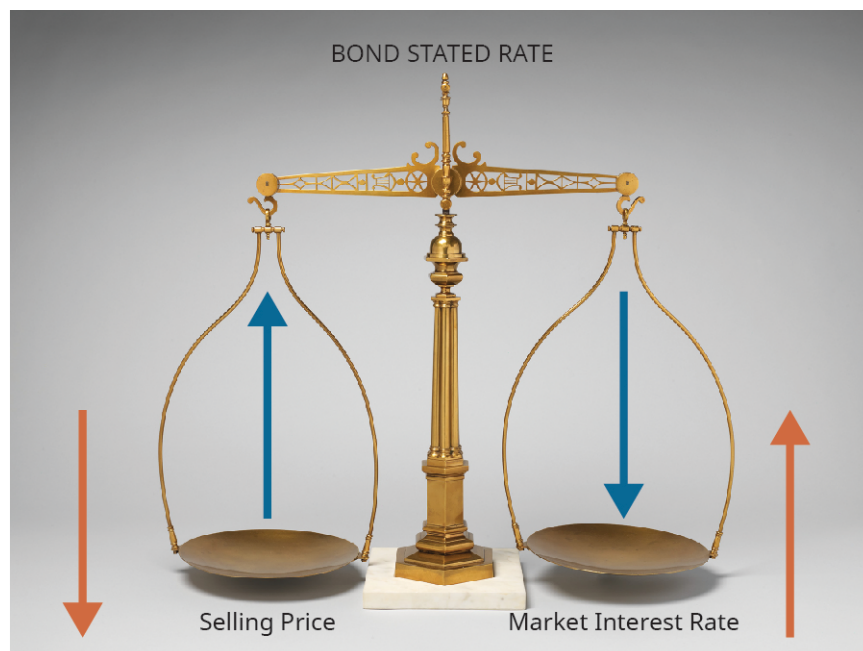
[Figure 13.11](#) shows data from the [Wells Fargo](#) website. You will notice that there is a column for "Interest Rate" and a column for "APR." Why does a 30-year loan have an interest rate of 4.375% with an APR of 4.435%? The difference results from compound interest.

Borrowing \$100,000 for one year at 4.0%, with interest compounded yearly, would lead to \$4,000 owed in interest. But since mortgages are compounded monthly, a mortgage of \$100,000 would generate \$4,073.70 in

interest in a year.

## Summary of Bond Principles

As we conclude our discussion of bonds, there are two principles that are worth noting. The first principle is there is an inverse relationship between the market rate of interest and the price of the bond. That is, when the market interest rate increases, the price of the bond decreases. This is due to the fact that the stated rate of the bond does not change.<sup>[10]</sup> As we discussed, when the market interest rate is higher than the stated interest rate of the bond, the bond will sell at a discount to attract investors and to compensate for the interest rate earned between similar bonds. When, on the other hand, the market interest rate is lower than the stated interest rate, the bond will sell at a premium, which also compensates for the interest rate earned between similar bonds. It may be helpful to think of the inverse relationship between the market interest rate and the bond price in terms of analogies such as a teeter-totter in a park or a balance scale, as shown in [Figure 13.12](#).



**Figure 13.12** Bond Stated Rate. This illustration demonstrates the relationship between the market interest rate and the selling price of bonds. When the market interest rate goes down, the selling price goes up. The opposite is also true. (credit: modification of “Balance scale MET DP318014” gift of Mr. and Mrs. Stuart P. Feld, 2013 to Metropolitan Museum of Art/Wikimedia Commons, CC0 1.0)

In reality, the market interest rate will be above or below the stated interest rate and is rarely equal to the stated rate. The point of this illustration is to help demonstrate the inverse relationship between the market interest rate and the bond selling price.

A second principle relating to bonds involves the relationship of the bond carrying value relative to its face value. By reviewing the amortization tables for bonds sold at a discount and bonds sold at a premium it is clear that the carrying value of bonds will always move toward the face value of the bond. This occurs because interest expense (using the effective-interest method) is calculated using the bond carrying value, which changes each period.

<sup>10</sup> Another reason for the inverse relationship between the market interest rate and bond prices is due to the time value of money.

For example, earlier we explored a 5-year, \$100,000 bond that sold for \$104,460. Return to the amortization table in [Figure 13.9](#) and notice the ending value on the bond is equal to the bond face value of \$100,000 (ignoring the rounding difference). The same is true for bonds sold at a discount. In our example, the \$100,000 bond sold at \$91,800 and the carrying value in year five was \$100,000. Understanding that the carrying value of bonds will always move toward the bond face value is one trick students can use to ensure the amortization table and related accounting are correct. If, on the maturity date, the bond carrying value does not equal the bond face value, something is incorrect.

Let's summarize bond characteristics. When businesses borrow money from banks or other investors, the terms of the arrangement, which include the frequency of the periodic interest payments, the interest rate, and the maturity value, are specified in the bond indentures or loan documents. Recall, too, that when the bonds are issued, the bond indenture only specifies how much the borrower will repay the lender on the maturity date. The amount of money received by the business (borrower) during the issue is called the bond proceeds. The bond proceeds can be impacted by the market interest rate at the time the bonds are sold. Also, because of the lag time between preparing a bond issuance and selling the bonds, the market dynamics may cause the stated interest rate to change. Rarely, the market rate is equal to the stated rate when the bonds are sold, and the bond proceeds will equal the face value of the bonds. More commonly, the market rate is not equal to the stated rate. If the market rate is higher than the stated rate when the bonds are sold, the bonds will be sold at a discount. If the market rate is lower than the stated rate when the bonds are sold, the bonds will be sold at a premium. [Figure 13.10](#) illustrates this rule: that bond prices are inversely related to the market interest rate.

## Key Terms

- amortization** allocation of the costs of intangible assets over their useful economic lives; also, process of separating the principal and interest in loan payments over the life of a loan
- bond** type of financial instrument that a company issues directly to investors, bypassing banks or other lending institutions, with a promise to pay the investor a specified rate of interest over a specified period of time
- bond indenture** contract that lists the features of the bond, such as the principal, the maturity date, and the interest rate
- bond retirement** when the company that issued the bonds pays their obligation
- book value** difference between the asset's value (cost) and accumulated depreciation; also, value at which assets or liabilities are recorded in a company's financial statements
- callable bond** (also, redeemable bond) bond that can be repurchased or "called" by the issuer of the bond before its due date
- carrying value** (also, book value) value that assets or liabilities are recorded at in the company's financial statements
- compound interest** in a loan, when interest earned also earns interest
- convertible bond** bond that can be converted into common stock at the option of the bond holder
- coupon rate** (also, stated interest rate or face rate) interest rate printed on the certificate, used to determine the amount of interest paid to the holder of the bond
- debenture** bond backed by the general credit worthiness of a company rather than specific assets
- debt financing** borrowing money that will be repaid on a specific date in the future in order to finance business operations
- default** failure to pay a debt as promised
- discount on bonds payable** contra liability account associated with a bond that has a stated rate that is lower than the market rate and is sold at a discount
- effective-interest method** method of calculating interest expense based on multiplying the carrying value of the bond by the market interest rate
- equity financing** selling part of the business to obtain money to finance business operations
- fully amortized notes** periodic loan payments that pay back the principal and interest over time with payments of equal amounts
- interest-only loan** type of loan that only requires regular interest payments with all the principal due at maturity
- long-term liability** debt settled outside one year or one operating cycle, whichever is longer
- market interest rate** (also, effective interest rate) rate determined by supply and demand and by the credit worthiness of the borrower
- maturity date** date a bond or note becomes due and payable
- maturity value** amount to be paid at the maturity date
- note payable** legal document between a borrower and a lender specifying terms of a financial arrangement; in most situations, the debt is long-term
- par value** value assigned to stock in the company's charter, typically set at a very small arbitrary amount; serves as legal capital
- premium on bonds payable** contra account associated with a bond that has a stated rate that is higher than the market rate and is sold at a premium
- principal** face value or maturity value of a bond (the amount to be paid at maturity); also, initial borrowed

amount of a loan, not including interest

**promissory note** represents a personal loan agreement that is a formal contract between a lender and borrower

**putable bond** bond that give the bondholder the right to decide whether to sell it back early or keep it until it matures

**secondary market** organized market where previously issued stocks and bonds can be traded after they are issued

**secured bond** bond backed by specific assets as collateral for the bond

**serial bond** bond that will mature over a period of time and will be repaid in a series of payments

**stated interest rate** (also, contract interest rate) interest rate printed on the face of the bond that the issuer agrees to pay the bondholder throughout the term of the bond; also known as the *coupon rate* and *face rate*

**straight-line method** method of calculating interest expense that allocates the same amount of premium or discount amortation for each of the bond's payment periods

**term bond** bond that will be repaid all at once, rather than in a series of payments



## Summary

### 13.1 Explain the Pricing of Long-Term Liabilities

- Businesses can obtain financing (cash) through profitable operations, issuing (selling) debt, and by selling ownership (equity).
- Notes payable and bonds payable are specific types of debt that businesses issue in order to generate financial capital.
- Liabilities are categorized as either current or noncurrent based on when the liability will be settled relative to the operating period of the business.
- A bond indenture is a legal document containing the principal amount, maturity date, stated interest rate and other requirements of the bond issuer.
- Bonds can be issued under different structures and include different features.
- Periodic interest payments are based on the amount borrowed, the interest rate, and the time period for which interest is calculated.
- Bond selling prices are determined by the market interest rate at the time of the sale and the stated interest rate of the bond.
- Bonds can be sold at face value, at a premium, or at a discount.

### 13.2 Compute Amortization of Long-Term Liabilities Using the Effective-Interest Method

- The effective-interest method is a common method used to calculate the interest expense for a given interest payment.
- There is an inverse relationship between the price of a bond and the market interest rate.
- The carrying value of a bond sold at a discount will increase during the life of a bond until the maturity or face value is reached.
- The carrying value of a bond sold at a premium will decrease during the life of a bond until the maturity or face value is reached.
- The amount of cash to be paid, the interest expense, and the premium or discount amortization (when applicable) with each periodic payment are calculated based on an amortization table or schedule.

### 13.3 Prepare Journal Entries to Reflect the Life Cycle of Bonds

- When a company issues a bond, the specific terms of the bond are contained in the bond indenture.

- Journal entries are recorded at various stages of a bond, including when the bond is issued, for periodic interest payments, and for payment of the bond at maturity.
- The difference between the face value of a bond and the cash proceeds are recorded in the discount (when the proceeds are lower than the face value) and premium (when the proceeds are higher than the face value) accounts.
- The carrying or book value of a bond is determined by the balances of the Bond Payable and Discount and/or Premium accounts.
- Interest expense associated with a bond interest payment is calculated by the bond's carrying or book value multiplied by the market interest rate.

## Multiple Choice

- LO 13.1** An amortization table \_\_\_\_\_.
  - A. breaks each payment into the amount that goes toward interest and the amount that goes toward the principal
  - B. is a special table used in a break room to make people feel equitable
  - C. separates time value of money tables into present value and future value
  - D. separates time value of money tables into single amounts and streams of cash
- LO 13.1** A debenture is \_\_\_\_\_.
  - A. the interest paid on a bond
  - B. a type of bond that can be sold back to the issuing company whenever the bondholder wishes
  - C. a bond with only the company's word that they will pay it back
  - D. a bond with assets such as land to back their word that they will pay it back
- LO 13.1** The principal of a bond is \_\_\_\_\_.
  - A. the person who sold the bond for the company
  - B. the person who bought the bond
  - C. the interest rate printed on the front of the bond
  - D. the face amount of the bond that will be paid back at maturity
- LO 13.1** A convertible bond can be converted into \_\_\_\_\_.
  - A. preferred stock
  - B. common stock and then converted into preferred stock
  - C. common stock of a different company
  - D. common stock of the company
- LO 13.1** On January 1, a company issued a 5-year \$100,000 bond at 6%. Interest payments on the bond of \$6,000 are to be made annually. If the company received proceeds of \$112,300, how would the bond's issuance be quoted?
  - A. 1.123
  - B. 112.30
  - C. 0.890
  - D. 89.05

6. **LO 13.1** On July 1, a company sells 8-year \$250,000 bonds with a stated interest rate of 6%. If interest payments are paid annually, each interest payment will be \_\_\_\_\_.
- A. \$120,000
  - B. \$60,000
  - C. \$7,500
  - D. \$15,000
7. **LO 13.1** On January 1 a company issues a \$75,000 bond that pays interest semi-annually. The first interest payment of \$1,875 is paid on July 1. What is the stated annual interest rate on the bond?
- A. 5.00%
  - B. 2.50%
  - C. 1.25%
  - D. 10.00%
8. **LO 13.1** On October 1 a company sells a 3-year, \$2,500,000 bond with an 8% stated interest rate. Interest is paid quarterly and the bond is sold at 89.35. On October 1 the company would collect \_\_\_\_\_.
- A. \$200,000
  - B. \$558,438
  - C. \$2,233,750
  - D. \$6,701,250
9. **LO 13.1** On April 1 a company sells a 5-year, \$60,000 bond with a 7% stated interest rate. The market interest on that day was also 7%. If interest is paid quarterly, the company makes interest payments of \_\_\_\_\_.
- A. \$1,050
  - B. \$3,150
  - C. \$4,200
  - D. \$5,250
10. **LO 13.2** The effective-interest method of bond amortization finds the difference between the \_\_\_\_\_ times the \_\_\_\_\_ and the \_\_\_\_\_ times the \_\_\_\_\_.
- A. stated interest rate, principal, stated interest rate, carrying value
  - B. stated interest rate, principal, market interest rate, carrying value
  - C. stated interest rate, carrying value, market interest rate, principal
  - D. market interest rate, carrying value, market interest rate, principal
11. **LO 13.2** When a bond sells at a discount, the carrying value \_\_\_\_\_ after each amortization entry.
- A. increases
  - B. decreases
  - C. stays the same
  - D. cannot be determined
12. **LO 13.2** The International Financial Reporting Standards require the use of \_\_\_\_\_.
- A. any method of amortization of bond premiums
  - B. the straight-line method of amortization of bond discounts
  - C. the effective-interest method of amortization of bond premiums and discounts
  - D. any method approved by US GAAP

13. **LO 13.2** The cash interest payment a corporation makes to its bondholders is based on \_\_\_\_\_.
- the market rate times the carrying value
  - the stated rate times the principal
  - the stated rate times the carrying value
  - the market rate times the principal
14. **LO 13.2** Whirlie Inc. issued \$300,000 face value, 10% paid annually, 10-year bonds for \$319,251 when the market of interest was 9%. The company uses the effective-interest method of amortization. At the end of the year, the company will record \_\_\_\_\_.
- a credit to cash for \$28,733
  - a debit to interest expense for \$31,267
  - a debit to Discount on Bonds Payable for \$1,267
  - a debit to Premium on Bonds Payable for \$1.267
15. **LO 13.3** Naval Inc. issued \$200,000 face value bonds at a discount and received \$190,000. At the end of 2018, the balance in the Discount on Bonds Payable account is \$5,000. This year's balance sheet will show a net liability of \_\_\_\_\_.
- \$200,000
  - \$180,000
  - \$195,000
  - \$205,000
16. **LO 13.3** Keys Inc. issued 100 bonds with a face value of \$1,000 and a rate of 8% at \$1,025 each. The journal entry to record this transaction includes \_\_\_\_\_.
- a credit to Bonds Payable for \$102,500
  - a credit to cash for \$102,500
  - a debit to cash for \$100,000
  - a credit to Premium on Bonds Payable for \$2,500
17. **LO 13.3** Huang Inc. issued 100 bonds with a face value of \$1,000 and a 5-year term at \$960 each. The journal entry to record this transaction includes \_\_\_\_\_.
- a debit to Bonds Payable for \$100,000
  - a debit to Discount on Bonds Payable for \$4,000
  - a credit to cash for \$96,000
  - a credit to Discount on Bonds Payable for \$4,000
18. **LO 13.3** O'Shea Inc. issued bonds at a face value of \$100,000, a rate of 6%, and a 5-year term for \$98,000. From this information, we know that the market rate of interest was \_\_\_\_\_.
- more than 6%
  - less than 6%
  - equal to 6%
  - cannot be determined from the information given.
19. **LO 13.3** Gingko Inc. issued bonds with a face value of \$100,000, a rate of 7%, and a 10-year term for \$103,000. From this information, we know that the market rate of interest was \_\_\_\_\_.
- more than 7%
  - less than 7%
  - equal to 7%
  - equal to 1.3%

20. **LO 13.4** The difference between equity financing and debt financing is that
- equity financing involves borrowing money.
  - equity financing involves selling part of the company.
  - debt financing involves selling part of the company.
  - debt financing means the company has no debt.



## Questions

- LO 13.1** What is the difference between callable and puttable bonds?
- LO 13.1** What is the difference between serial bonds and term bonds?
- LO 13.1** What is a junk bond?
- LO 13.1** How are savings bonds different from a corporate bond?
- LO 13.1** What do you have to do to the interest rate and years of maturity if a bond pricing problem tells you that interest is compounded quarterly?
- LO 13.2** An amortization table/schedule is created to compute the amount to be amortized each year. What are the four columns needed to prepare the table?
- LO 13.2** In the amortization table, how is the amortization of discount of premium computed?
- LO 13.2** Does issuing a bond at a discount increase or decrease interest expense over the life of the bond?
- LO 13.2** What kind of account is the Discount on Bonds Payable? What kind of account is the Premium on Bonds Payable?
- LO 13.2** Why is the effective-interest method of amortization required under the International Financial Reporting Standards?
- LO 13.3** If there is neither a premium nor discount present, the journal entry to record bond interest payments is \_\_\_\_\_.
- LO 13.3** When do you use the Bond Discount Account?
- LO 13.3** A company issued bonds with a \$100,000 face value, a 5-year term, a stated rate of 6%, and a market rate of 7%. Interest is paid annually. What is the amount of interest the bondholders will receive at the end of the year?
- LO 13.3** A company issued \$100,000, 5-year bonds, receiving \$97,000. What is the balance sheet presentation immediately after the sale?
- LO 13.3** Does interest expense increase or decrease when a bond premium is amortized?



## Exercise Set A

- EA1. LO 13.1** Halep Inc. borrowed \$30,000 from Davis Bank and signed a 4-year note payable stating the interest rate was 4% compounded annually. Halep Inc. will make payments of \$8,264.70 at the end of each year. Prepare an amortization table showing the principal and interest in each payment.

**EA2.** **LO 13.1** Beluga Inc. issued 10-year bonds with a face value of \$100,000 and a stated rate of 3% when the market rate was 4%. Interest was paid annually. The bonds were sold at 87.5. What was the sales price of the bonds? Were they issued at a discount, a premium, or at par?

**EA3.** **LO 13.1** Krystian Inc. issued 10-year bonds with a face value of \$100,000 and a stated rate of 4% when the market rate was 6%. Interest was paid semi-annually. Calculate and explain the timing of the cash flows the purchaser of the bonds (the investor) will receive throughout the bond term. Would an investor be willing to pay more or less than face value for this bond?

**EA4.** **LO 13.1** On January 1, 2018, Wawatosa Inc. issued 5-year bonds with a face value of \$200,000 and a stated interest rate of 12% payable semi-annually on July 1 and January 1. The bonds were sold to yield 10%. Assuming the bonds were sold at 107.732, what is the selling price of the bonds? Were they issued at a discount or a premium?

**EA5.** **LO 13.2** Diana Inc. issued \$100,000 of its 9%, 5-year bonds for \$96,149 when the market rate was 10%. The bonds pay interest semi-annually. Prepare an amortization table for the first three payments.

**EA6.** **LO 13.2** Oak Branch Inc. issued \$700,000 of 5%, 10-year bonds when the market rate was 4%. They received \$757,243. Interest was paid semi-annually. Prepare an amortization table for the first three years of the bonds.

**EA7.** **LO 13.3** On Jan. 1, Year 1, Foxcroft Inc. issued 100 bonds with a face value of \$1,000 for \$104,000. The bonds had a stated rate of 6% and paid interest semiannually. What is the journal entry to record the issuance of the bonds?

**EA8.** **LO 13.3** Medhurst Corporation issued \$90,000 in bonds for \$87,000. The bonds had a stated rate of 8% and pay interest quarterly. What is the journal entry to record the sale of the bonds?

**EA9.** **LO 13.3** On Jan. 1, Year 1, Foxcroft Inc. issued 100 bonds with a face value of \$1,000 for \$104,000. The bonds had a stated rate of 6% and paid interest semi-annually. What is the journal entry to record the first payment to the bondholders?

**EA10.** **LO 13.3** Pinetop Corporation issued \$150,000 10-year bonds at par. The bonds have a stated rate of 6% and pay interest annually. What is the journal entry to record the sale of the bonds?

**EA11.** **LO 13.3** Medhurst Corporation issued \$90,000 in bonds for \$87,000. The bonds had a stated rate of 8% and pay interest quarterly. What is the journal entry to record the first interest payment?



## Exercise Set B

**EB1.** **LO 13.1** Sharapovich Inc. borrowed \$50,000 from Kerber Bank and signed a 5-year note payable stating the interest rate was 5% compounded annually. Sharapovich Inc. will make payments of \$11,548.74 at the end of each year. Prepare an amortization table showing the principal and interest in each payment.

**EB2.** **LO 13.1** Waylan Sisters Inc. issued 3-year bonds with a par value of \$100,000 and a 6% annual coupon when the market rate of interest was 5%. If the bonds sold at 102.438, how much cash did Williams Sisters Inc. receive from issuing the bonds?

**EB3.** **LO 13.1** Smashing Cantaloupes Inc. issued 5-year bonds with a par value of \$35,000 and an 8% semi-annual coupon (payable June 30 and December 31) on January 1, 2018, when the market rate of interest was 10%. Were the bonds issued at a discount or premium? Assuming the bonds sold at 92.288, what was the sales price of the bonds?

**EB4.** **LO 13.1** Chung Inc. issued \$50,000 of 3-year bonds on January 1, 2018, with a stated rate of 4% and a market rate of 4%. The bonds paid interest semi-annually on June 30 and Dec. 31. How much money did the company receive when the bonds were issued? The bonds would be quoted at what rate?

**EB5.** **LO 13.2** Haiku Inc. issued \$600,000 of 10-year bonds with a stated rate of 11% when the market rate was 12%. The bonds pay interest semi-annually. Prepare the first three years of an amortization schedule. Assume that the bonds were issued for \$565,710.

**EB6.** **LO 13.2** Waldron Inc. issued \$400,000 bonds with a stated rate of 7% when the market rate was 5%. They are 3-year bonds with interest to be paid annually. Prepare a table to amortize the premium of the bonds. Assume that the bonds were issued for \$421,844.

**EB7.** **LO 13.3** Willoughby Inc. issued 100 bonds with a face value of \$1,000 and a stated rate of 4% and received \$105,000. What is the journal entry to record the sale of the bonds?

**EB8.** **LO 13.3** Allante Corporate issued 50 bonds with a face value of \$1,000 and a stated rate of 4% and received \$45,000. What is the journal entry to record the sale of the bonds?

**EB9.** **LO 13.3** Roo Incorporated issued 50 bonds with a face value of \$1,000 and a stated rate of 6% when the market rate was 6%. What is the journal entry to record the sale of the bonds?

**EB10.** **LO 13.3** Piedmont Corporation issued \$200,000 of 10-year bonds at par. The bonds have a stated rate of 6% and pay interest annually. What is the journal entry to record the first interest payment to the bondholders?

**EB11.** **LO 13.3** Lunar Corporation issued \$80,000 in bonds for \$87,000 on Jan. 1. The bonds had a stated rate of 8% and pay interest quarterly. What is the journal entry to record the first interest payment?



## Problem Set A

**PA1.** **LO 13.3** On January 1, 2018, King Inc. borrowed \$150,000 and signed a 5-year, note payable with a 10% interest rate. Each annual payment is in the amount of \$39,569 and payment is due each Dec. 31. What is the journal entry on Jan. 1 to record the cash received and on Dec. 31 to record the annual payment? (You will need to prepare the first row in the amortization table to determine the amounts.)

**PA2.** **LO 13.1** On July 1, Somerset Inc. issued \$200,000 of 10%, 10-year bonds when the market rate was 12%. The bonds paid interest semi-annually. Assuming the bonds sold at 58.55, what was the selling price of the bonds? Explain why the cash received from selling this bond is different from the \$200,000 face value of the bond.

**PA3.** **LO 13.2** Eli Inc. issued \$100,000 of 8% annual, 5-year bonds for \$103,000. What is the total amount of interest expense over the life of the bonds?

**PA4.** **LO 13.2** Evie Inc. issued 50 bonds with a \$1,000 face value, a five-year life, and a stated annual coupon of 6% for \$980 each. What is the total amount of interest expense over the life of the bonds?

**PA5.** **LO 13.3** Volunteer Inc. issued bonds with a \$500,000 face value, 10% interest rate, and a 4-year term on July 1, 2018 and received \$540,000. Interest is payable annually. The premium is amortized using the straight-line method. Prepare journal entries for the following transactions.

- A. July 1, 2018: entry to record issuing the bonds
- B. June 30, 2019: entry to record payment of interest to bondholders
- C. June 30, 2019: entry to record amortization of premium
- D. June 30, 2020: entry to record payment of interest to bondholders
- E. June 30, 2020: entry to record amortization of premium

**PA6.** **LO 13.3** Aggies Inc. issued bonds with a \$500,000 face value, 10% interest rate, and a 4-year term on July 1, 2018, and received \$540,000. Interest is payable semi-annually. The premium is amortized using the straight-line method. Prepare journal entries for the following transactions.

- A. July 1, 2018: entry to record issuing the bonds
- B. Dec. 31, 2018: entry to record payment of interest to bondholders
- C. Dec. 31, 2018: entry to record amortization of premium



## Problem Set B

**PB1.** **LO 13.3** Sub-Cinema Inc. borrowed \$10,000 on Jan. 1 and will repay the loan with 12 equal payments made at the end of the month for 12 months. The interest rate is 12% annually. If the monthly payments are \$888.49, what is the journal entry to record the cash received on Jan. 1 and the first payment made on Jan. 31?

**PB2.** **LO 13.1** Charleston Inc. issued \$200,000 bonds with a stated rate of 10%. The bonds had a 10-year maturity date. Interest is to be paid semi-annually and the market rate of interest is 8%. If the bonds sold at 113.55, what amount was received upon issuance?

**PB3.** **LO 13.2** Starmount Inc. sold bonds with a \$50,000 face value, 12% interest, and 10-year term at \$48,000. What is the total amount of interest expense over the life of the bonds?

**PB4.** **LO 13.2** Irving Inc. sold bonds with a \$50,000, 10% interest, and 10-year term at \$52,000. What is the total amount of interest expense over the life of the bonds?

**PB5.** **LO 13.3** Dixon Inc. issued bonds with a \$500,000 face value, 10% interest rate, and a 4-year term on July 1, 2018 and received \$480,000. Interest is payable annually. The discount is amortized using the straight-line method. Prepare journal entries for the following transactions.

- A. July 1, 2018: entry to record issuing the bonds
- B. June 30, 2019: entry to record payment of interest to bondholders
- C. June 30, 2019: entry to record amortization of discount
- D. June 30, 2020: entry to record payment of interest to bondholders
- E. June 30, 2020: entry to record amortization of discount

**PB6.** **LO 13.3** Edward Inc. issued bonds with a \$500,000 face value, 10% interest rate, and a 4-year term on July 1, 2018 and received \$480,000. Interest is payable semiannually. The discount is amortized using the straight-line method. Prepare journal entries for the following transactions.

- A. July 1, 2018: entry to record issuing the bonds
- B. Dec. 31, 2018: entry to record payment of interest to bondholders
- C. Dec. 31, 2018: entry to record amortization of discount



## Thought Provokers

**TP1.** **LO 13.1** It is somewhat difficult to find current quotes on corporate bonds, but one source is the Financial Industry Regulatory Authority. Using the link <http://finra-markets.morningstar.com/BondCenter/Default.jsp>, click on the “Search” tab. Make sure “Bond Type” is set to “Corporate” and enter “Nike” in the “Issuer Name” field and hit enter.

Write a brief summary explaining the results, including an explanation of each of the fields. Assume that an investor purchases a \$1,000 bond and interest payments are made semi-annually. Be sure to include the price the investor would pay for the bond.

**TP2.** **LO 13.2** Below is select information from two, independent companies.

	<b>Company A</b>	<b>Company B</b>
Sales	\$2,300,000	\$2,300,000
Cost of goods sold	1,081,000	1,081,000
Depreciation	575,000	575,000
Utilities	32,000	32,000
Sales, general, and administrative expenses	175,000	175,000
Other expenses	235,000	235,000

Additional information includes:

- On January 1, Company A issued a 5-year \$1,500,000 bond with at 6% stated rate. Interest is paid semiannually and the bond was sold at 105.5055 to yield a market rate of 4.75%.
  - On January 1, Company B sold \$1,500,000 of common stock and paid dividends of \$75,000.
- A. Prepare an income statement for each company (ignore taxes)
  - B. Explain why the net income amounts are different, paying particular attention to the operational performance and financing performance of each company. (Hint: it may be helpful for you to create an amortization table).

**TP3.** **LO 13.3** Assume you are a newly-hired accountant for a local manufacturing firm. You have enjoyed working for the company and are looking forward to your first experience participating in the preparation of the company’s financial statements for the year-ending December 31, the end of the company’s fiscal year.

As you are preparing your assigned journal entries, your supervisor approaches you and asks to speak with you. Your supervisor is concerned because, based on her preliminary estimates, the company will fall just shy of its financial targets for the year. If the estimates are true, this means that all 176 employees of the company will not receive year-end bonuses, which represent a significant portion of their pay.

One of the entries that you will prepare involves the upcoming bond interest payment that will be paid on January 15 of the next year. Your supervisor has calculated that, if the journal entry is dated on January 1 of the following year rather than on December 31 of the current year, the company will likely meet its financial goals thereby allowing all employees to receive year-end bonuses. Your supervisor asks you if you will consider dating the journal entry on January 1 instead of December 31 of the current year. Assess the implications of the various stakeholders and explain what your answer will be.





## Corporation Accounting

**Figure 14.1** Stocks. Company stocks are traded daily across the globe. (credit: modification of “E-ticker” by “klip game”/Wikimedia Commons, Public Domain)

### Chapter Outline

- LO 14.1** Explain the Process of Securing Equity Financing through the Issuance of Stock
- LO 14.2** Analyze and Record Transactions for the Issuance and Repurchase of Stock
- LO 14.3** Record Transactions and the Effects on Financial Statements for Cash Dividends, Property Dividends, Stock Dividends, and Stock Splits
- LO 14.4** Compare and Contrast Owners’ Equity versus Retained Earnings
- LO 14.5** Discuss the Applicability of Earnings per Share as a Method to Measure Performance



### Why It Matters

Chad and Rick have experienced resounding success operating their three Mexican restaurants named La Cantina. They are now ready to expand and open two more restaurants. The partners realize this will require significant funds for leasing locations, purchasing and installing equipment, and setting up operations. They have tentatively decided to form a new corporation for their future restaurant operations. The partners researched some of the characteristics of corporations and have learned that a corporation can sell shares of stock in exchange for funding their operations and buying new equipment. The sale of shares will dilute the partners’ ownership interest in the restaurants but will enable them to finance the expansion without borrowing any money.

Chad and Rick are not ready to go public with the offering of their shares because the three current restaurants are not widely recognized. A public offering of the shares in a corporation is typically done when a company is recognized and investment banks and venture capitalists can create enough interest for a large number of investors. When a corporation is starting up, its shares are typically sold to friends and family, and

then to angel investors. Many successful companies, like **Amazon** and **Dell**, started this way.

Partners Chad and Rick locate possible investors and then share their restaurant's financial information and business plan. The investors will not participate in management or work at the restaurants, but they will be stockholders along with Chad and Rick. Stockholders own part of the corporation by holding ownership in shares of the corporation's stock. The corporate form of business will enable Chad, Rick, and other shareholders to minimize their liability. The most that the investors can lose is the amount they have invested in the corporation. In addition, Chad and Rick will be able to receive a salary from the new corporation because they will manage the operations, and all of the shareholders will be able to share in the corporation's profits through the receipt of dividends.

## 14.1 Explain the Process of Securing Equity Financing through the Issuance of Stock

A **corporation** is a legal business structure involving one or more individuals (owners) who are legally distinct (separate) from the business that is created under state laws. The owners of a corporation are called **stockholders** (or shareholders) and may or may not be employees of the corporation. Most corporations rely on a combination of debt (liabilities) and equity (stock) to raise capital. Both debt and equity financing have the goal of obtaining funding, often referred to as capital, to be used to acquire other assets needed for operations or expansion. **Capital** consists of the total cash and other assets owned by a company found on the left side of the accounting equation. The method of financing these assets is evidenced by looking at the right side of the accounting equation, either recorded as liabilities or shareholders' equity.

### The Organization of a Corporation

**Incorporation** is the process of forming a company into a corporate legal entity. The advantages of incorporating are available to a corporation regardless of size, from a corporation with one shareholder to those with hundreds of thousands of shareholders. To issue stock, an entity must first be incorporated in a state.

The process of incorporating requires filing the appropriate paperwork and receiving approval from a governmental entity to operate as a corporation. Each state has separate requirements for creating a corporation, but ultimately, each state grants a corporation the right to conduct business in the respective state in which the corporation is formed. The steps to incorporate are similar in most states:

1. The founders (incorporators) choose an available business name that complies with the state's corporation rules. A state will not allow a corporation to choose a name that is already in use or that has been in use in recent years. Also, similar names might be disallowed.
2. The founders of a corporation prepare **articles of incorporation** called a "charter," which defines the basic structure and purpose of the corporation and the amount of capital stock that can be issued or sold.
3. The founders file the articles of incorporation with the Department of State of the state in which the incorporation is desired. Once the articles are filed and any required fees are paid, the government approves the incorporation.
4. The incorporators hold an organizational meeting to elect the board of directors. Board meetings must be documented with formal board minutes (a written record of the items discussed, decisions made, and action plans resulting from the meeting). The board of directors generally meets at least annually. **Microsoft**, for example, has 14 directors on its board.<sup>[1]</sup> Boards may have more or fewer directors than this, but most boards have a minimum of at least three directors.

5. The board of directors prepares and adopts corporate bylaws. These bylaws lay out the operating rules for the corporation. Templates for drawing up corporate bylaws are usually available from the state to ensure that they conform with that state's requirements.
6. The board of directors agrees upon a par value price for the stock. Par value is a legal concept discussed later in this section. The price that the company receives (the initial market value) will be determined by what the purchasing public is willing to pay. For example, the company might set the par value at \$1 per share, while the investing public on the day of issuance might be willing to pay \$30 per share for the stock.

## CONCEPTS IN PRACTICE

### Deciding Where to Incorporate

With 50 states to choose from, how do corporations decide where to incorporate? Many corporations are formed in either Delaware or Nevada for several reasons. Delaware is especially advantageous for large corporations because it has some of the most flexible business laws in the nation and its court system has a division specifically for handling business cases that operates without juries. Additionally, companies formed in Delaware that do not transact business in the state do not need to pay state corporate income tax. Delaware imposes no personal tax for non-residents, and shareholders can be non-residents. In addition, stock shares owned by non-Delaware residents are not subject to Delaware state taxation.

Because of these advantages, Delaware dominated the share of business incorporation for several decades. In recent years, though, other states are seeking to compete for these businesses by offering similarly attractive benefits of incorporation. Nevada in particular has made headway. It has no state corporate income tax and does not impose any fees on shares or shareholders. After the initial set up fees, Nevada has no personal or franchise tax for corporations or their shareholders. Nevada, like Delaware, does not require shareholders to be state residents. If a corporation chooses to incorporate in Delaware, Nevada, or any state that is not its home state, it will need to register to do business in its home state. Corporations that transact in states other than their state of incorporation are considered *foreign* and may be subject to fees, local taxes, and annual reporting requirements that can be time consuming and expensive.

## Advantages of the Corporate Form

Compared to other forms of organization for businesses, corporations have several advantages. A corporation is a separate legal entity, it provides limited liability for its owner or owners, ownership is transferable, it has a continuing existence, and capital is generally easy to raise.

### Separate Legal Entity

A sole proprietorship, a partnership, and a corporation are different types of business entities. However, only a

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1 Microsoft Corporation. "Board of Directors." <https://www.microsoft.com/en-us/Investor/corporate-governance/board-of-directors.aspx>

corporation is a legal entity. As a separate legal entity, a corporation can obtain funds by selling shares of stock, it can incur debt, it can become a party to a contract, it can sue other parties, and it can be sued. The owners are separate from the corporation. This separate legal status complies with one of the basic accounting concepts—the **accounting entity concept**, which indicates that the economic activity of an entity (the corporation) must be kept separate from the personal financial affairs of the owners.

### Limited Liability

Many individuals seek to incorporate a business because they want the protection of limited liability. A corporation usually limits the liability of an investor to the amount of his or her investment in the corporation. For example, if a corporation enters into a loan agreement to borrow a sum of money and is unable to repay the loan, the lender cannot recover the amount owed from the shareholders (owners) unless the owners signed a personal guarantee. This is the opposite of partnerships and sole proprietorships. In partnerships and sole proprietorships, the owners can be held responsible for any unpaid financial obligations of the business and can be sued to pay obligations.

### Transferable Ownership

Shareholders in a corporation can transfer shares to other parties without affecting the corporation's operations. In effect, the transfer takes place between the parties outside of the corporation. In most corporations, the company generally does not have to give permission for shares to be transferred to another party. No journal entry is recorded in the corporation's accounting records when a shareholder sells his or her stock to another shareholder. However, a memo entry must be made in the corporate stock ownership records so any dividends can be issued to the correct shareholder.

### Continuing Existence

From a legal perspective, a corporation is granted existence forever with no termination date. This legal aspect falls in line with the basic accounting concept of the **going concern assumption**, which states that absent any evidence to the contrary, a business will continue to operate in the indefinite future. Because ownership of shares in a corporation is transferrable, re-incorporation is not necessary when ownership changes hands. This differs from a partnership, which ends when a partner dies, or from a sole proprietorship, which ends when the owner terminates the business.

### Ease of Raising Capital

Because shares of stock can be easily transferred, corporations have a sizeable market of investors from whom to obtain capital. More than 65 million American households<sup>[2]</sup> hold investments in the securities markets. Compared to sole proprietorships (whose owners must obtain loans or invest their own funds) or to partnerships (which must typically obtain funds from the existing partners or seek other partners to join; although some partnerships are able borrow from outside parties), a corporation will find that capital is relatively easy to raise.

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2 Financial Samurai. "What Percent of Americans Hold Stocks?" February 18, 2019. <https://www.financialsamurai.com/what-percent-of-americans-own-stocks/>

## Disadvantages of the Corporate Form

As compared to other organizations for businesses, there are also disadvantages to operating as a corporation. They include the costs of organization, regulation, and taxation.

### Costs of Organization

Corporations incur costs associated with organizing the corporate entity, which include attorney fees, promotion costs, and filing fees paid to the state. These costs are debited to an account called **organization costs**. Assume that on January 1, Rayco Corporation made a payment for \$750 to its attorney to prepare the incorporation documents and paid \$450 to the state for filing fees. Rayco also incurred and paid \$1,200 to advertise and promote the stock offering. The total organization costs are \$2,400 (\$750 + \$450 + \$1,200). The journal entry recorded by Rayco is a \$2,400 debit to Organization Costs and a \$2,400 credit to Cash.

JOURNAL			
Date	Account	Debit	Credit
Jan. 1	Organization Costs Expense	2,400	
	Cash		2,400
	<i>To record organization costs</i>		

Organization costs are reported as part of the operating expenses on the corporation's income statement.

### Regulation

Compared to partnerships and sole proprietorships, corporations are subject to considerably more regulation both by the states in which they are incorporated and the states in which they operate. Each state provides limits to the powers that a corporation may exercise and specifies the rights and liabilities of shareholders. The **Securities and Exchange Commission (SEC)** is a federal agency that regulates corporations whose shares are listed and traded on security exchanges such as the New York Stock Exchange (NYSE), the National Association of Securities Dealers Automated Quotations Exchange (NASDAQ), and others; it accomplishes this through required periodic filings and other regulations. States also require the filing of periodic reports and payment of annual fees.

### Taxation

As legal entities, typical corporations (C corporations, named after the specific subchapter of the Internal Revenue Service code under which they are taxed), are subject to federal and state income taxes (in those states with corporate taxes) based on the income they earn. Stockholders are also subject to income taxes, both on the dividends they receive from corporations and any gains they realize when they dispose of their stock. The income taxation of both the corporate entity's income and the stockholder's dividend is referred to as **double taxation** because the income is taxed to the corporation that earned the income and then taxed again to stockholders when they receive a distribution of the corporation's income.

Corporations that are closely held (with fewer than 100 stockholders) can be classified as S corporations, so named because they have elected to be taxed under subchapter S of the Internal Revenue Service code. For the most part, S corporations pay no income taxes because the income of the corporation is divided among and passed through to each of the stockholders, each of whom pays income taxes on his or her share. Both Subchapter S (Sub S) and similar Limited Liability Companies (LLCs) are not taxed at the business entity but instead pass their taxable income to their owners.

## Financing Options: Debt versus Equity

Before exploring the process for securing corporate financing through equity, it is important to review the advantages and disadvantages of acquiring capital through debt. When deciding whether to raise capital by issuing debt or equity, a corporation needs to consider dilution of ownership, repayment of debt, cash obligations, budgeting impacts, administrative costs, and credit risks.

### Dilution of Ownership

The most significant consideration of whether a company should seek funding using debt or equity financing is the effect on the company's financial position. Issuance of debt does not dilute the company's ownership as no additional ownership shares are issued. Issuing debt, or borrowing, creates an increase in cash, an asset, and an increase in a liability, such as notes payable or bonds payable. Because borrowing is independent of an owner's ownership interest in the business, it has no effect on stockholders' equity, and ownership of the corporation remains the same as illustrated in the accounting equation in [Figure 14.2](#).

Assets	=	Liabilities	+	Stockholders' Equity
↑		↑		No effect

**Figure 14.2** Debt Financing. Debt financing increases assets and liabilities but has no effect on stockholders' equity. (attribution: Copyright Rice University, OpenStax, under CC BY-NC-SA 4.0 license)

On the other hand, when a corporation issues stock, it is financing with equity. The same increase in cash occurs, but financing causes an increase in a capital stock account in stockholders' equity as illustrated in the accounting equation in [Figure 14.3](#).

Assets	=	Liabilities	+	Stockholders' Equity
↑		No effect		↑

**Figure 14.3** Equity Financing. Equity financing increases assets and stockholders' equity but has no effect on liabilities. (attribution: Copyright Rice University, OpenStax, under CC BY-NC-SA 4.0 license)

This increase in stockholders' equity implies that more shareholders will be allowed to vote and will participate in the distribution of profits and assets upon liquidation.

### Repayment of Debt

A second concern when choosing between debt and equity financing relates to the repayment to the lender. A lender is a debt holder entitled to repayment of the original principal amount of the loan plus interest. Once the debt is paid, the corporation has no additional obligation to the lender. This allows owners of a corporation to claim a larger portion of the future earnings than would be possible if more stock were sold to investors. In addition, the interest component of the debt is an expense, which reduces the amount of income on which a company's income tax liability is calculated, thereby lowering the corporation's tax liability and the actual cost of the loan to the company.

### Cash Obligations

The most obvious difference between debt and equity financing is that with debt, the principal and interest must be repaid, whereas with equity, there is no repayment requirement. The decision to declare dividends is

solely up to the board of directors, so if a company has limitations on cash, it can skip or defer the declaration of dividends. When a company obtains capital through debt, it must have sufficient cash available to cover the repayment. This can put pressure on the company to meet debt obligations when cash is needed for other uses.

## Budgeting

Except in the case of variable interest loans, loan and interest payments are easy to estimate for the purpose of budgeting cash payments. Loan payments do not tend to be flexible; instead the principal payment is required month after month. Moreover, interest costs incurred with debt are an additional fixed cost to the company, which raises the company's break-even point (total revenue equals total costs) as well as its cash flow demands.

## Cost Differences

Issuing debt rather than equity may reduce additional administration costs associated with having additional shareholders. These costs may include the costs for informational mailings, processing and direct-depositing dividend payments, and holding shareholder meetings. Issuing debt also saves the time associated with shareholder controversies, which can often defer certain management actions until a shareholder vote can be conducted.

## Risk Assessment by Creditors

Borrowing commits the borrower to comply with debt covenants that can restrict both the financing options and the opportunities that extend beyond the main business function. This can limit a company's vision or opportunities for change. For example, many debt covenants restrict a corporation's **debt-to-equity ratio**, which measures the portion of debt used by a company relative to the amount of stockholders' equity, calculated by dividing total debt by total equity.

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

When a company borrows additional funds, its total debt (the numerator) rises. Because there is no change in total equity, the denominator remains the same, causing the debt-to-equity ratio to increase. Because an increase in this ratio usually means that the company will have more difficulty in repaying the debt, lenders and investors consider this an added risk. Accordingly, a business is limited in the amount of debt it can carry. A debt agreement may also restrict the company from borrowing additional funds.

To increase the likelihood of debt repayment, a debt agreement often requires that a company's assets serve as collateral, or for the company's owners to guarantee repayment. Increased risks to the company from high-interest debt and high amounts of debt, particularly when the economy is unstable, include obstacles to growth and the potential for insolvency resulting from the costs of holding debt. These important considerations should be assessed prior to determining whether a company should choose debt or equity financing.

## THINK IT THROUGH

### Financing a Business Expansion

You are the CFO of a small corporation. The president, who is one of five shareholders, has created an innovative new product that is testing well with substantial demand. To begin manufacturing, \$400,000 is needed to acquire the equipment. The corporation's balance sheet shows total assets of \$2,400,000 and total liabilities of \$600,000. Most of the liabilities relate to debt that carries a covenant requiring that the company maintain a debt-to-equity ratio not exceeding 0.50 times. Determine the effect that each of the two options of obtaining additional capital will have on the debt covenant. Prepare a brief memo outlining the advantages of issuing shares of common stock.

## How Stocks Work

The Securities and Exchange Commission (SEC) ([www.sec.gov](http://www.sec.gov)) is a government agency that regulates large and small public corporations. Its mission is “to protect investors, maintain fair, orderly, and efficient markets, and facilitate capital formation.”<sup>[3]</sup> The SEC identifies these as its five primary responsibilities:

- Inform and protect investors
- Facilitate capital information
- Enforce federal securities laws
- Regulate securities markets
- Provide data

Under the Securities Act of 1933,<sup>[4]</sup> all corporations that make their shares available for sale publicly in the United States are expected to register with the SEC. The SEC's registration requirement covers all securities—not simply shares of stock—including most tradable financial instruments. The Securities Act of 1933, also known as the “truth in securities law,” aims to provide investors with the financial data they need to make informed decisions. While some companies are exempt from filing documents with the SEC, those that offer securities for sale in the U.S. and that are not exempt must file a number of forms along with financial statements audited by certified public accountants.

## Private versus Public Corporations

Both private and public corporations become incorporated in the same manner through the state governmental agencies that handles incorporation. The journal entries and financial reporting are the same whether a company is a public or a private corporation. A **private corporation** is usually owned by a relatively small number of investors. Its shares are not publicly traded, and the ownership of the stock is restricted to only those allowed by the board of directors.

The SEC defines a **publicly traded company** as a company that “discloses certain business and financial information regularly to the public” and whose “securities trade on public markets.”<sup>[5]</sup> A company can initially

3 U.S. Securities and Exchange Commission. “What We Do.” June 10, 2013. <https://www.sec.gov/Article/whatwedo.html>

4 U.S. Securities and Exchange Commission. “Registration under the Securities Act of 1933.” <https://www.investor.gov/additional-resources/general-resources/glossary/registration-under-securities-act-1933>

operate as private and later decide to “go public,” while other companies go public at the point of incorporation. The process of going public refers to a company undertaking an **initial public offering (IPO)** by issuing shares of its stock to the public for the first time. After its IPO, the corporation becomes subject to public reporting requirements and its shares are frequently listed on a stock exchange.<sup>[6]</sup>

## CONCEPTS IN PRACTICE

### Spreading the Risk

The **East India Company** became the world’s first publicly traded company as the result of a single factor—risk. During the 1600s, single companies felt it was too risky to sail from the European mainland to the East Indies. These islands held vast resources and trade opportunities, enticing explorers to cross the Atlantic Ocean in search of fortunes. In 1600, several shipping companies joined forces and formed “Governor and Company of Merchants of London trading with the East Indies,” which was referred to as the **East India Company**. This arrangement allowed the shipping companies—the investors—to purchase shares in multiple companies rather than investing in a single voyage. If a single ship out of a fleet was lost at sea, investors could still generate a profit from ships that successfully completed their voyages.<sup>[7]</sup>

### The Secondary Market

A corporation’s shares continue to be bought and sold by the public after the initial public offering. Investors interested in purchasing shares of a corporation’s stock have several options. One option is to buy stock on the **secondary market**, an organized market where previously issued stocks and bonds can be traded after they are issued. Many investors purchase through stock exchanges like the New York Stock Exchange or NASDAQ using a brokerage firm. A full-service brokerage firm provides investment advice as well as a variety of financial planning services, whereas a discount brokerage offers a reduced commission and often does not provide investment advice. Most of the **stock trading**—buying and selling of shares by investors—takes place through **brokers**, registered members of the stock exchange who buy and sell stock on behalf of others. Online access to trading has broadened the secondary market significantly over the past few decades. Alternatively, stocks can be purchased from **investment bankers**, who provide advice to companies wishing to issue new stock, purchase the stock from the company issuing the stock, and then resell the securities to the public.<sup>[8]</sup>

### Marketing a Company’s Stock

Once a corporation has completed the incorporation process, it can issue stock. Each share of stock sold entitles the shareholder (the investor) to a percentage of ownership in the company. Private corporations are

5 U. S. Securities and Exchange Commission. “Public Companies.” <https://www.investor.gov/introduction-investing/basics/how-market-works/public-companies>

6 U.S. Securities and Exchange Commission. “Companies, Going Public.” October 14, 2014. <https://www.sec.gov/fast-answers/answers-comppublichtm.html>

7 Johnson Hur. “History of The Stock Market.” BeBusinessed.com. October 2016. <https://bebusinessed.com/history/history-of-the-stock-market/>

8 Dr. Econ. “Why Do Investment Banks Syndicate a New Securities Issue (and Related Questions).” Federal Reserve Bank of San Francisco. December 1999. <https://www.frbsf.org/education/publications/doctor-econ/1999/december/investment-bank-securities-retirement-insurance/>

usually owned by a small number of investors and are not traded on a public exchange. Regardless of whether the corporation is public or private, the steps to finding investors are similar:

1. Have a trusted and reliable management team. These should be experienced professionals who can guide the corporation.
2. Have a financial reporting system in place. Accurate financial reporting is key to providing potential investors with reliable information.
3. Choose an investment banker to provide advice and to assist in raising capital. Investment bankers are individuals who work in a financial institution that is primarily in the business of raising capital for corporations.
4. Write the company's story. This adds personality to the corporation. What is the mission, why it will be successful, and what sets the corporation apart?
5. Approach potential investors. Selecting the right investment bankers will be extremely helpful with this step.

## Capital Stock

A company's corporate charter specifies the classes of shares and the number of shares of each class that a company can issue. There are two classes of capital stock—common stock and preferred stock. The two classes of stock enable a company to attract capital from investors with different risk preferences. Both classes of stock can be sold by either public or non-public companies; however, if a company issues only one class, it must be common stock. Companies report both common and preferred stock in the stockholders' equity section of the balance sheet.

### Common Stock

A company's primary class of stock issued is **common stock**, and each share represents a partial claim to ownership or a share of the company's business. For many companies, this is the only class of stock they have authorized. Common stockholders have four basic rights.

1. Common stockholders have the right to vote on corporate matters, including the selection of corporate directors and other issues requiring the approval of owners. Each share of stock owned by an investor generally grants the investor one vote.
2. Common stockholders have the right to share in corporate net income proportionally through dividends.
3. If the corporation should have to liquidate, common stockholders have the right to share in any distribution of assets after all creditors and any preferred stockholders have been paid.
4. In some jurisdictions, common shareholders have a **preemptive right**, which allows shareholders the option to maintain their ownership percentage when new shares of stock are issued by the company. For example, suppose a company has 1,000 shares of stock issued and plans to issue 200 more shares. A shareholder who currently owns 50 shares will be given the right to buy a percentage of the new issue equal to his current percentage of ownership. His current percentage of ownership is 5%:

$$\text{Original ownership percentage} = \frac{50}{1,000} = 5\%$$

This shareholder will be given the right to buy 5% of the new issue, or 10 new shares.

$$\text{Number of new shares to be purchased} = 5\% \times 200 \text{ shares} = 10 \text{ shares}$$

Should the shareholder choose not to buy the shares, the company can offer the shares to other investors. The

purpose of the preemptive right is to prevent new issuances of stock from reducing the ownership percentage of the current shareholders. If the shareholder in our example is not offered the opportunity to buy 5% of the additional shares (his current ownership percentage) and the new shares are sold to other investors, the shareholder's ownership percentage will drop because the total shares issued will increase.

Total number of issued shares after the new issue = 1,000 + 200 = 1,200 shares

$$\text{New ownership percentage} = \frac{50}{1,200} = 4.17\%$$

The shareholder would now own only 4.17% of the corporation, compared to the previous 5%.

## Preferred Stock

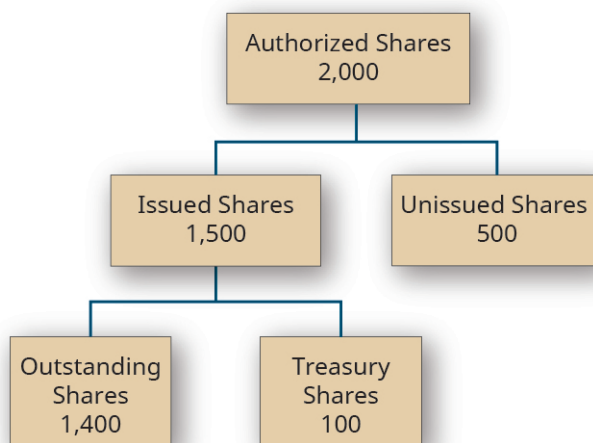
A company's charter may authorize more than one class of stock. **Preferred stock** has unique rights that are "preferred," or more advantageous, to shareholders than common stock. The classification of preferred stock is often a controversial area in accounting as some researchers believe preferred stock has characteristics closer to that of a stock/bond hybrid security, with characteristics of debt rather than a true equity item. For example, unlike common stockholders, preferred shareholders typically do not have voting rights; in this way, they are similar to bondholders. In addition, preferred shares do not share in the common stock dividend distributions. Instead, the "preferred" classification entitles shareholders to a dividend that is fixed (assuming sufficient dividends are declared), similar to the fixed interest rate associated with bonds and other debt items. Preferred stock also mimics debt in that preferred shareholders have a priority of dividend payments over common stockholders. While there may be characteristics of both debt and equity, preferred stock is still reported as part of stockholders' equity on the balance sheet.

Not every corporation authorizes and issues preferred stock, and there are some important characteristics that corporations should consider when deciding to issue preferred stock. The price of preferred stock typically has less volatility in the stock market. This makes it easier for companies to more reliably budget the amount of the expected capital contribution since the share price is not expected to fluctuate as freely as for common stock. For the investor, this means there is less chance of large gains or losses on the sale of preferred stock.

## The Status of Shares of Stock

The corporate charter specifies the number of **authorized shares**, which is the maximum number of shares that a corporation can issue to its investors as approved by the state in which the company is incorporated. Once shares are sold to investors, they are considered **issued shares**. Shares that are issued and are currently held by investors are called **outstanding shares** because they are "out" in the hands of investors. Occasionally, a company repurchases shares from investors. While these shares are still issued, they are no longer considered to be outstanding. These repurchased shares are called **treasury stock**.

Assume that Waystar Corporation has 2,000 shares of capital stock authorized in its corporate charter. During May, Waystar issues 1,500 of these shares to investors. These investors are now called stockholders because they "hold" shares of stock. Because the other 500 authorized shares have not been issued they are considered unissued shares. Now assume that Waystar buys back 100 shares of stock from the investors who own the 1,500 shares. Only 1,400 of the issued shares are considered outstanding, because 100 shares are now held by the company as treasury shares.



## Stock Values

Two of the most important values associated with stock are market value and par value. The **market value of stock** is the price at which the stock of a public company trades on the stock market. This amount does not appear in the corporation's accounting records, nor in the company's financial statements.

Most corporate charters specify the **par value** assigned to each share of stock. This value is printed on the stock certificates and is often referred to as a face value because it is printed on the "face" of the certificate. Incorporators typically set the par value at a very small arbitrary amount because it is used internally for accounting purposes and has no economic significance. Because par value often has some legal significance, it is considered to be legal capital. In some states, par value is the minimum price at which the stock can be sold. If for some reason a share of stock with a par value of one dollar was issued for less than its par value of one dollar known as issuing at a **stock discount**, the shareholder could be held liable for the difference between the issue price and the par value if liquidation occurs and any creditors remain unpaid.

Under some state laws, corporations are sometimes allowed to issue **no-par stock**—a stock with no par value assigned. When this occurs, the company's board of directors typically assigns a **stated value** to each share of stock, which serves as the company's legal capital. Companies generally account for stated value in the accounting records in the same manner as par value. If the company's board fails to assign a stated value to no-par stock, the entire proceeds of the stock sale are treated as legal capital. A portion of the stockholders' equity section of **Frontier Communications Corporation's** balance sheet as of December 31, 2017 displays the reported preferred and common stock. The par value of the preferred stock is \$0.01 per share and \$0.25 per share for common stock. The legal capital of the preferred stock is \$192.50, while the legal capital of the common stock is \$19,883.<sup>[9]</sup>

<b>FRONTIER COMMUNICATIONS CORPORATION</b>	
<b>Stockholders' Equity</b>	
<b>For the Month Ended December 31, 2017</b>	
Preferred Stock, \$0.01 par value (50,000 authorized shares, 11.125%, Series A, 19,250 shares issued and outstanding)	\$ 192.50
Common Stock, \$0.25 par value (175,000 authorized shares, 79,532 issued, and 78,441 and 78,170 outstanding, at December 31, 2017 and 2016, respectively)	19,883.00

9 Frontier Communications Corporation. 10-K Filing. February 28, 2018. [https://www.sec.gov/Archives/edgar/data/20520/00002052018000007/ftc-20171231x10k.htm#Exhibits\\_and\\_Financial\\_Statement\\_Schedul](https://www.sec.gov/Archives/edgar/data/20520/00002052018000007/ftc-20171231x10k.htm#Exhibits_and_Financial_Statement_Schedul)

## ETHICAL CONSIDERATIONS

### Shareholders, Stakeholders, and the Business Judgment Rule

Shareholders are the owners of a corporation, whereas stakeholders have an interest in the outcome of decisions of the corporation. Courts have ruled that, “A business corporation is organized and carried on primarily for the profit of the stockholders” as initially ruled in the early case *Dodge v. Ford Motor Co.*, 204 Mich. 459, 170 N.W. 668 (Mich. 1919). This early case outlined the “business judgment rule.” It allows for a corporation to use its judgment in how to run the company in the best interests of the shareholders, but also allows the corporation the ability to make decisions for the benefit of the company’s stakeholders. The term known as the “business judgment rule” has been expanded in numerous cases to include making decisions directly for the benefit of stakeholders, thereby allowing management to run a company in a prudent fashion. The stakeholder theories started in the *Dodge* case have been expanded to allow corporations to make decisions for the corporation’s benefit, including decisions that support stakeholder rights.

Prudent management of a corporation includes making decisions that support stakeholders and shareholders. A shareholder is also a stakeholder in any decision. A stakeholder is anyone with an interest in the outcome in the corporation’s decision, even if the person owns no financial interest in the corporation. Corporations need to take a proactive step in managing stakeholder concerns and issues. Strategies on how to manage stakeholder needs have been developed from both a moral perspective and a risk management perspective. Both approaches allow management to understand the issues related to their stakeholders and to make decisions in the best interest of the corporation and its owners. Proper stakeholder management should allow corporations to develop profitable long-term plans that lead to greater viability of the corporation.

## 14.2 Analyze and Record Transactions for the Issuance and Repurchase of Stock

Chad and Rick have successfully incorporated La Cantina and are ready to issue common stock to themselves and the newly recruited investors. The proceeds will be used to open new locations. The corporate charter of the corporation indicates that the par value of its common stock is \$1.50 per share. When stock is sold to investors, it is very rarely sold at par value. Most often, shares are issued at a value in excess of par. This is referred to as issuing stock at a premium. Stock with no par value that has been assigned a stated value is treated very similarly to stock with a par value.

Stock can be issued in exchange for cash, property, or services provided to the corporation. For example, an investor could give a delivery truck in exchange for a company’s stock. Another investor could provide legal fees in exchange for stock. The general rule is to recognize the assets received in exchange for stock at the asset’s fair market value.

## Typical Common Stock Transactions

The company plans to issue most of the shares in exchange for cash, and other shares in exchange for kitchen equipment provided to the corporation by one of the new investors. Two common accounts in the equity section of the balance sheet are used when issuing stock—Common Stock and Additional Paid-in Capital from Common Stock. Common Stock consists of the par value of all shares of common stock issued. **Additional paid-in capital** from common stock consists of the excess of the proceeds received from the issuance of the stock over the stock's par value. When a company has more than one class of stock, it usually keeps a separate additional paid-in capital account for each class.

### Issuing Common Stock with a Par Value in Exchange for Cash

When a company issues new stock for cash, assets increase with a debit, and equity accounts increase with a credit. To illustrate, assume that La Cantina issues 8,000 shares of common stock to investors on January 1 for cash, with the investors paying cash of \$21.50 per share. The total cash to be received is \$172,000.

$$8,000 \text{ shares} \times \$21.50 = \$172,000$$

The transaction causes Cash to increase (debit) for the total cash received. The Common Stock account increases (credit) with a credit for the par value of the 8,000 shares issued:  $8,000 \times \$1.50$ , or \$12,000. The excess received over the par value is reported in the Additional Paid-in Capital from Common Stock account. Since the shares were issued for \$21.50 per share, the excess over par value per share of \$20 ( $\$21.50 - \$1.50$ ) is multiplied by the number of shares issued to arrive at the Additional Paid-in Capital from Common Stock credit.

$$(\$21.50 - \$1.50) \times 8,000 = \$160,000$$

JOURNAL			
Date	Account	Debit	Credit
Jan. 1	Cash	172,000	
	Common Stock		12,000
	Additional Paid-in Capital from Common Stock		160,000
	<i>To record the issuance of \$1.50 par value common stock for cash</i>		

### Issuing Common Stock with a Par Value in Exchange for Property or Services

When a company issues stock for property or services, the company increases the respective asset account with a debit and the respective equity accounts with credits. The asset received in the exchange—such as land, equipment, inventory, or any services provided to the corporation such as legal or accounting services—is recorded at the fair market value of the stock or the asset or services received, whichever is more clearly determinable.

To illustrate, assume that La Cantina issues 2,000 shares of authorized common stock in exchange for legal services provided by an attorney. The legal services have a value of \$8,000 based on the amount the attorney would charge. Because La Cantina's stock is not actively traded, the asset will be valued at the more easily determinable market value of the legal services. La Cantina must recognize the market value of the legal services as an increase (debit) of \$8,000 to its Legal Services Expense account. Similar to recording the stock issued for cash, the Common Stock account is increased by the par value of the issued stock,  $\$1.50 \times 2,000$  shares, or \$3,000. The excess of the value of the legal services over the par value of the stock appears as an

increase (credit) to the Additional Paid-in Capital from Common Stock account:

$$\$8,000 - \$3,000 = \$5,000$$

JOURNAL			
Date	Account	Debit	Credit
Jan. 1	Legal Services Expense	8,000	
	Common Stock		3,000
	Additional Paid-in Capital from Common Stock		5,000
	<i>To record the issuance of \$1.50 par value common stock in exchange for legal services provided</i>		

Just after the issuance of both investments, the stockholders' equity account, Common Stock, reflects the total par value of the issued stock; in this case, \$3,000 + \$12,000, or a total of \$15,000. The amounts received in excess of the par value are accumulated in the Additional Paid-in Capital from Common Stock account in the amount of \$5,000 + \$160,000, or \$165,000. A portion of the equity section of the balance sheet just after the two stock issuances by La Cantina will reflect the Common Stock account stock issuances as shown in [Figure 14.4](#).

LA CANTINA Partial Stockholders' Equity Section of the Balance Sheet For the Month Ended December 31, 2020	
<b>Stockholders' Equity</b>	
Common Stock, \$1.50 par value, 20,000 shares authorized, 10,000 issued and outstanding	\$ 15,000
Additional Paid-in Capital from Common Stock	165,000

**Figure 14.4** Partial Stockholder's Equity for La Cantina. (attribution: Copyright Rice University, OpenStax, under CC BY-NC-SA 4.0 license)

### Issuing No-Par Common Stock with a Stated Value

Not all stock has a par value specified in the company's charter. In most cases, no-par stock is assigned a stated value by the board of directors, which then becomes the legal capital value. Stock with a stated value is treated as if the stated value is a par value. Assume that La Cantina's 8,000 shares of common stock issued on June 1 for \$21.50 were issued at a stated value of \$1.50 rather than at a par value. The total cash to be received remains \$172,000 (8,000 shares × \$21.50), which is recorded as an increase (debit) to Cash. The Common Stock account increases with a credit for the stated value of the 8,000 shares issued: 8,000 × \$1.50, or \$12,000. The excess received over the stated value is reported in the Additional Paid-in Capital from Common Stock account at \$160,000, based on the issue price of \$21.50 per share less the stated value of \$1.50, or \$20, times the 8,000 shares issued:

$$(\$21.50 - \$1.50) \times 8,000 = \$160,000$$

The transaction looks identical except for the explanation.

JOURNAL			
Date	Account	Debit	Credit
Jan. 1	Cash Common Stock Additional Paid-in Capital from Common Stock <i>To record the issuance of \$1.50 stated value common stock for cash</i>	172,000	12,000 160,000

If the 8,000 shares of La Cantina's common stock had been no-par, and no stated value had been assigned, the \$172,000 would be debited to Cash, with a corresponding increase in the Common Stock account as a credit of \$172,000. No entry would be made to Additional Paid-in Capital account as it is reserved for stock issue amounts above par or stated value. The entry would appear as:

JOURNAL			
Date	Account	Debit	Credit
Jan. 1	Cash Common Stock <i>To record the issuance of no-par common stock for cash</i>	172,000	172,000

### Issuing Preferred Stock

A few months later, Chad and Rick need additional capital to develop a website to add an online presence and decide to issue all 1,000 of the company's authorized preferred shares. The 5%, \$8 par value, preferred shares are sold at \$45 each. The Cash account increases with a debit for \$45 times 1,000 shares, or \$45,000. The Preferred Stock account increases for the par value of the preferred stock, \$8 times 1,000 shares, or \$8,000. The excess of the issue price of \$45 per share over the \$8 par value, times the 1,000 shares, is credited as an increase to Additional Paid-in Capital from Preferred Stock, resulting in a credit of \$37,000.

$$(\$45 - \$8) \times 1,000 = \$37,000$$

The journal entry is:

JOURNAL			
Date	Account	Debit	Credit
Jan. 1	Cash Preferred Stock Additional Paid-in Capital from Preferred Stock <i>To record the issuance of \$8 par value preferred stock for cash</i>	45,000	8,000 37,000

[Figure 14.5](#) shows what the equity section of the balance sheet will reflect after the preferred stock is issued.

<b>LA CANTINA</b>	
<b>Partial Stockholders' Equity Section of the Balance Sheet For the Month Ended December 31, 2020</b>	
<b>Stockholders' Equity</b>	
5% Preferred Stock, \$8 par value, 1,000 shares authorized, 1,000 shares issued and outstanding	\$ 8,000
Additional Paid-in Capital from Preferred Stock	37,000
Common Stock, \$1.50 par value, 20,000 shares authorized, 10,000 shares issued and outstanding	15,000
Additional Paid-in Capital from Common Stock	165,000
Retained Earnings	xx

**Figure 14.5** Partial Stockholders' Equity for La Cantina. (attribution: Copyright Rice University, OpenStax, under CC BY-NC-SA 4.0 license)

Notice that the corporation presents preferred stock before common stock in the Stockholders' Equity section of the balance sheet because preferred stock has preference over common stock in the case of liquidation. GAAP requires that each class of stock displayed in this section of the balance sheet includes several items that must be disclosed along with the respective account names. The required items to be disclosed are:

- Par or stated value
- Number of shares authorized
- Number of shares issued
- Number of shares outstanding
- If preferred stock, the dividend rate

## Treasury Stock

Sometimes a corporation decides to purchase its own stock in the market. These shares are referred to as treasury stock. A company might purchase its own outstanding stock for a number of possible reasons. It can be a strategic maneuver to prevent another company from acquiring a majority interest or preventing a hostile takeover. A purchase can also create demand for the stock, which in turn raises the market price of the stock. Sometimes companies buy back shares to be used for employee stock options or profit-sharing plans.

### THINK IT THROUGH

#### Walt Disney Buys Back Stock

The **Walt Disney Company** has consistently spent a large portion of its cash flows in buying back its own stock. According to *The Motley Fool*, the **Walt Disney Company** bought back 74 million shares in 2016 alone. Read the [Motley Fool article \(https://openstax.org/l/50DisneyShares\)](https://openstax.org/l/50DisneyShares) and comment on other options that **Walt Disney** may have had to obtain financing.

## Acquiring Treasury Stock

When a company purchases treasury stock, it is reflected on the balance sheet in a contra equity account. As a contra equity account, Treasury Stock has a debit balance, rather than the normal credit balances of other equity accounts. The total cost of treasury stock reduces total equity. In substance, treasury stock implies that a company owns shares of itself. However, owning a portion of one's self is not possible. Treasury shares do not carry the basic common shareholder rights because they are not outstanding. Dividends are not paid on treasury shares, they provide no voting rights, and they do not receive a share of assets upon liquidation of the company. There are two methods possible to account for treasury stock—the cost method, which is discussed here, and the par value method, which is a more advanced accounting topic. The cost method is so named because the amount in the Treasury Stock account at any point in time represents the number of shares held in treasury times the original cost paid to acquire each treasury share.

Assume Duratech's net income for the first year was \$3,100,000, and that the company has 12,500 shares of common stock issued. During May, the company's board of directors authorizes the repurchase of 800 shares of the company's own common stock as treasury stock. Each share of the company's common stock is selling for \$25 on the open market on May 1, the date that Duratech purchases the stock. Duratech will pay the market price of the stock at \$25 per share times the 800 shares it purchased, for a total cost of \$20,000. The following journal entry is recorded for the purchase of the treasury stock under the cost method.

JOURNAL			
Date	Account	Debit	Credit
May 1	Treasury Stock Cash <i>To record the purchase of treasury stock for cash</i>	20,000	20,000

Even though the company is purchasing stock, there is no asset recognized for the purchase. An entity cannot own part of itself, so no asset is acquired. Immediately after the purchase, the equity section of the balance sheet ([Figure 14.6](#)) will show the total cost of the treasury shares as a deduction from total stockholders' equity.

DURATECH	
Partial Stockholders' Equity Section of the Balance Sheet For the Month Ended December 31, 2020	
<b>Stockholders' Equity</b>	
5% Preferred Stock, \$8 par value, 1,000 shares authorized, 1,000 shares issued and outstanding	\$ 8,000
Additional Paid-in Capital from Preferred Stock	37,000
Common Stock, \$1.50 par value, 20,000 shares authorized, 10,000 shares issued, 9,200 shares outstanding	15,000
Additional Paid-in Capital from Common Stock	70,000
Retained Earnings	31,000
	<u>161,000</u>
Treasury Stock (800 shares) at cost	(20,000)
Total Stockholders' Equity	<u>\$141,000</u>

**Figure 14.6** Partial Stockholders' Equity Section of the Balance Sheet for Duratech. After the purchase of treasury stock, the stockholders' equity section of the balance sheet is shown as a deduction from total stockholders' equity. (attribution: Copyright Rice University, OpenStax, under CC BY-NC-SA 4.0 license)

Notice on the partial balance sheet that the number of common shares outstanding changes when treasury stock transactions occur. Initially, the company had 10,000 common shares issued and outstanding. The 800 repurchased shares are no longer outstanding, reducing the total outstanding to 9,200 shares.

## CONCEPTS IN PRACTICE

### Reporting Treasury Stock for Nestlé Holdings Group

**Nestlé Holdings Group** sells a number of major brands of food and beverages including **Gerber**, **Häagen-Dazs**, **Purina**, and **Lean Cuisine**. The company's statement of stockholders' equity shows that it began with 990 million Swiss francs (CHF) in treasury stock at the beginning of 2016. In 2017, it acquired additional shares at a cost of 3,547 million CHF, raising its total treasury stock to 4,537 million CHF at the end of 2017, primarily due to a share buy-back program.<sup>[10]</sup>

<b>NESTLÉ HOLDING GROUP</b>					
<b>Consolidated Statement of Changes in Equity</b>					
<b>For the Year Ended December 31, 2017</b>					
<b>Millions (CHF)</b>	<b>Share Capital</b>	<b>Treasury Shares</b>	<b>Paid-in Capital</b>	<b>Other</b>	<b>Total Equity</b>
Equity as of December 31, 2016	311	(990)	82,870	(16,210)	65,981
Profit for the year			7,538		7,538
Other comprehensive income			252		252
Dividends			(7,468)		(7,468)
Treasury Shares		(3,719)	113		(3,606)
Other		172	869	(961)	80
Equity at December 31, 2017	<u>311</u>	<u>(4,537)</u>	<u>84,174</u>	<u>(17,171)</u>	<u>62,777</u>

### Reissuing Treasury Stock above Cost

Management typically does not hold treasury stock forever. The company can resell the treasury stock at cost, above cost, below cost, or retire it. If La Cantina reissues 100 of its treasury shares at cost (\$25 per share) on July 3, a reversal of the original purchase for the 100 shares is recorded. This has the effect of increasing an asset, Cash, with a debit, and decreasing the Treasury Stock account with a credit. The original cost paid for each treasury share, \$25, is multiplied by the 100 shares to be resold, or \$2,500. The journal entry to record this sale of the treasury shares at cost is:

<b>JOURNAL</b>			
<b>Date</b>	<b>Account</b>	<b>Debit</b>	<b>Credit</b>
July 3	Cash Treasury Stock <i>To record the sale of 100 shares of treasury stock at cost</i>	2,500	2,500

If the treasury stock is resold at a price higher than its original purchase price, the company debits the Cash account for the amount of cash proceeds, reduces the Treasury Stock account with a credit for the cost of the

10 Nestlé. "Annual Report 2017." 2017. <https://www.nestle.com/investors/annual-report>

treasury shares being sold, and credits the Paid-in Capital from Treasury Stock account for the difference. Even though the difference—the selling price less the cost—looks like a gain, it is treated as additional capital because gains and losses only result from the disposition of economic resources (assets). Treasury Stock is not an asset. Assume that on August 1, La Cantina sells another 100 shares of its treasury stock, but this time the selling price is \$28 per share. The Cash Account is increased by the selling price, \$28 per share times the number of shares resold, 100, for a total debit to Cash of \$2,800. The Treasury Stock account decreases by the cost of the 100 shares sold,  $100 \times \$25$  per share, for a total credit of \$2,500, just as it did in the sale at cost. The difference is recorded as a credit of \$300 to Additional Paid-in Capital from Treasury Stock.

JOURNAL			
Date	Account	Debit	Credit
Aug. 1	Cash	2,800	
	Treasury Stock		2,500
	Additional Paid-in Capital from Treasury Stock		300
	<i>To record the sale of 100 shares of treasury stock above cost</i>		

### Reissuing Treasury Stock Below Cost

If the treasury stock is reissued at a price below cost, the account used for the difference between the cash received from the resale and the original cost of the treasury stock depends on the balance in the Paid-in Capital from Treasury Stock account. Any balance that exists in this account will be a credit. The transaction will require a debit to the Paid-in Capital from Treasury Stock account to the extent of the balance. If the transaction requires a debit greater than the balance in the Paid-in Capital account, any additional difference between the cost of the treasury stock and its selling price is recorded as a reduction of the Retained Earnings account as a debit. If there is no balance in the Additional Paid-in Capital from Treasury Stock account, the entire debit will reduce retained earnings.

Assume that on October 9, La Cantina sells another 100 shares of its treasury stock, but this time at \$23 per share. Cash is increased for the selling price, \$23 per share times the number of shares resold, 100, for a total debit to Cash of \$2,300. The Treasury Stock account decreases by the cost of the 100 shares sold,  $100 \times \$25$  per share, for a total credit of \$2,500. The difference is recorded as a debit of \$200 to the Additional Paid-in Capital from Treasury Stock account. Notice that the balance in this account from the August 1 transaction was \$300, which was sufficient to offset the \$200 debit. The transaction is recorded as:

JOURNAL			
Date	Account	Debit	Credit
Oct. 9	Cash	2,300	
	Additional Paid-in Capital from Treasury Stock	200	
	Treasury Stock		2,500
	<i>To record the sale of 100 shares of treasury stock below cost</i>		

Treasury stock transactions have no effect on the number of shares authorized or issued. Because shares held in treasury are not outstanding, each treasury stock transaction will impact the number of shares outstanding. A corporation may also purchase its own stock and retire it. Retired stock reduces the number of shares issued. When stock is repurchased for retirement, the stock must be removed from the accounts so that it is not reported on the balance sheet. The balance sheet will appear as if the stock was never issued in the first place.

## YOUR TURN

### Understanding Stockholders' Equity

Wilson Enterprises reports the following stockholders' equity:

<b>WILSON ENTERPRISES, INC.</b>	
<b>Stockholders' Equity Section of the Balance Sheet</b>	
<b>For the Month Ended December 31, 2020</b>	
<b>Stockholders' Equity</b>	
Preferred Stock, \$100 par value, 10,000 shares authorized, 10,000 shares issued and outstanding	\$ 1,000,000
Common Stock, \$1 par value, 2,000,000 shares authorized, 1,200,000 shares issued, and 1,180,000 shares outstanding	1,200,000
Additional Paid-in Capital	16,800,000
Retained Earnings	<u>3,670,000</u>
	22,670,000
Treasury Stock (20,000 shares)	<u>(240,000)</u>
Total Stockholders' Equity	<u><u>\$22,430,000</u></u>

**Figure 14.7** Wilson Enterprises, Inc., Stockholders' Equity Section of the Balance Sheet, For the Month Ended December 31, 2020. (attribution: Copyright Rice University, OpenStax, under CC BY-NC-SA 4.0 license)

Based on the partial balance sheet presented, answer the following questions:

- At what price was each share of treasury stock purchased?
- What is reflected in the additional paid-in capital account?
- Why is there a difference between the common stock shares issued and the shares outstanding?

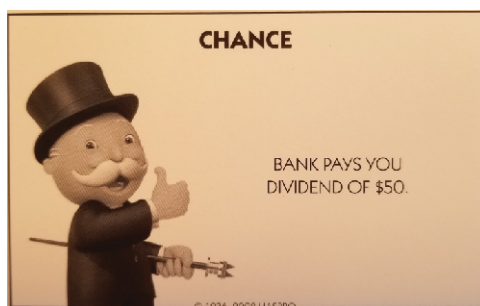
#### Solution

A.  $\$240,000 \div 20,000 = \$12$  per share. B. The difference between the market price and the par value when the stock was issued. C. Treasury stock.

14.3

## Record Transactions and the Effects on Financial Statements for Cash Dividends, Property Dividends, Stock Dividends, and Stock Splits

Do you remember playing the board game Monopoly when you were younger? If you landed on the Chance space, you picked a card. The Chance card may have paid a \$50 dividend. At the time, you probably were just excited for the additional funds.



**Figure 14.8** Chance Card. A Chance card from a Monopoly game indicates that the bank pays you a dividend of \$50. (credit: modification of “Monopoly Chance Card” by Kerry Ceszyk/Flickr, CC BY 4.0)

For corporations, there are several reasons to consider sharing some of their earnings with investors in the form of dividends. Many investors view a dividend payment as a sign of a company’s financial health and are more likely to purchase its stock. In addition, corporations use dividends as a marketing tool to remind investors that their stock is a profit generator.

This section explains the three types of dividends—cash dividends, property dividends, and stock dividends—along with stock splits, showing the journal entries involved and the reason why companies declare and pay dividends.

## The Nature and Purposes of Dividends

Stock investors are typically driven by two factors—a desire to earn income in the form of dividends and a desire to benefit from the growth in the value of their investment. Members of a corporation’s board of directors understand the need to provide investors with a periodic return, and as a result, often declare dividends up to four times per year. However, companies can declare dividends whenever they want and are not limited in the number of annual declarations. Dividends are a distribution of a corporation’s earnings. They are not considered expenses, and they are not reported on the income statement. They are a distribution of the net income of a company and are not a cost of business operations.

### CONCEPTS IN PRACTICE

#### So Many Dividends

The declaration and payment of dividends varies among companies. In December 2017 alone, 4,506 U.S. companies declared either cash, stock, or property dividends—the largest number of declarations since 2004.<sup>[11]</sup> It is likely that these companies waited to declare dividends until after financial statements were prepared, so that the board and other executives involved in the process were able to provide estimates of the 2017 earnings.

Some companies choose not to pay dividends and instead reinvest all of their earnings back into the company. One common scenario for situation occurs when a company experiencing rapid growth. The company may

11 Ironman at Political Calculations. “Dividends by the Numbers through January 2018.” Seeking Alpha. February 9, 2018. <https://seekingalpha.com/article/4145079-dividends-numbers-january-2018>

want to invest all their retained earnings to support and continue that growth. Another scenario is a mature business that believes retaining its earnings is more likely to result in an increased market value and stock price. In other instances, a business may want to use its earnings to purchase new assets or branch out into new areas. Most companies attempt **dividend smoothing**, the practice of paying dividends that are relatively equal period after period, even when earnings fluctuate. In exceptional circumstances, some corporations pay a **special dividend**, which is a one-time extra distribution of corporate earnings. A special dividend usually stems from a period of extraordinary earnings or a special transaction, such as the sale of a division. Some companies, such as **Costco Wholesale Corporation**, pay recurring dividends and periodically offer a special dividend. While **Costco's** regular quarterly dividend is \$0.57 per share, the company issued a \$7.00 per share cash dividend in 2017.<sup>[12]</sup> Companies that have both common and preferred stock must consider the characteristics of each class of stock.

Note that dividends are distributed or paid only to shares of stock that are outstanding. Treasury shares are not outstanding, so no dividends are declared or distributed for these shares. Regardless of the type of dividend, the declaration always causes a decrease in the retained earnings account.

## Dividend Dates

A company's board of directors has the power to formally vote to declare dividends. The **date of declaration** is the date on which the dividends become a legal liability, the date on which the board of directors votes to distribute the dividends. Cash and property dividends become liabilities on the declaration date because they represent a formal obligation to distribute economic resources (assets) to stockholders. On the other hand, stock dividends distribute additional shares of stock, and because stock is part of equity and not an asset, stock dividends do not become liabilities when declared.

At the time dividends are declared, the board establishes a date of record and a date of payment. The **date of record** establishes who is entitled to receive a dividend; stockholders who own stock on the date of record are entitled to receive a dividend even if they sell it prior to the date of payment. Investors who purchase shares after the date of record but before the payment date are not entitled to receive dividends since they did not own the stock on the date of record. These shares are said to be sold **ex dividend**. The **date of payment** is the date that payment is issued to the investor for the amount of the dividend declared.

## Cash Dividends

**Cash dividends** are corporate earnings that companies pass along to their shareholders. To pay a cash dividend, the corporation must meet two criteria. First, there must be sufficient cash on hand to fulfill the dividend payment. Second, the company must have sufficient retained earnings; that is, it must have enough residual assets to cover the dividend such that the Retained Earnings account does not become a negative (debit) amount upon declaration. On the day the board of directors votes to declare a cash dividend, a journal entry is required to record the declaration as a liability.

## Accounting for Cash Dividends When Only Common Stock Is Issued

Small private companies like La Cantina often have only one class of stock issued, common stock. Assume that

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12 Jing Pan. "Will Costco Wholesale Corporation Pay a Special Dividend in 2018?" Income Investors. May 9, 2018. <https://www.incomeinvestors.com/will-costco-wholesale-corporation-pay-special-dividend-2018/38865/>

on December 16, La Cantina's board of directors declares a \$0.50 per share dividend on common stock. As of the date of declaration, the company has 10,000 shares of common stock issued and holds 800 shares as treasury stock. The total cash dividend to be paid is based on the number of shares outstanding, which is the total shares issued less those in treasury. Outstanding shares are 10,000 – 800, or 9,200 shares. The cash dividend is:

$$9,200 \text{ shares} \times \$0.50 = \$4,600$$

The journal entry to record the declaration of the cash dividends involves a decrease (debit) to Retained Earnings (a stockholders' equity account) and an increase (credit) to Cash Dividends Payable (a liability account).

JOURNAL			
Date	Account	Debit	Credit
Oct. 9	Retained Earnings Cash Dividends Payable <i>To record the declaration of a cash dividend</i>	4,600	4,600

While a few companies may use a temporary account, Dividends Declared, rather than Retained Earnings, most companies debit Retained Earnings directly. Ultimately, any dividends declared cause a decrease to Retained Earnings.

The second significant dividend date is the date of record. The date of record determines which shareholders will receive the dividends. There is no journal entry recorded; the company creates a list of the stockholders that will receive dividends.

The date of payment is the third important date related to dividends. This is the date that dividend payments are prepared and sent to shareholders who owned stock on the date of record. The related journal entry is a fulfillment of the obligation established on the declaration date; it reduces the Cash Dividends Payable account (with a debit) and the Cash account (with a credit).

JOURNAL			
Date	Account	Debit	Credit
Oct. 15	Cash Dividends Payable Cash <i>To record the payment of a cash dividend</i>	4,600	4,600

## Property Dividends

A **property dividend** occurs when a company declares and distributes assets other than cash. The dividend typically involves either the distribution of shares of another company that the issuing corporation owns (one of its assets) or a distribution of inventory. For example, **Walt Disney Company** may choose to distribute tickets to visit its theme parks. **Anheuser-Busch InBev**, the company that owns the Budweiser and Michelob brands, may choose to distribute a case of beer to each shareholder. A property dividend may be declared when a company wants to reward its investors but doesn't have the cash to distribute, or if it needs to hold onto its existing cash for other investments. Property dividends are not as common as cash or stock dividends. They are recorded at the fair market value of the asset being distributed. To illustrate accounting for a property dividend, assume that Duratech Corporation has 60,000 shares of \$0.50 par value common stock outstanding

at the end of its second year of operations, and the company's board of directors declares a property dividend consisting of a package of soft drinks that it produces to each holder of common stock. The retail value of each case is \$3.50. The amount of the dividend is calculated by multiplying the number of shares by the market value of each package:

$$60,000 \text{ shares} \times \$3.50 = \$210,000$$

The declaration to record the property dividend is a decrease (debit) to Retained Earnings for the value of the dividend and an increase (credit) to Property Dividends Payable for the \$210,000.

JOURNAL			
Date	Account	Debit	Credit
Dec. 31	Retained Earnings Property Dividends Payable <i>To record the declaration of a property dividend</i>	210,000	210,000

The journal entry to distribute the soft drinks on January 14 decreases both the Property Dividends Payable account (debit) and the Cash account (credit).

JOURNAL			
Date	Account	Debit	Credit
Jan. 14	Property Dividends Payable Inventory <i>To record the distribution of a property dividend</i>	210,000	210,000

## Comparing Small Stock Dividends, Large Stock Dividends, and Stock Splits

Companies that do not want to issue cash or property dividends but still want to provide some benefit to shareholders may choose between small stock dividends, large stock dividends, and stock splits. Both small and large stock dividends occur when a company distributes additional shares of stock to existing stockholders.

There is no change in total assets, total liabilities, or total stockholders' equity when a small stock dividend, a large stock dividend, or a stock split occurs. Both types of stock dividends impact the accounts in stockholders' equity. A stock split causes no change in any of the accounts within stockholders' equity. The impact on the financial statement usually does not drive the decision to choose between one of the stock dividend types or a stock split. Instead, the decision is typically based on its effect on the market. Large stock dividends and stock splits are done in an attempt to lower the market price of the stock so that it is more affordable to potential investors. A small stock dividend is viewed by investors as a distribution of the company's earnings. Both small and large stock dividends cause an increase in common stock and a decrease to retained earnings. This is a method of capitalizing (increasing stock) a portion of the company's earnings (retained earnings).

## Stock Dividends

Some companies issue shares of stock as a dividend rather than cash or property. This often occurs when the company has insufficient cash but wants to keep its investors happy. When a company issues a **stock dividend**, it distributes additional shares of stock to existing shareholders. These shareholders do not have to pay income taxes on stock dividends when they receive them; instead, they are taxed when the investor sells them in the future.

A stock dividend distributes shares so that after the distribution, all stockholders have the exact same percentage of ownership that they held prior to the dividend. There are two types of stock dividends—small stock dividends and large stock dividends. The key difference is that small dividends are recorded at market value and large dividends are recorded at the stated or par value.

### Small Stock Dividends

A **small stock dividend** occurs when a stock dividend distribution is less than 25% of the total outstanding shares based on the shares outstanding prior to the dividend distribution. To illustrate, assume that Duratech Corporation has 60,000 shares of \$0.50 par value common stock outstanding at the end of its second year of operations. Duratech's board of directors declares a 5% stock dividend on the last day of the year, and the market value of each share of stock on the same day was \$9. [Figure 14.9](#) shows the stockholders' equity section of Duratech's balance sheet just prior to the stock declaration.

<b>DURATECH</b>	
<b>Stockholders' Equity Section of the Balance Sheet</b>	
<b>For the Month Ended December 31, 2020</b>	
<b>Stockholders' Equity</b>	
Common Stock, \$0.50 par value, 100,000 shares authorized, 60,000 shares issued and outstanding	\$ 30,000
Additional Paid-in Capital	44,000
Retained Earnings	<u>51,000</u>
Total Stockholders' Equity	<u>\$125,000</u>

**Figure 14.9** Stockholders' Equity for Duratech. (attribution: Copyright Rice University, OpenStax, under CC BY-NC-SA 4.0 license)

The 5% common stock dividend will require the distribution of 60,000 shares times 5%, or 3,000 additional shares of stock. An investor who owns 100 shares will receive 5 shares in the dividend distribution ( $5\% \times 100$  shares). The journal entry to record the stock dividend declaration requires a decrease (debit) to Retained Earnings for the market value of the shares to be distributed: 3,000 shares  $\times$  \$9, or \$27,000. An increase (credit) to the Common Stock Dividends Distributable is recorded for the par value of the stock to be distributed: 3,000  $\times$  \$0.50, or \$1,500. The excess of the market value over the par value is reported as an increase (credit) to the Additional Paid-in Capital from Common Stock account in the amount of \$25,500.

<b>JOURNAL</b>			
Date	Account	Debit	Credit
Dec. 31	Retained Earnings	27,000	
	Common Stock Dividend Distributable		1,500
	Additional Paid-in Capital from Common Stock		25,500
	<i>To record the declaration of a 5% stock dividend</i>		

If the company prepares a balance sheet prior to distributing the stock dividend, the Common Stock Dividend Distributable account is reported in the equity section of the balance sheet beneath the Common Stock account. The journal entry to record the stock dividend distribution requires a decrease (debit) to Common Stock Dividend Distributable to remove the distributable amount from that account, \$1,500, and an increase (credit) to Common Stock for the same par value amount.

JOURNAL			
Date	Account	Debit	Credit
Jan. 7	Common Stock Dividend Distributable Common Stock <i>To record the distribution of a 5% stock dividend</i>	1,500	1,500

To see the effects on the balance sheet, it is helpful to compare the stockholders' equity section of the balance sheet before and after the small stock dividend.

DURATECH			
Stockholders' Equity Section of the Balance Sheet For the Month Ended December 31, 2020			
Stockholders' Equity	Before the Stock Dividend	Stock Dividend Effect	After the Stock Dividend
Common Stock, \$0.50 par value	\$ 30,000	\$ 1,500	\$ 31,500
Additional Paid-in Capital	44,000	25,500	69,500
Retained Earnings	<u>51,000</u>	<u>(27,000)</u>	<u>24,000</u>
Total Stockholders' Equity	<u>\$125,000</u>	<u>\$ 0</u>	<u>\$125,000</u>

After the distribution, the total stockholders' equity remains the same as it was prior to the distribution. The amounts within the accounts are merely shifted from the earned capital account (Retained Earnings) to the contributed capital accounts (Common Stock and Additional Paid-in Capital). However, the number of shares outstanding has changed. Prior to the distribution, the company had 60,000 shares outstanding. Just after the distribution, there are 63,000 outstanding. The difference is the 3,000 additional shares of the stock dividend distribution. The company still has the same total value of assets, so its value does not change at the time a stock distribution occurs. The increase in the number of outstanding shares does not dilute the value of the shares held by the existing shareholders. The market value of the original shares plus the newly issued shares is the same as the market value of the original shares before the stock dividend. For example, assume an investor owns 200 shares with a market value of \$10 each for a total market value of \$2,000. She receives 10 shares as a stock dividend from the company. She now has 210 shares with a total market value of \$2,000. Each share now has a theoretical market value of about \$9.52.

### Large Stock Dividends

A **large stock dividend** occurs when a distribution of stock to existing shareholders is greater than 25% of the total outstanding shares just before the distribution. The accounting for large stock dividends differs from that of small stock dividends because a large dividend impacts the stock's market value per share. While there may be a subsequent change in the market price of the stock after a small dividend, it is not as abrupt as that with a large dividend.

To illustrate, assume that Duratech Corporation's balance sheet at the end of its second year of operations shows the following in the stockholders' equity section prior to the declaration of a large stock dividend.

<b>DURATECH</b>	
<b>Stockholders' Equity Section of the Balance Sheet</b>	
<b>For the Month Ended December 31, 2020</b>	
<b>Stockholders' Equity</b>	
Common Stock, \$0.50 par value, 100,000 shares authorized, 60,000 shares issued and outstanding	\$ 30,000
Additional Paid-in Capital	44,000
Retained Earnings	51,000
Total Stockholders' Equity	<u>\$125,000</u>

Also assume that Duratech's board of directors declares a 30% stock dividend on the last day of the year, when the market value of each share of stock was \$9. The 30% stock dividend will require the distribution of 60,000 shares times 30%, or 18,000 additional shares of stock. An investor who owns 100 shares will receive 30 shares in the dividend distribution ( $30\% \times 100$  shares). The journal entry to record the stock dividend declaration requires a decrease (debit) to Retained Earnings and an increase (credit) to Common Stock Dividends Distributable for the par or stated value of the shares to be distributed: 18,000 shares  $\times$  \$0.50, or \$9,000. The journal entry is:

<b>JOURNAL</b>			
Date	Account	Debit	Credit
Dec. 31	Retained Earnings Common Stock Dividends Distributable <i>To record the declaration of a 30% stock dividend</i>	9,000	9,000

The subsequent distribution will reduce the Common Stock Dividends Distributable account with a debit and increase the Common Stock account with a credit for the \$9,000.

<b>JOURNAL</b>			
Date	Account	Debit	Credit
Dec. 31	Common Stock Dividends Distributable Common Stock <i>To record the distribution of a 30% stock dividend</i>	9,000	9,000

There is no consideration of the market value in the accounting records for a large stock dividend because the number of shares issued in a large dividend is large enough to impact the market; as such, it causes an immediate reduction of the market price of the company's stock.

In comparing the stockholders' equity section of the balance sheet before and after the large stock dividend, we can see that the total stockholders' equity is the same before and after the stock dividend, just as it was with a small dividend ([Figure 14.10](#)).

<b>DURATECH</b>			
<b>Stockholders' Equity Section of the Balance Sheet</b>			
<b>For the Month Ended December 31, 2020</b>			
<b>Stockholders' Equity</b>	<b>Before the Stock Dividend</b>	<b>Stock Dividend Effect</b>	<b>After the Stock Dividend</b>
Common Stock, \$0.50 par value	\$ 30,000	\$ 9,000	\$ 39,000
Additional Paid-in Capital	44,000		44,000
Retained Earnings	51,000	(9,000)	42,000
Total Stockholders' Equity	<u>\$125,000</u>	<u>\$ 0</u>	<u>\$125,000</u>

**Figure 14.10** Stockholders' Equity Section of the Balance Sheet for Duratech. (attribution: Copyright Rice University, OpenStax, under CC BY-NC-SA 4.0 license)

Similar to distribution of a small dividend, the amounts within the accounts are shifted from the earned capital account (Retained Earnings) to the contributed capital account (Common Stock) though in different amounts. The number of shares outstanding has increased from the 60,000 shares prior to the distribution, to the 78,000 outstanding shares after the distribution. The difference is the 18,000 additional shares in the stock dividend distribution. No change to the company's assets occurred; however, the potential subsequent increase in market value of the company's stock will increase the investor's perception of the value of the company.

## Stock Splits

A traditional **stock split** occurs when a company's board of directors issue new shares to existing shareholders in place of the old shares by increasing the number of shares and reducing the par value of each share. For example, in a 2-for-1 stock split, two shares of stock are distributed for each share held by a shareholder. From a practical perspective, shareholders return the old shares and receive two shares for each share they previously owned. The new shares have half the par value of the original shares, but now the shareholder owns twice as many. If a 5-for-1 split occurs, shareholders receive 5 new shares for each of the original shares they owned, and the new par value results in one-fifth of the original par value per share.

While a company technically has no control over its common stock price, a stock's market value is often affected by a stock split. When a split occurs, the market value per share is reduced to balance the increase in the number of outstanding shares. In a 2-for-1 split, for example, the value per share typically will be reduced by half. As such, although the number of outstanding shares and the price change, the total market value remains constant. If you buy a candy bar for \$1 and cut it in half, each half is now worth \$0.50. The total value of the candy does not increase just because there are more pieces.

A stock split is much like a large stock dividend in that both are large enough to cause a change in the market price of the stock. Additionally, the split indicates that share value has been increasing, suggesting growth is likely to continue and result in further increase in demand and value. Companies often make the decision to split stock when the stock price has increased enough to be out of line with competitors, and the business wants to continue to offer shares at an attractive price for small investors.

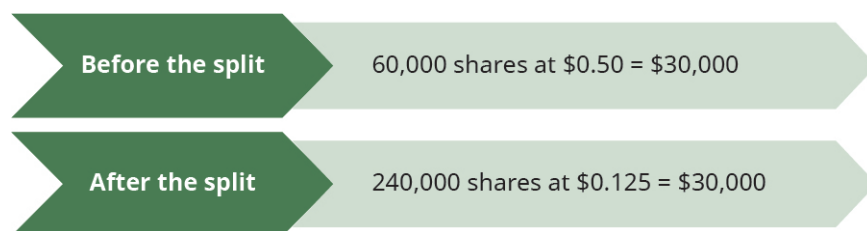
## CONCEPTS IN PRACTICE

### Samsung Boasts a 50-to-1 Stock Split

In May of 2018, **Samsung Electronics**<sup>[13]</sup> had a 50-to-1 stock split in an attempt to make it easier for investors to buy its stock. **Samsung**'s market price of each share prior to the split was an incredible 2.65 won ("won" is a Japanese currency), or \$2,467.48. Buying one share of stock at this price is rather expensive for most people. As might be expected, even after a slight drop in trading activity just after the split announcement, the reduced market price of the stock generated a significant increase to investors by making the price per share less expensive. The split caused the price to drop to 0.053 won, or \$49.35 per share. This made the stock more accessible to potential investors who were previously unable to afford a share at \$2,467.

A **reverse stock split** occurs when a company attempts to increase the market price per share by reducing the number of shares of stock. For example, a 1-for-3 stock split is called a reverse split since it reduces the number of shares of stock outstanding by two-thirds and triples the par or stated value per share. The effect on the market is to increase the market value per share. A primary motivator of companies invoking reverse splits is to avoid being delisted and taken off a stock exchange for failure to maintain the exchange's minimum share price.

Accounting for stock splits is quite simple. No journal entry is recorded for a stock split. Instead, the company prepares a memo entry in its journal that indicates the nature of the stock split and indicates the new par value. The balance sheet will reflect the new par value and the new number of shares authorized, issued, and outstanding after the stock split. To illustrate, assume that Duratech's board of directors declares a 4-for-1 common stock split on its \$0.50 par value stock. Just before the split, the company has 60,000 shares of common stock outstanding, and its stock was selling at \$24 per share. The split causes the number of shares outstanding to increase by four times to 240,000 shares ( $4 \times 60,000$ ), and the par value to decline to one-fourth of its original value, to \$0.125 per share ( $\$0.50 \div 4$ ). No change occurs to the dollar amount of any general ledger account.



The split typically causes the market price of stock to decline immediately to one-fourth of the original value—from the \$24 per share pre-split price to approximately \$6 per share post-split ( $\$24 \div 4$ ), because the total value of the company did not change as a result of the split. The total stockholders' equity on the company's balance sheet before and after the split remain the same.

13 Joyce Lee. "Trading in Samsung Electronics Shares Surges after Stock Split." *Reuters*. May 3, 2018. <https://www.reuters.com/article/us-samsung-elec-stocks/samsung-elec-shares-open-at-53000-won-each-after-501-stock-split-idUSKBN11500B>

<b>DURATECH</b>			
<b>Stockholders' Equity Section of the Balance Sheet</b>			
<b>For the Month Ended December 31, 2020</b>			
<b>Stockholders' Equity</b>	<b>Before the Stock Split</b>	<b>Stock Split Effect</b>	<b>After the Stock Split</b>
Common Stock	\$ 30,000	\$ 0	\$ 30,000
Additional Paid-in Capital	44,000		44,000
Retained Earnings	<u>51,000</u>	<u>0</u>	<u>51,000</u>
Total Stockholders' Equity	<u>\$125,000</u>	<u>\$ 0</u>	<u>\$125,000</u>

## THINK IT THROUGH

### Accounting for a Stock Split

You have just obtained your MBA and obtained your dream job with a large corporation as a manager trainee in the corporate accounting department. Your employer plans to offer a 3-for-2 stock split. Briefly indicate the accounting entries necessary to recognize the split in the company's accounting records and the effect the split will have on the company's balance sheet.

## YOUR TURN

### Dividend Accounting

Cynadyne, Inc.'s has 4,000 shares of \$0.20 par value common stock authorized, 2,800 issued, and 400 shares held in treasury at the end of its first year of operations. On May 1, the company declared a \$1 per share cash dividend, with a date of record on May 12, to be paid on May 25. What journal entries will be prepared to record the dividends?

#### Solution

A journal entry for the dividend declaration and a journal entry for the cash payout:

To record the declaration:

May 1	Retained Earnings Dividends Payable <i>To record board of directors authorizing cash dividends</i>	2,400	2,400
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Date of declaration, May 12, no entry.

To record the payment:

May 25	Dividends Payable Cash <i>To record cash payout of dividends</i>	2,400	2,400
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## THINK IT THROUGH

### Recording Stock Transactions

In your first year of operations the following transactions occur for a company:

- Net profit for the year is \$16,000
- 100 shares of \$1 par value common stock are issued for \$32 per share
- The company purchases 10 shares at \$35 per share
- The company pays a cash dividend of \$1.50 per share

Prepare journal entries for the above transactions and provide the balance in the following accounts: Common Stock, Dividends, Paid-in Capital, Retained Earnings, and Treasury Stock.

## 14.4 Compare and Contrast Owners' Equity versus Retained Earnings

**Owners' equity** represents the business owners' share of the company. It is often referred to as net worth or net assets in the financial world and as stockholders' equity or shareholders' equity when discussing businesses operations of corporations. From a practical perspective, it represents everything a company owns (the company's assets) minus all the company owes (its liabilities). While "owners' equity" is used for all three types of business organizations (corporations, partnerships, and sole proprietorships), only sole proprietorships name the balance sheet account "owner's equity" as the entire equity of the company belongs to the sole owner. Partnerships (to be covered more thoroughly in [Partnership Accounting](#)) often label this section of their balance sheet as "partners' equity." All three forms of business utilize different accounting for the respective equity transactions and use different equity accounts, but they all rely on the same relationship represented by the basic accounting equation ([Figure 14.11](#)).

Assets	=	Liabilities	+	Owners' Equity
--------	---	-------------	---	----------------

**Figure 14.11** Accounting Equation. The relationship among assets, liabilities, and equity is represented in the accounting equation. (attribution: Copyright Rice University, OpenStax, under CC BY-NC-SA 4.0 license)

## Three Forms of Business Ownership

Businesses operate in one of three forms—sole proprietorships, partnerships, or corporations. Sole proprietorships utilize a single account in owners' equity in which the owner's investments and net income of the company are accumulated and distributions to the owner are withdrawn. Partnerships utilize a separate capital account for each partner, with each capital account holding the respective partner's investments and the partner's respective share of net income, with reductions for the distributions to the respective partners. Corporations differ from sole proprietorships and partnerships in that their operations are more complex, often due to size. Unlike these other entity forms, owners of a corporation usually change continuously.

The stockholders' equity section of the balance sheet for corporations contains two primary categories of accounts. The first is paid-in capital, or **contributed capital**—consisting of amounts paid in by owners. The second category is **earned capital**, consisting of amounts earned by the corporation as part of business operations. On the balance sheet, retained earnings is a key component of the earned capital section, while

the stock accounts such as common stock, preferred stock, and additional paid-in capital are the primary components of the contributed capital section.

## CONCEPTS IN PRACTICE

### Contributed Capital and Earned Capital

The stockholders' equity section of **Cracker Barrel Old Country Store, Inc.**'s consolidated balance sheet as of July 28, 2017, and July 29, 2016, shows the company's contributed capital and the earned capital accounts.<sup>[14]</sup>

<b>CRACKER BARREL OLD COUNTRY STORE, INC</b>		
<b>Consolidated Balance Sheets</b>		
(In thousands except share data)		
	July 28, 2017	July 29, 2016
Shareholders' Equity:		
Preferred Stock – 100,000,000 shares of \$.01 par value authorized; 300,000 shares designated as Series A Junior Participating Preferred Stock; no shares issued		
	-	-
Common Stock – 400,000,000 shares of \$.01 par value authorized;		
2017 – 24,055,682 shares issued and outstanding;		
2016 – 23,956,134 shares issued and outstanding		
	241	240
Additional Paid-in Capital	55,659	51,462
Accumulated Other Comprehensive Loss	(4,229)	(13,740)
Retained Earnings	492,836	488,481
<b>Total Shareholders' Equity</b>	<b><u>\$544,507</u></b>	<b><u>\$526,443</u></b>

Contributed  
Capital

Earned  
Capital

### Characteristics and Functions of the Retained Earnings Account

Retained earnings is the primary component of a company's earned capital. It generally consists of the cumulative net income minus any cumulative losses less dividends declared. A basic statement of retained earnings is referred to as an analysis of retained earnings because it shows the changes in the retained earnings account during the period. A company preparing a full set of financial statements may choose between preparing a statement of retained earnings, if the activity in its stock accounts is negligible, or a statement of stockholders' equity, for corporations with activity in their stock accounts. A statement of retained earnings for Clay Corporation for its second year of operations ([Figure 14.12](#)) shows the company generated more net income than the amount of dividends it declared.

14 Cracker Barrel. *Cracker Barrel Old Country Store Annual Report 2017*. September 22, 2017. <http://investor.crackerbarrel.com/static-files/c05f90b8-1214-4f50-8508-d9a70301f51f>

CLAY CORPORATION Statement of Retained Earnings For the Year Ended December 31, 2020		
Retained Earnings, January 1, 2020		\$ 24,000
Net Income		<u>33,000</u>
		57,000
Cash Dividends declared	\$(12,500)	
Stock Dividends declared	<u>(6,500)</u>	<u>(19,000)</u>
Retained Earnings, December 31, 2020		<u>\$ 38,000</u>

**Figure 14.12** Statement of Retained Earnings for Clay Corporation. (attribution: Copyright Rice University, OpenStax, under CC BY-NC-SA 4.0 license)

When the retained earnings balance drops below zero, this negative or debit balance is referred to as a **deficit in retained earnings**.

### Restrictions to Retained Earnings

Retained earnings is often subject to certain restrictions. **Restricted retained earnings** is the portion of a company's earnings that has been designated for a particular purpose due to legal or contractual obligations. Some of the restrictions reflect the laws of the state in which a company operates. Many states restrict retained earnings by the cost of treasury stock, which prevents the legal capital of the stock from dropping below zero. Other restrictions are contractual, such as debt covenants and loan arrangements; these exist to protect creditors, often limiting the payment of dividends to maintain a minimum level of earned capital.

### Appropriations of Retained Earnings

A company's board of directors may designate a portion of a company's retained earnings for a particular purpose such as future expansion, special projects, or as part of a company's risk management plan. The amount designated for a particular purpose is classified as **appropriated retained earnings**.

There are two options in accounting for appropriated retained earnings, both of which allow the corporation to inform the financial statement users of the company's future plans. The first accounting option is to make no journal entry and disclose the amount of appropriation in the notes to the financial statement. The second option is to record a journal entry that transfers part of the unappropriated retained earnings into an Appropriated Retained Earnings account. To illustrate, assume that on March 3, Clay Corporation's board of directors appropriates \$12,000 of its retained earnings for future expansion. The company's retained earnings account is first renamed as Unappropriated Retained Earnings. The journal entry decreases the Unappropriated Retained Earnings account with a debit and increases the Appropriated Retained Earnings account with a credit for \$12,000.

JOURNAL			
Date	Account	Debit	Credit
Mar. 3	Unappropriated Retained Earnings Appropriated Retained Earnings <i>To record the appropriation of retained earnings</i>	12,000	12,000

The company will report the appropriate retained earnings in the earned capital section of its balance sheet. It should be noted that an appropriation does not set aside funds nor designate an income statement, asset, or

liability effect for the appropriated amount. The appropriation simply designates a portion of the company's retained earnings for a specific purpose, while signaling that the earnings are being retained in the company and are not available for dividend distributions.

## Statement of Stockholders' Equity

The statement of retained earnings is a subsection of the statement of stockholders' equity. While the retained earnings statement shows the changes between the beginning and ending balances of the retained earnings account during the period, the **statement of stockholders' equity** provides the changes between the beginning and ending balances of each of the stockholders' equity accounts, including retained earnings. The format typically displays a separate column for each stockholders' equity account, as shown for Clay Corporation in [Figure 14.13](#). The key events that occurred during the year—including net income, stock issuances, and dividends—are listed vertically. The stockholders' equity section of the company's balance sheet displays only the ending balances of the accounts and does not provide the activity or changes during the period.

CLAY CORPORATION					
Statement of Stockholders' Equity					
For the Year Ended December 31, 2020					
	Common Stock, \$1 par	Additional Paid-in Capital	Treasury Stock, at cost \$3	Retained Earnings	Totals
Beginning balance, January 1, 2020	\$5,000	\$64,000	\$(1,200)	\$ 24,000	\$ 91,800
Net Income				33,000	33,000
Common Stock issued, 800 shares	800	3,600			4,400
Cash Dividends declared				(12,500)	(12,500)
Stock Dividends declared				(6,500)	(6,500)
Treasury Stock acquired, 600 shares			(4,200)		(4,200)
Ending balance, December 31, 2020	\$5,800	\$67,600	\$(5,400)	\$ 38,000	\$106,000

**Figure 14.13** Statement of Stockholders' Equity for Clay Corporation. (attribution: Copyright Rice University, OpenStax, under CC BY-NC-SA 4.0 license)

Nearly all public companies report a statement of stockholders' equity rather than a statement of retained earnings because GAAP requires disclosure of the changes in stockholders' equity accounts during each accounting period. It is significantly easier to see the changes in the accounts on a statement of stockholders' equity rather than as a paragraph note to the financial statements.

## IFRS CONNECTION

### Corporate Accounting and IFRS

Both U.S. GAAP and IFRS require the reporting of the various owners' accounts. Under U.S. GAAP, these accounts are presented in a statement that is most often called the Statement of Stockholders' Equity. Under IFRS, this statement is usually called the Statement of Changes in Equity. Some of the biggest

differences between U.S. GAAP and IFRS that arise in reporting the various accounts that appear in those statements relate to either categorization or terminology differences.

U.S. GAAP divides owners' accounts into two categories: contributed capital and retained earnings. IFRS uses three categories: share capital, accumulated profits and losses, and reserves. The first two IFRS categories correspond to the two categories used under U.S. GAAP. What about the third category, reserves? Reserves is a category that is used to report items such as revaluation surpluses from revaluing long-term assets (see the [Long-Term Assets Feature Box: IFRS Connection](#) for details), as well as other equity transactions such as unrealized gains and losses on available-for-sale securities and transactions that fall under Other Comprehensive Income (topics typically covered in more advanced accounting classes). U.S. GAAP does not use the term "reserves" for any reporting.

There are also differences in terminology between U.S. GAAP and IFRS shown in [Table 14.1](#).

**Terminology Differences between U.S. GAAP and IFRS**

U.S. GAAP	IFRS
Common stock	Share capital
Preferred stock	Preference shares
Additional paid-in capital	Share premium
Stockholders	Shareholders
Retained earnings	Retained profits or accumulated profits
Retained earnings deficit	Accumulated losses

**Table 14.1**

All of this information pertains to publicly traded corporations, but what about corporations that are not publicly traded? Most corporations in the U.S. are not publicly traded, so do these corporations use U.S. GAAP? Some do; some do not. A non-public corporation can use cash basis, tax basis, or full accrual basis of accounting. Most corporations would use a full accrual basis of accounting such as U.S. GAAP. Cash and tax basis are most likely used only by sole proprietors or small partnerships.

However, U.S. GAAP is not the only full accrual method available to non-public corporations. Two alternatives are IFRS and a simpler form of IFRS, known as IFRS for Small and Medium Sized Entities, or SMEs for short. In 2008, the AICPA recognized the IASB as a standard setter of acceptable GAAP and designated IFRS and IFRS for SMEs as an acceptable set of generally accepted accounting principles. However, it is up to each State Board of Accountancy to determine if that state will allow the use of IFRS or IFRS for SMEs by non-public entities incorporated in that state.

What is a SME? Despite the use of size descriptors in the title, qualifying as a small or medium-sized entity has nothing to do with size. A SME is any entity that publishes general purpose financial statements for public use but does not have public accountability. In other words, the entity is not publicly traded. In addition, the entity, even if it is a partnership, cannot act as a fiduciary; for example, it

cannot be a bank or insurance company and use SME rules.

Why might a non-public corporation want to use IFRS for SMEs? First, IFRS for SMEs contains fewer and simpler standards. IFRS for SMEs has only about 300 pages of requirements, whereas regular IFRS is over 2,500 pages and U.S. GAAP is over 25,000 pages. Second, IFRS for SMEs is only modified every three years. This means entities using IFRS for SMEs don't have to frequently adjust their accounting systems and reporting to new standards, whereas U.S. GAAP and IFRS are modified more frequently. Finally, if a corporation transacts business with international businesses, or hopes to attract international partners, seek capital from international sources, or be bought out by an international company, then having their financial statements in IFRS form would make these transactions easier.

## Prior Period Adjustments

**Prior period adjustments** are corrections of errors that appeared on previous periods' financial statements. These errors can stem from mathematical errors, misinterpretation of GAAP, or a misunderstanding of facts at the time the financial statements were prepared. Many errors impact the retained earnings account whose balance is carried forward from the previous period. Since the financial statements have already been issued, they must be corrected. The correction involves changing the financial statement amounts to the amounts they would have been had no errors occurred, a process known as **restatement**. The correction may impact both balance sheet and income statement accounts, requiring the company to record a transaction that corrects both. Since income statement accounts are closed at the end of every period, the journal entry will contain an entry to the Retained Earnings account. As such, prior period adjustments are reported on a company's statement of retained earnings as an adjustment to the beginning balance of retained earnings. By directly adjusting beginning retained earnings, the adjustment has no effect on current period net income. The goal is to separate the error correction from the current period's net income to avoid distorting the current period's profitability. In other words, prior period adjustments are a way to go back and correct past financial statements that were misstated because of a reporting error.

## CONCEPTS IN PRACTICE

### Are Companies Making Fewer Errors in Financial Reporting?

According to Kevin LaCroix, additional reporting requirements created by the Sarbanes Oxley Act prompted a surge in 2005 and 2006 of the number of companies that had to make corrections and reissue financial statements. However, since that time, the number of companies making corrections has dropped over 60%, partially due to the number of U.S. companies listed on stock exchanges, and partially due to tighter regulations. The severity of the errors that caused restatements has declined as well, primarily due to tighter regulation, which has forced companies to improve their internal controls.<sup>[15]</sup>

To illustrate how to correct an error requiring a prior period adjustment, assume that in early 2020, Clay Corporation's controller determined it had made an error when calculating depreciation in the preceding year,

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15 Kevin M. LaCroix. "Financial Statements Continue to Decline for U.S. Reporting Companies." The D & O Diary. June 12, 2017. <https://www.dandodiary.com/2017/06/articles/sox-generally/financial-restatements-continue-decline-u-s-reporting-companies/>

resulting in an understatement of depreciation of \$1,000. The entry to correct the error contains a decrease to Retained Earnings on the statement of retained earnings for \$1,000. Depreciation expense would have been \$1,000 higher if the correct depreciation had been recorded. The entry to Retained Earnings adds an additional debit to the total debits that were previously part of the closing entry for the previous year. The credit is to the balance sheet account in which the \$1,000 would have been recorded had the correct depreciation entry occurred, in this case, Accumulated Depreciation.

JOURNAL			
Date	Account	Debit	Credit
Jan. 2	Retained Earnings Accumulated Depreciation <i>To record the correction of depreciation expense for a prior period</i>	1,000	1,000

Because the adjustment to retained earnings is due to an income statement amount that was recorded incorrectly, there will also be an income tax effect. The tax effect is shown in the statement of retained earnings in presenting the prior period adjustment. Assuming that Clay Corporation's income tax rate is 30%, the tax effect of the \$1,000 is a \$300 (30% × \$1,000) reduction in income taxes. The increase in expenses in the amount of \$1,000 combined with the \$300 decrease in income tax expense results in a net \$700 decrease in net income for the prior period. The \$700 prior period correction is reported as an adjustment to beginning retained earnings, net of income taxes, as shown in [Figure 14.14](#).

CLAY CORPORATION Statement of Retained Earnings For the Year Ended December 31, 2020			
Retained Earnings, January 1, 2020			\$ 24,000
Prior period adjustment, net of income taxes			700
Adjusted Retained Earnings, January 1, 2020			<u>24,700</u>
Net Income			<u>33,000</u>
			57,700
Cash Dividends declared	\$(12,500)		
Stock Dividends declared	<u>(6,500)</u>		<u>(19,000)</u>
Retained Earnings, December 31, 2020			<u>\$ 38,700</u>

**Figure 14.14** Statement of Retained Earnings for Clay Corporation. (attribution: Copyright Rice University, OpenStax, under CC BY-NC-SA 4.0 license)

Generally accepted accounting principles (GAAP), the set of accounting rules that companies are required to follow for financial reporting, requires companies to disclose in the notes to the financial statements the nature of any prior period adjustment and the related impact on the financial statement amounts.

## LINK TO LEARNING

The correction of errors in financial statements is a complicated situation. Both shareholders and investors tend to view these with deep suspicion. Many believe corporations are attempting to smooth earnings, hide possible problems, or cover up mistakes. The *Journal of Accountancy*, a periodical

published by the AICPA, offers guidance in how to manage this process. Browse the [Journal of Accountancy website \(https://openstax.org/l/50JournofAcct\)](https://openstax.org/l/50JournofAcct) for articles and cases of prior period adjustment issues.

## CONCEPTS IN PRACTICE

### Tune into Financial News

Tune into a financial news program like *Squawk Box* or *Mad Money* on CNBC or *Bloomberg's*. Notice the terminology used to describe the corporations being analyzed. Notice the speed at which topics are discussed. Are these shows for the novice investor? How could this information impact potential investors?

## LINK TO LEARNING

Log onto the [Annual Reports website \(https://openstax.org/l/50AnnualReports\)](https://openstax.org/l/50AnnualReports) to access a comprehensive collection of more than 5,000 annual reports produced by publicly-traded companies. The site is a tremendous resource for both school and investment-related research. Reading annual reports provides a different type of insight into corporations. Beyond the financial statements, annual reports give shareholders and the public a glimpse into the operations, mission, and charitable giving of a corporation.

14.5

## Discuss the Applicability of Earnings per Share as a Method to Measure Performance

**Earnings per share (EPS)** measures the portion of a corporation's profit allocated to each outstanding share of common stock. Many financial analysts believe that EPS is the single most important tool in assessing a stock's market price. A high or increasing earnings per share can drive up a stock price. Conversely, falling earnings per share can lower a stock's market price. EPS is also a component in calculating the price-to-earnings ratio (the market price of the stock divided by its earnings per share), which many investors find to be a key indicator of the value of a company's stock.

## CONCEPTS IN PRACTICE

### Microsoft Earnings Announcements Exceeds Wall Street Targets

While a company's board of directors makes the final approval of the reports, a key goal of each company is to look favorable to investors while providing financial statements that accurately reflect the

financial condition of the company. Each quarter, public companies report EPS through a public announcement as one of the key measures of their profitability. These announcements are highly anticipated by investors and analysts. The suspense is heightened because analysts provide earnings estimates to the public prior to each announcement release. According to Matt Weinberger of *Business Insider*, the announcement by **Microsoft** of its first quarter 2018 EPS reported at \$0.95 per share, higher than analysts' estimates of \$0.85 per share, caused the value of its stock to rise by more than 3% within hours of the announcement.<sup>[16]</sup> While revenue was the other key metric in **Microsoft's** earnings announcement, EPS carried more weight in the surge of the company's market price.

## Calculating Earnings per Share

Earnings per share is the profit a company earns for each of its outstanding common shares. Both the balance sheet and income statement are needed to calculate EPS. The balance sheet provides details on the preferred dividend rate, the total par value of the preferred stock, and the number of common shares outstanding. The income statement indicates the net income for the period. The formula to calculate basic earnings per share is:

$$\text{Earnings per Share} = \frac{\text{Net Income} - \text{Preferred Dividends}}{\text{Weighted Average Common Shares Outstanding}}$$

By removing the preferred dividends from net income, the numerator represents the profit available to common shareholders. Because preferred dividends represent the amount of net income to be distributed to preferred shareholders, this portion of the income is obviously not available for common shareholders. While there are a number of variations of measuring a company's profit used in the financial world, such as NOPAT (net operating profit after taxes) and EBITDA (earnings before interest, taxes, depreciation, and amortization), GAAP requires companies to calculate EPS based on a corporation's net income, as this amount appears directly on a company's income statement, which for public companies must be audited.

In the denominator, only common shares are used to determine earnings per share because EPS is a measure of earnings for each common share of stock. The denominator can fluctuate throughout the year as a company issues and buys back shares of its own stock. The weighted average number of shares is used on the denominator because of this fluctuation. To illustrate, assume that a corporation began the year with 600 shares of common stock outstanding and then on April 1 issued 1,000 more shares. During the period January 1 to March 31, the company had the original 600 shares outstanding. Once the new shares were issued, the company had the original 600 plus the new 1,000 shares, for a total of 1,600 shares for each of the next nine months—from April 1 to December 31. To determine the weighted average shares, apply these fractional weights to both of the stock amounts, as shown in [Figure 14.15](#).

16 Matt Weinberger. "Microsoft's Cloud Business Is Driving a Revenue Surge That's Well above Wall Street Targets." *Business Insider*. April 26, 2018. <https://www.businessinsider.com/microsoft-q3-fy18-earnings-revenue-eps-analysis-2018-4>

Number of Shares	×	Portion of Year	=	Weighted Shares
600	×	3/12	=	150
1,600	×	9/12	=	1,200
Weighted average shares				<u>1,350</u>

**Figure 14.15** Weighted Shares. (attribution: Copyright Rice University, OpenStax, under CC BY-NC-SA 4.0 license)

If the shares were not weighted, the calculation would not consider the time period during which the shares were outstanding.

To illustrate how EPS is calculated, assume Sanaron Company earns \$50,000 in net income during 2020. During the year, the company also declared a \$10,000 dividend on preferred stock and a \$14,000 dividend on common stock. The company had 5,000 common shares outstanding the entire year along with 2,000 preferred shares. Sanaron has generated \$8 of earnings (\$50,000 less the \$10,000 of preferred dividends) for each of the 5,000 common shares of stock it has outstanding.

$$\text{Earnings per share} = \frac{\$50,000 - \$10,000}{5,000} = \$8.00$$

## THINK IT THROUGH

When a company issued new shares of stock and buys other back as treasury stock, EPS can be manipulated because both of these transactions affect the number of shares of stock outstanding. What are ethical considerations involved in calculating EPS?

## Measuring Performance with EPS

EPS is a key profitability measure that both current and potential common stockholders monitor. Its importance is accentuated by the fact that GAAP requires public companies to report EPS on the face of a company's income statement. This is only ratio that requires such prominent reporting. In fact, public companies are required to report two different earnings per share amounts on their income statements—basic and diluted. We've illustrated the calculation of basic EPS. Diluted EPS, which is not demonstrated here, involves the consideration of all securities such as stocks and bonds that could potentially dilute, or reduce, the basic EPS.

## LINK TO LEARNING

Where can you find EPS information on public companies? Check out the [Yahoo Finance website \(https://openstax.org/l/50YahooFinance\)](https://openstax.org/l/50YahooFinance) and search for EPS data for your favorite corporation.

Common stock shares are normally purchased by investors to generate income through dividends or to sell at

a profit in the future. Investors realize that inadequate EPS can result in poor or inconsistent dividend payments and fluctuating stock prices. As such, companies seek to produce EPS amounts that rise each period. However, an increase in EPS may not always reflect favorable performance, as there are multiple reasons that EPS may increase. One way EPS can increase is because of increased net income. On the other hand, it can also increase when a company buys back its own shares of stock. For example, assume that Ranadune Enterprises generated net income of \$15,000 in 2020. In addition, 20,000 shares of common stock and no preferred stock were outstanding throughout 2020. On January 1, 2020, the company buys back 2,500 shares of its common stock and holds them as treasury shares. Net income for 2020 stayed static at \$15,000. Just before the repurchasing of the stock, the company's EPS is \$0.75 per share:

$$\text{Earnings per share} = \frac{\$15,000}{20,000 \text{ shares}} = \$0.75 \text{ per share}$$

The purchase of treasury stock in 2020 reduces the common shares outstanding to 17,500 because treasury shares are considered issued but not outstanding (20,000 – 2,500). EPS for 2020 is now \$0.86 per share even though earnings remains the same.

$$\text{Earnings per share} = \frac{\$15,000}{17,500 \text{ shares}} = \$0.86 \text{ per share}$$

This increase in EPS occurred because the net income is now spread over fewer shares of stock. Similarly, EPS can decline even when a company's net income increases if the number of shares increases at a higher degree than net income. Unfortunately, managers understand how the number of shares outstanding can affect EPS and are often in position to manipulate EPS by creating transactions that target a desired EPS number.

## ETHICAL CONSIDERATIONS

### Stock Buybacks Drive Up Earnings per Share: Ethical?

Public companies can increase their earnings per share by buying their own stock in the open market. The increase in earnings per share results because the number of shares is reduced by the purchase even though the earnings remain the same. With fewer shares and the same amount of earnings, the earnings per share increases without any change in overall profitability or operational efficiency. A *Market Watch* article attributing Goldman Sachs states, "S&P 500 companies will spend about \$780 billion on share buybacks in 2017, marking a 30% rise from 2016."<sup>[17]</sup> An article in *Forbes* provides some perspective by pointing out that buying back shares was legalized in 1982, but for the majority of the twentieth century, corporate buybacks of shares was considered illegal because "they were thought to be a form of stock market manipulation. . . . Buying back company stock can inflate a company's share price and boost its earnings per share—metrics that often guide lucrative executive bonuses."<sup>[18]</sup> Is a corporation buying back its shares an ethical way in which to raise or maintain the price of a company's shares?

Earnings per share is interpreted differently by different analysts. Some financial experts favor companies with higher EPS values. The reasoning is that a higher EPS is a reflection of strong earnings and therefore a good

17 C. Linnane and T. Kilgore. "Share Buybacks Will Rise 30% to \$780 Billion Next Year, says Goldman Sachs." *Market Watch*. November 22, 2016 <https://www.marketwatch.com/story/share-buybacks-will-return-with-a-vengeance-next-year-2016-11-21>.

18 Arne Alsln. "The Ugly Truth Behind Stock Buybacks." *Forbes*. Feb. 28, 2017. <https://www.forbes.com/sites/aalsin/2017/02/28/shareholders-should-be-required-to-vote-on-stock-buybacks/#69b300816b1e>

investment prospect. A more meaningful analysis occurs when EPS is tracked over a number of years, such as when presented in the comparative income statements for **Cracker Barrel Old Country Store, Inc.**'s respective year ends in 2017, 2016, and 2015 shown in [Figure 14.16](#).<sup>[19]</sup> **Cracker Barrel**'s basic EPS is labeled as "net income per share: basic."

<b>CRACKER BARREL OLD COUNTRY STORE, INC.</b>			
<b>Consolidated Statements of Income</b>			
(In thousands except share data)			
Fiscal years ended			
	July 28, 2017	July 29, 2016	July 31, 2015
Total Revenue	\$ 2,926,289	\$ 2,912,351	\$ 2,842,284
Cost of Goods Sold (exclusive of depreciation and rent)	891,293	928,176	924,171
Labor and other related expenses	1,017,124	1,006,188	992,382
Other Store Operating Expenses	563,300	554,534	523,307
Store Operating Income	<u>454,572</u>	<u>423,453</u>	<u>402,424</u>
General and Administrative Expenses	141,414	142,982	147,544
Operating Income	<u>313,158</u>	<u>280,471</u>	<u>254,880</u>
Interest Expense	14,271	14,052	16,679
Income before income taxes	298,887	266,419	238,201
Provision for income taxes	96,988	77,120	74,298
Net Income	<u>\$ 201,899</u>	<u>\$ 189,299</u>	<u>\$ 163,903</u>
Net Income per share: basic	<u>\$ 8.40</u>	<u>\$ 7.91</u>	<u>\$ 6.85</u>
Net Income per share: diluted	<u>\$ 8.37</u>	<u>\$ 7.86</u>	<u>\$ 6.82</u>
<b>Basic weighted average shares outstanding</b>	<b><u>24,031,810</u></b>	<b><u>23,945,041</u></b>	<b><u>23,918,368</u></b>
<b>Diluted weighted average shares outstanding</b>	<b><u>24,118,288</u></b>	<b><u>24,074,273</u></b>	<b><u>24,048,924</u></b>

**Figure 14.16** Consolidated Statements of Income for Cracker Barrel. (attribution: Copyright Rice University, OpenStax, under CC BY-NC-SA 4.0 license)

Most analysts believe that a consistent improvement in EPS year after year is the indication of continuous improvement in the earning power of a company. This is what is seen in **Cracker Barrel**'s EPS amounts over each of the three years reported, moving from \$6.85 to \$7.91 to \$8.40. However, it is important to remember that EPS is calculated on historical data, which is not always predictive of the future. In addition, when EPS is used to compare different companies, significant differences may exist. If companies are in the same industry, that comparison may be more valuable than if they are in different industries. Basically, EPS should be a tool used in decision-making, utilized alongside other analytic tools.

## YOUR TURN

### Would You Have Invested?

What if, in 1997, you invested \$5,000 in **Amazon**? Today, your investment would be worth nearly \$1 million. Potential investors viewing **Amazon**'s income statement in 1997 would have seen an EPS of a negative \$0.11. In other words, **Amazon** lost \$0.11 for each share of common stock outstanding. Would

19 Cracker Barrel. *Cracker Barrel Old Country Store 2017 Annual Report*. September 22, 2017. <http://investor.crackerbarrel.com/static-files/c05f90b8-1214-4f50-8508-d9a70301f51f>

you have invested?

**Solution**

Answers will vary. A strong response would include the idea that a negative or small EPS reflects upon the past historical operations of a company. EPS does not predict the future. Investors in 1997 looked beyond Amazon's profitability and saw its business model having strong future potential.

## THINK IT THROUGH

### Using Earnings per Share in Decision Making

As a valued employee, you have been awarded 10 shares of the company's stock. Congratulations! How could you use earnings per share to help you decide whether to hold on to the stock or keep it for the future?

## Key Terms

- accounting entity concept** concept indicating that the financial activity of an entity (corporation) must be kept separate from that of the owners
- additional paid-in capital** account for recording excess of the proceeds received from the issuance of the stock over the stock's par value
- appropriated retained earnings** portion of a company's retained earnings designated for a particular purpose such as future expansion, special projects, or as part of a company's risk management plan
- articles of incorporation** (also, charter) define the basic structure and purpose of a corporation and the amount of capital stock that can be issued or sold
- authorized shares** maximum number of shares that a corporation can issue to investors; approved by state in which company is incorporated and specified in the corporate charter
- brokers** buy and sell issues of stock on behalf of others
- capital** cash and other assets owned by a company
- cash dividend** corporate earnings that companies pass along to their shareholders in the form of cash payments
- common stock** corporation's primary class of stock issued, with each share representing a partial claim to ownership or a share of the company's business
- contributed capital** owner's investment (cash and other assets) in the business, which typically comes in the form of common stock
- corporation** legal business structure involving one or more individuals (owners) who are legally distinct (separate) from the business
- date of declaration** date upon which a company's board of directors votes and decides to give a cash dividend to all the company shareholders; the date on which the dividends become a legal liability
- date of payment** date that cash dividends are paid to shareholders
- date of record** date the list of dividend eligible shareholders is prepared; no journal entry is required
- debt-to-equity ratio** measures the portion of debt used by a company relative to the amount of stockholders' equity, calculated by dividing total debt by total equity
- deficit in retained earnings** negative or debit balance
- dividend smoothing** practice of paying dividends that are relatively equal period after period even when earnings fluctuate
- double taxation** occurs when income is taxed to the corporation that earned the income, and then taxed again to stockholders when they receive a distribution of the corporation's income as dividends
- earned capital** capital earned by the corporation as part of business operations
- earnings per share (EPS)** measurement of the portion of a corporation's profit allocated to each outstanding share of common stock
- ex dividend** status of stock sold between the record date and payment date during which the investor is not entitled to receive dividends
- going concern assumption** absent any evidence to the contrary, assumption that a business will continue to operate in the indefinite future
- incorporation** process of constituting a company into a legal entity
- initial public offering (IPO)** when a company issues shares of its stock to the public for the first time
- investment banker** financial professional who provides advice to companies wishing to issue new stock, then purchase the stock from the company issuing the stock and resell the securities to the public
- issued shares** authorized shares that have been sold to shareholders

**large stock dividend** stock dividend distribution that is larger than 25% of the total outstanding shares just before the distribution

**market value of stock** price at which the stock of public companies trades on the stock market

**no-par stock** stock issued with no par value assigned to it in a corporate charter

**organization costs** costs of organizing the corporate entity that include attorney fees, promotion costs, and filing fees paid to the state

**outstanding shares** shares that have been issued and are currently held by shareholders

**owners' equity** business owners' share of the company

**par value** value assigned to stock in the company's charter and is typically set at a very small arbitrary amount; serves as legal capital

**preemptive right** allows stockholders the option to maintain their ownership percentage when new shares of stock are issued by the company

**preferred stock** type of stock that entitles the holder to unique preferences that are advantageous over common stock features

**prior period adjustments** corrections of errors that occurred on previous periods' financial statements

**private corporation** corporation usually owned by a relatively small number of investors; shares are not traded publicly, and the ownership of the stock is restricted to only those allowed by the board of directors

**property dividend** stock dividend distribution of assets other than cash

**publicly traded company** company whose stock is traded (bought and sold) on an organized stock exchange

**restatement** correction of financial statement amounts due to an accounting error in a prior period

**restricted retained earnings** portion of a company's earnings that has been designated for a particular purpose due to legal or contractual obligations

**reverse stock split** issuance of new shares to existing shareholders in place of the old shares by decreasing the number of shares and increasing the par value of each share

**secondary market** organized market where previously issued stocks and bonds can be traded after they are issued

**Securities and Exchange Commission (SEC)** federal regulatory agency that regulates corporations with shares listed and traded on security exchanges through required periodic filings

**small stock dividend** stock dividend distribution that is less than 25% of the total outstanding shares just before the distribution

**special dividend** one-time extra distribution of corporate earnings to shareholders, usually stemming from a period of extraordinary earnings or special transaction, such as the sale of a company division

**stated value** is an amount a board of director's assigns to each share of a company's stock; functions as the legal capital

**statement of stockholders' equity** provides the changes between the beginning and ending balances of each of the stockholders' equity accounts during the period

**stock discount** amount at which stock is issued below the par value of stock

**stock dividend** dividend payment consisting of additional shares rather than cash

**stock split** issuance of new shares to existing shareholders in place of the old shares by increasing the number of shares and reducing the par value of each share

**stock trading** buying and selling of shares by investors and brokers

**stockholder** owner of stock, or shares, in a business

**treasury stock** company's own shares that it has repurchased from investors

 **Summary****14.1 Explain the Process of Securing Equity Financing through the Issuance of Stock**

- The process of forming a corporation involves several steps, which result in a legal entity that can issue stock, enter into contracts, buy and sell assets, and borrow funds.
- The corporate form has several advantages, which include the ability to function as a separate legal entity, limited liability, transferable ownership, continuing existence, and ease of raising capital.
- The disadvantages of operating as a corporation include the costs of organization, regulation, and potential double taxation.
- There are a number of considerations when choosing whether to finance with debt or equity as a means to raise capital, including dilution of ownership, the repayment obligation, the cash obligation, budgeting reliability, cost savings, and the risk assessment by creditors.
- The Securities and Exchange Commission regulates large and small public corporations.
- There are key differences between public corporations that experience an IPO and private corporations.
- A corporation's shares continue to be bought and sold by the public in the secondary market after an IPO.
- The process of marketing a company's stock involves several steps.
- Capital stock consists of two classes of stock—common and preferred, each providing the company with the ability to attract capital from investors.
- Shares of stock are categorized as authorized, issued, and outstanding.
- Shares of stock are measured based on their market or par value. Some stock is no-par, which carries a stated value.
- A company's primary class of stock issued is common stock, and each share represents a partial claim to ownership or a share of the company's business. Common shareholders have four rights: right to vote, the right to share in corporate net income through dividends, the right to share in any distribution of assets upon liquidation, and a preemptive right.
- Preferred stock, by definition, has preferred characteristics, which are more advantageous to shareholders over common stock characteristics. These include dividend preferences such as cumulative and participating and a preference for asset distribution upon liquidation. These shares can also be callable or convertible.

**14.2 Analyze and Record Transactions for the Issuance and Repurchase of Stock**

- The initial issuance of common stock reflects the sale of the first stock by a corporation.
- Common stock issued at par value for cash creates an additional paid-in capital account for the excess of the issue price over the par value.
- Stock issued in exchange for property or services is recorded at the fair market value of the stock or the asset or services received, whichever is more clearly determinable.
- Stock with a stated value is treated as if the stated value is a par value. The entire issue price of no-par stock with no stated value is credited to the capital stock account.
- Preferred stock issued at par or stated value creates an additional paid-in capital account for the excess of the issue price over the par value.
- A corporation reports a stock's par or stated value, the number of shares authorized, issued, and outstanding, and if preferred, the dividend rate on the face of the balance sheet.
- Treasury stock is a corporation's stock that the corporation purchased back. A company may buy back its stock for strategic purposes against competitors, to create demand, or to use for employee stock option plans.
- The acquisition of treasury stock creates a contra equity account, Treasury Stock, reported in the

stockholders' equity section of the balance sheet.

- When a corporation reissues its treasury stock at an amount above the cost, it generates a credit to the Additional Paid-in Capital from Treasury stock account.
- When a corporation reissues its treasury stock at an amount below cost, the Additional Paid-in Capital from Treasury stock account is reduced first, then any excess is debited to Retained Earnings.

### **14.3 Record Transactions and the Effects on Financial Statements for Cash Dividends, Property Dividends, Stock Dividends, and Stock Splits**

- Dividends are a distribution of corporate earnings, though some companies reinvest earnings rather than declare dividends.
- There are three dividend dates: date of declaration, date of record, and date of payment.
- Cash dividends are accounted for as a reduction of retained earnings and create a liability when declared.
- When dividends are declared and a company has only common stock issued, the reduction of retained earnings is the amount per share times the number of outstanding shares.
- A property dividend occurs when a company declares and distributes assets other than cash. They are recorded at the fair market value of the asset being distributed.
- A stock dividend is a distribution of shares of stock to existing shareholders in lieu of a cash dividend.
- A small stock dividend occurs when a stock dividend distribution is less than 25% of the total outstanding shares based on the outstanding shares prior to the dividend distribution. The entry requires a decrease to Retained Earnings for the market value of the shares to be distributed.
- A large stock dividend involves a distribution of stock to existing shareholders that is larger than 25% of the total outstanding shares just before the distribution. The journal entry requires a decrease to Retained Earnings and a credit to Stock Dividends Distributable for the par or stated value of the shares to be distributed.
- Some corporations employ stock splits to keep their stock price competitive in the market. A traditional stock split occurs when a company's board of directors issues new shares to existing shareholders in place of the old shares by increasing the number of shares and reducing the par value of each share.

### **14.4 Compare and Contrast Owners' Equity versus Retained Earnings**

- Owner's equity reflects an owner's investment value in a company.
- The three forms of business utilize different accounts and transactions relative to owners' equity.
- Retained earnings is the primary component of a company's earned capital. It generally consists of the cumulative net income minus any cumulative losses less dividends declared. A statement of retained earnings shows the changes in the retained earnings account during the period.
- Restricted retained earnings is the portion of a company's earnings that has been designated for a particular purpose due to legal or contractual obligations.
- A company's board of directors may designate a portion of a company's retained earnings for a particular purpose such as future expansion, special projects, or as part of a company's risk management plan. The amount designated is classified as appropriated retained earnings.
- The statement of stockholders' equity provides the changes between the beginning and ending balances of each of the stockholders' equity accounts, including retained earnings.
- Prior period adjustments are corrections of errors that occurred on previous periods' financial statements. They are reported on a company's statement of retained earnings as an adjustment to the beginning balance.

### **14.5 Discuss the Applicability of Earnings per Share as a Method to Measure Performance**

- Earnings per share (EPS) measures the portion of a corporation's profit allocated to each outstanding share of common stock.

- EPS is calculated by dividing the profit earned for common shareholders by the weighted average common shares of stock outstanding.
- Because EPS is a key profitability measure that both current and potential common stockholders monitor, it is important to understand how to interpret it.



## Multiple Choice

- LO 14.1** Which of the following is *not* a characteristic that sets preferred stock apart from common stock?
  - voting rights
  - dividend payments
  - transferability
  - ownership
- LO 14.1** Issued stock is defined as stock that \_\_\_\_\_.
  - is available for sale
  - that is held by the corporation
  - has been sold to investors
  - has no voting rights
- LO 14.1** Your friend is considering incorporating and asks for advice. Which of the following is *not* a major concern?
  - colors for the logo
  - which state in which to incorporate
  - number of shares of stock to authorize
  - selection of the corporation name
- LO 14.1** Par value of a stock refers to the \_\_\_\_\_.
  - issue price of a stock
  - value assigned by the incorporation documents
  - maximum selling price of a stock
  - dividend to be paid by the corporation
- LO 14.1** Which of the following is not one of the five primary responsibilities of the Securities and Exchange Commission (the SEC)?
  - inform and protect investors
  - regulate securities law
  - facilitate capital formation
  - assure that dividends are paid by corporations
- LO 14.1** When a C corporation has only one class of stock it is referred to as \_\_\_\_\_.
  - stated value stock
  - par value stock
  - common stock
  - preferred stock

7. **LO 14.1** The number of shares that a corporation's incorporation documents allows it to sell is referred to as \_\_\_\_\_.
- A. issued stock
  - B. outstanding stock
  - C. common stock
  - D. authorized stock
8. **LO 14.2** The total amount of cash and other assets received by a corporation from the stockholders in exchange for the shares is \_\_\_\_\_.
- A. always equal to par value
  - B. referred to as retained earnings
  - C. always below its stated value
  - D. referred to as paid-in capital
9. **LO 14.2** Stock can be issued for all *except* which of the following?
- A. accounts payable
  - B. state income tax payments
  - C. property such as a delivery truck
  - D. services provided to the corporation such as legal fees
10. **LO 14.3** A company issued 40 shares of \$1 par value common stock for \$5,000. The journal entry to record the transaction would include which of the following?
- A. debit of \$4,000 to common stock
  - B. credit of \$20,000 to common stock
  - C. credit of \$40 to common stock
  - D. debit of \$20,000 to common stock
11. **LO 14.3** A company issued 30 shares of \$.50 par value common stock for \$12,000. The credit to additional paid-in capital would be \_\_\_\_\_.
- A. \$11,985
  - B. \$12,000
  - C. \$15
  - D. \$10,150
12. **LO 14.3** A corporation issued 100 shares of \$100 par value preferred stock for \$150 per share. The resulting journal entry would include which of the following?
- A. a credit to common stock
  - B. a credit to cash
  - C. a debit to paid-in capital in excess of preferred stock
  - D. a debit to cash
13. **LO 14.3** The date the board of directors votes to declare and pay a cash dividend is called the:
- A. date of stockholder's meeting
  - B. date of payment
  - C. date of declaration
  - D. date of liquidation

14. **LO 14.3** Which of the following is true of a stock dividend?
- A. It is a liability.
  - B. The decision to issue a stock dividend resides with shareholders.
  - C. It does not affect total equity but transfers amounts between equity components.
  - D. It creates a cash reserve for shareholders.
15. **LO 14.4** Stockholders' equity consists of which of the following?
- A. bonds payable
  - B. retained earnings and accounts receivable
  - C. retained earnings and paid-in capital
  - D. discounts and premiums on bond payable
16. **LO 14.4** Retained earnings is accurately described by all *except* which of the following statements?
- A. Retained earnings is the primary component of a company's earned capital.
  - B. Dividends declared are added to retained earnings.
  - C. Net income is added to retained earnings.
  - D. Net losses are accumulated in the retained earnings account.
17. **LO 14.4** If a company's board of directors designates a portion of earnings for a particular purpose due to legal or contractual obligations, they are designated as \_\_\_\_\_.
- A. retained earnings payable
  - B. appropriated retained earnings
  - C. cumulative retained earnings
  - D. restricted retained earnings
18. **LO 14.4** Corrections of errors that occurred on a previous period's financial statements are called \_\_\_\_\_.
- A. restrictions
  - B. deficits
  - C. prior period adjustments
  - D. restatements
19. **LO 14.4** Owner's equity represents which of the following?
- A. the amount of funding the company has from issuing bonds
  - B. the sum of the retained earnings and accounts receivable account balances
  - C. the total of retained earnings plus paid-in capital
  - D. the business owner's/owners' share of the company, also known as net worth or net assets
20. **LO 14.5** Which of the following is a measurement of earnings that represents the profit before interest, taxes, depreciation and amortization are subtracted?
- A. net income
  - B. retained earnings
  - C. EBITDA
  - D. EPS
21. **LO 14.5** Which of the following measures the portion of a corporation's profit allocated to each outstanding share of common stock?
- A. retained earnings
  - B. EPS
  - C. EBITDA
  - D. NOPAT

22. **L0** 14.5 The measurement of earnings concept that consists of a company's profit from operations after taxed are subtracted is \_\_\_\_\_.
- ROI
  - EPS
  - EBITDA
  - NOPAT
23. **L0** 14.5 The correct formula for the calculation of earnings per share is \_\_\_\_\_.
- $(\text{Net income} + \text{Preferred dividends}) / \text{Weighted average common shares outstanding}$
  - $\text{Net income} / \text{Weighted average common shares outstanding}$
  - $(\text{Net income} - \text{Preferred dividends}) / \text{Weighted average common shares outstanding}$
  - $(\text{Net income} - \text{Preferred dividends}) / \text{Treasury shares outstanding}$
24. **L0** 14.5 Most analysts believe which of the following is true about EPS?
- Consistent improvement in EPS year after year is the indication of continuous improvement in the company's earning power.
  - Consistent improvement in EPS year after year is the indication of continuous decline in the company's earning power.
  - Consistent improvement in EPS year after year is the indication of fraud within the company.
  - Consistent improvement in EPS year after year is the indication that the company will never suffer a year of net loss rather than net income.



## Questions

- L0** 14.1 Your corporation needs additional capital to fund an expansion. Discuss the advantages and disadvantages of raising capital through the issuance of stock. Would debt be a better option? Why or why not?
- L0** 14.1 How many shares of stock should your new corporation authorize? How did you arrive at your number?
- L0** 14.1 What factors should a new company consider in deciding in which state to incorporate?
- L0** 14.1 What are some of the reasons a business owner might choose the corporate form of business?
- L0** 14.2 Why would a company repurchase its own stock?
- L0** 14.2 The following data was reported by Saturday Corporation:
  - Authorized shares: 30,000
  - Issued shares: 25,000
  - Treasury shares: 5,000How many shares are outstanding?
- L0** 14.2 A corporation issues 6,000 shares of \$1 par value stock for a parcel of land valued at \$12,000. Prepare the journal entry to reflect this transaction.
- L0** 14.2 When corporations issue stock in exchange for professional services, what account(s) should be debited and what account(s) should be credited?

9. **LO 14.2** A corporation issues 5,000 shares of \$1 par value stock for some equipment with a clearly determined value of \$10,000. Prepare the journal entry to reflect this transaction.
10. **LO 14.3** On April 2, West Company declared a cash dividend of \$0.50 per share. There are 50,000 shares outstanding. What is the journal entry that should be recorded?
11. **LO 14.3** Assuming the same facts as [Exercise 59.](#), what is the journal that should be recorded on May 5, the date of payment?
12. **LO 14.3** When does a corporation incur a liability for a dividend?
13. **LO 14.3** How does a stock split affect the balance sheet of a corporation?
14. **LO 14.4** Your friend has questions about retained earnings and dividends. How do you explain to him that dividends are paid out of retained earnings?
15. **LO 14.4** What does owners' equity mean for the owner?
16. **LO 14.4** What types of transactions reduce owner's equity? What types of transactions reduce retained earnings? What do they have in common?
17. **LO 14.4** Sometimes financial statements contain errors. What type of liabilities may need correction as a prior period adjustment?
18. **LO 14.4** Retained earnings may be restricted or appropriated. Explain the difference between the two and give an example of when each may be used.
19. **LO 14.5** Which financial statements do you need to calculate EPS?
20. **LO 14.5** Where is EPS disclosed for publicly traded companies?
21. **LO 14.5** Should investors rely on EPS as an investing tool? Why or why not?
22. **LO 14.5** What information do you need to calculate the weighted average common shares outstanding?
23. **LO 14.5** Which is the only ratio required to be reported on the face of a company's financial statements? What are the two ways the ratio is required to be reported?



## Exercise Set A

- EA1. LO 14.1** You are an accountant working for a company that has recently decided to incorporate. The company has incurred \$4,300 for attorney's fees, promotion costs, and filing fees with the state of incorporation as a part of organizing the corporate entity. What is the journal entry to record these costs on March 13, assuming they are paid in cash?
- EA2. LO 14.1** What is the impact on stockholders' equity when a company uses debt financing as a source of funding?
- EA3. LO 14.1** What is the most obvious difference between debt and equity financing?
- EA4. LO 14.1** How do creditors assess risk when lending funds to a company?

**EA5.** **L0** 14.2 Fortuna Company is authorized to issue 1,000,000 shares of \$1 par value common stock. In its first year, the company has the following transactions:

Jan. 31	Issued 40,000 shares at \$10 share
Jun. 10	Issued 100,000 shares in exchange for land with a clearly determined value of \$850,000
Aug. 3	Purchased 10,000 shares of treasury stock at \$9 per share

Journalize the transactions and calculate how many shares of stock are outstanding at August 3.

**EA6.** **L0** 14.2 James Incorporated is authorized to issue 5,000,000 shares of \$1 par value common stock. In its second year of business, the company has the following transactions:

Mar. 31	Issued 30,000 shares at \$10 share
Jul. 9	Issued 100,000 shares in exchange for a building with a clearly determined value of \$700,000
Aug. 30	Purchased 7,000 shares of treasury stock at \$9 per share

Journalize the transactions.

**EA7.** **L0** 14.2 McVie Corporation's stock has a par value of \$2. The company has the following transactions during the year:

Feb. 28	Issued 300,000 shares at \$5 share
Jun. 7	Issued 90,000 shares in exchange for equipment with a clearly determined value of \$200,000
Sep. 19	Purchased 3,000 shares of treasury stock at \$7 per share

Journalize the transactions.

**EA8.** **L0** 14.2 Anslo Fabricating, Inc. is authorized to issue 10,000,000 shares of \$5 stated value common stock. During the year, the company has the following transactions:

Jan. 3	Issued 60,000 shares at \$10 share
Jun. 15	Issued 5,000 shares in exchange for office equipment with a clearly determined value of \$50,000
Aug. 16	Purchased 4,000 shares of treasury stock at \$20 per share

Journalize the transactions.

**EA9.** **L0** 14.2 St. Marie Company is authorized to issue 1,000,000 shares of \$5 par value preferred stock, and 5,000,000 shares of \$1 stated value common stock. During the year, the company has the following transactions:

Jan. 31	Issued 140,000 common shares at \$10 share
Jun. 10	Issued 160,000 preferred shares in exchange for land with a clearly determined value of \$850,000
Aug. 3	Issued 10,000 shares of common stock for \$9 per share

Journalize the transactions.

**EA10.** **L0** 14.3 Nutritious Pet Food Company's board of directors declares a cash dividend of \$1.00 per common share on November 12. On this date, the company has issued 12,000 shares but 2,000 shares are held as treasury shares. What is the journal entry to record the declaration of this dividend?

**EA11.** **L0** 14.3 Nutritious Pet Food Company's board of directors declares a cash dividend of \$1.00 per common share on November 12. On this date, the company has issued 12,000 shares but 2,000 shares are held as treasury shares. The company pays the dividend on December 14. What is the journal entry to record the payment of the dividend?

**EA12.** **L0** 14.3 Nutritious Pet Food Company's board of directors declares a cash dividend of \$5,000 on June 30. At that time, there are 3,000 shares of \$5 par value 5% preferred stock outstanding and 7,000 shares of \$1 par value common stock outstanding (none held in treasury). What is the journal entry to record the declaration of the dividend?

**EA13.** **L0** 14.3 Nutritious Pet Food Company's board of directors declares a small stock dividend (20%) on June 30 when the stock's market value per share is \$30. At that time, there are 10,000 shares of \$1 par value common stock outstanding (none held in treasury). What is the journal entry to record the declaration of the dividend?

**EA14.** **L0** 14.4 Blanket Company has paid quarterly dividends every quarter for the past 15 years. Lately, slowing sales have created a cash crunch for the company. While the company still has positive retained earnings, the retained earnings balance is close to zero. Should the company borrow to continue to pay dividends? Why or why not?

**EA15.** **L0** 14.4 Farmington Corporation began the year with a retained earnings balance of \$20,000. The company paid a total of \$3,000 in dividends and earned a net income of \$60,000 this year. What is the ending retained earnings balance?

**EA16.** **L0** 14.4 Montana Incorporated began the year with a retained earnings balance of \$50,000. The company paid a total of \$5,000 in dividends and experienced a net loss of \$25,000 this year. What is the ending retained earnings balance?

**EA17.** **LO 14.4** Jesse and Mason Fabricating, Inc. general ledger has the following account balances at the end of the year:

Cash	9,000
Common stock	5,000
Accounts receivable	7,000
Accounts payable	2,000
Additional paid-in capital	4,000
Prepaid insurance	5,000
Unearned revenue	4,000
Retained earnings	6,000

What is the total ending balance as reported on the company's Statement of Stockholder's Equity?

**EA18.** **LO 14.4** Roxanne's Delightful Candies, Inc. began the year with a retained earnings balance of \$45,000. The company had a great year and earned a net income of \$80,000. However, the company's controller determined that it had made an error when calculating depreciation in the preceding year, resulting in an understated depreciation expense amount of \$2,000. What is the ending retained earnings balance?

**EA19.** **LO 14.5** Jupiter Corporation earned net income of \$90,000 this year. The company began the year with 600 shares of common stock and issued 500 more on April 1. They issued \$5,000 in preferred dividends for the year. What is Jupiter Corporation's weighted average number of shares for the year?

**EA20.** **LO 14.5** Longmont Corporation earned net income of \$90,000 this year. The company began the year with 600 shares of common stock and issued 500 more on April 1. They issued \$5,000 in preferred dividends for the year. What is the numerator of the EPS calculation for Longmont?

**EA21.** **LO 14.5** James Corporation earned net income of \$90,000 this year. The company began the year with 600 shares of common stock and issued 500 more on April 1. They issued \$5,000 in preferred dividends for the year. What is the EPS for the year for James (rounded to the nearest dollar)?



## Exercise Set B

**EB1.** **LO 14.1** Your high school friend started a business that has blossomed over the years, and she is considering incorporating so she can sell shares of stock and expand. She has asked you for help understanding the process she will need to undertake. How do you explain the process of incorporation to her?

**EB2.** **LO 14.1** You are an accountant working for a manufacturing company that makes personal care products and has recently decided to incorporate. The company incurred a total of \$7,900 for attorney's fees, promotion costs, and filing fees with the state of incorporation as a part of organizing the corporate entity. What is the journal entry to record these costs on February 28, assuming they are paid in cash?

**EB3.** **LO 14.1** What is the impact on stockholders' equity when a company uses equity financing as a source of funding?

**EB4.** **LO 14.1** What is the biggest disadvantage to be considered when exploring the option of equity financing versus debt financing?

**EB5.** **LO 14.1** Your high school friend started a business that has blossomed over the years, and he is considering incorporating so he can sell shares of stock and expand. He has asked you for help understanding the costs of incorporating. What are some of the costs that he will face as he organizes the corporation and begins to sell shares of stock?

**EB6.** **LO 14.2** Spring Company is authorized to issue 500,000 shares of \$2 par value common stock. In its first year, the company has the following transactions:

Mar. 1	Issued 40,000 shares of stock at \$9.75 per share
Apr. 10	Issued 1,000 shares of stock for legal services valued at \$10,000.
Oct. 3	Purchased 1,000 shares of treasury stock at \$9 per share

Journalize the transactions and calculate how many shares of stock are outstanding at August 3.

**EB7.** **LO 14.2** Silva Company is authorized to issue 5,000,000 shares of \$2 par value common stock. In its IPO, the company has the following transaction: Mar. 1, issued 500,000 shares of stock at \$15.75 per share for cash to investors. Journalize this transaction.

**EB8.** **LO 14.2** Juniper Company is authorized to issue 5,000,000 shares of \$2 par value common stock. In conjunction with its incorporation process and the IPO, the company has the following transaction: Mar. 1, issued 4,000 shares of stock in exchange for equipment worth \$250,000. Journalize the transaction.

**EB9.** **LO 14.2** Vishnu Company is authorized to issue 500,000 shares of \$2 par value common stock. In conjunction with its incorporation process and the IPO, the company has the following transaction: Apr. 10, issued 1,000 shares of stock for legal services valued at \$15,000. Journalize the transaction.

**EB10.** **LO 14.2** Ammon Company is authorized to issue 500,000 shares of \$5 par value preferred stock. In its first year, the company has the following transaction: Mar. 1, issued 40,000 shares of preferred stock at \$20.50 per share. Journalize the transaction.

**EB11.** **LO 14.3** Nutritious Pet Food Company's board of directors declares a small stock dividend (20%) on June 30 when the stock's market value per share is \$30. At that time, there are 10,000 shares of \$1 par value common stock outstanding (none held in treasury). What is the journal entry to record the stock dividend distribution on July 31?

**EB12.** **LO 14.3** Nutritious Pet Food Company's board of directors declares a large stock dividend (50%) on June 30 when the stock's market value per share is \$30. At that time, there are 10,000 shares of \$1 par value common stock outstanding (none held in treasury). What is the journal entry to record the declaration of the dividend?

**EB13.** **LO 14.3** Nutritious Pet Food Company's board of directors declares a large stock dividend (50%) on June 30 when the stock's market value per share is \$30. At that time, there are 10,000 shares of \$1 par value common stock outstanding (none held in treasury). What is the journal entry to record the stock dividend distribution on July 31?

**EB14.** **LO 14.3** Nutritious Pet Food Company's board of directors declares a 2-for-1 stock split on June 30 when the stock's market value per share is \$30. At that time, there are 10,000 shares of \$1 par value common stock outstanding (none held in treasury). What is the new par value of the shares and how many shares are outstanding after the split?

**EB15.** **L0** 14.3 Nutritious Pet Food Company's board of directors declares a 2-for-1 stock split on June 30 when the stock's market value per share is \$30. At that time, there are 10,000 shares of \$1 par value common stock outstanding (none held in treasury). What is the new par value of the shares and how many shares are outstanding after the split? What is the total amount of equity before and after the split?

**EB16.** **L0** 14.4 Birmingham Company has been in business for five years. Last year, it experienced rapid growth and hired a new accountant to oversee the physical assets and record acquisitions and depreciation. This year, the controller discovered that the accounting records were not in order when the new accountant took over, and a \$3,000 depreciation entry was omitted resulting in depreciation expense being understated last year. How does the company make this type of correction and where is it reported?

**EB17.** **L0** 14.4 Chelsea Company is a sole proprietorship. Ashley, Incorporated is a corporation. Which company would report stockholder's equity and retained earnings and not simply owner's equity? Why? What is the difference between these accounts?

**EB18.** **L0** 14.4 Tart Restaurant Holdings, Incorporated began the year with a retained earnings balance of \$950,000. The company paid a total of \$14,000 in dividends and experienced a net loss of \$20,000 this year. What is the ending retained earnings balance?

**EB19.** **L0** 14.4 Josue Fabricating, Inc.'s accountant has the following information available to prepare the Statement of Stockholder's Equity for the year just ended.

Cash	19,000
Common stock	15,000
Accounts receivable	17,000
Accounts payable	12,000
Preferred stock	18,000
Additional paid-in capital	14,000
Prepaid insurance	15,000
Unearned revenue	14,000
Retained earnings	16,000

What is the total balance on the company's Statement of Stockholder's Equity? What is the amount of the contributed capital?

**EB20.** **L0** 14.4 Trumpet and Trombone Manufacturing, Inc. began the year with a retained earnings balance of \$545,000. The company had a great year and earned a net income of \$190,000 this year and paid dividends of \$14,000. Additionally, the company's controller determined that it had made an error when calculating tax expense in the preceding year, resulting in an understated expense amount of \$22,000. What is the ending retained earnings balance?

**EB21.** **L0** 14.5 Brunleigh Corporation earned net income of \$200,000 this year. The company began the year with 10,000 shares of common stock and issued 5,000 more on April 1. They issued \$7,500 in preferred dividends for the year. What is Brunleigh Corporation's weighted average number of shares for the year?

**EB22.** **L0** 14.5 Errol Corporation earned net income of \$200,000 this year. The company began the year with 10,000 shares of common stock and issued 5,000 more on April 1. They issued \$7,500 in preferred dividends for the year. What is the numerator of the EPS calculation for Errol?

**EB23.** **L0** 14.5 Bastion Corporation earned net income of \$200,000 this year. The company began the year with 10,000 shares of common stock and issued 5,000 more on April 1. They issued \$7,500 in preferred dividends for the year. What is the EPS for the year for Bastion?



## Problem Set A

**PA1.** **LO 14.1** You are a CPA who has been hired by DEF Company to assist with their initial public offering. Prepare a memo to the president of DEF outlining the steps you will take to launch the IPO.

**PA2.** **LO 14.1** You are a CPA who has been hired by DEF Company to assist with their incorporation process. Prepare a memo to the president of DEF explaining the different statuses of shares of stock: authorized shares, issued shares, outstanding shares, and treasury shares.

**PA3.** **LO 14.1** You are a CPA who has been hired by DEF Company to assist with their initial public offering. Prepare a memo to the president of DEF outlining the two most significant values, market value and par value, associated with stock.

**PA4.** **LO 14.2** Wingra Corporation was organized in March. It is authorized to issue 500,000 shares of \$100 par value 8% preferred stock. It is also authorized to issue 750,000 shares of \$1 par value common stock. In its first year, the corporation has the following transactions:

Mar. 1	Issued 10,000 shares of preferred stock at \$115 per share
Mar. 2	Issued 120,000 shares of common stock at \$12.50 per share
Apr. 10	Issued 15,000 shares of common stock for equipment valued at \$196,000. The stock is currently trading at \$12 per share, and is a more reliable indicator of the value of the equipment.
Jun. 12	Issued 10,000 shares of common stock at \$15 per share
Aug. 5	Issued 1,000 shares of preferred stock at \$112 per share

Journalize the transactions.

**PA5.** **LO 14.2** Copper Corporation was organized in May. It is authorized to issue 50,000,000 shares of \$200 par value 7% preferred stock. It is also authorized to issue 75,000,000 shares of \$5 par value common stock. In its first year, the corporation has the following transactions:

May 1	Issued 1,000 shares of preferred stock for cash at \$250 per share
May 23	Issued 2,000 shares of common stock at \$15.50 per share
Jun. 10	Issued 15,000 shares of common stock for equipment without a readily determinable value. The stock is currently trading at \$15 per share.

Journalize the transactions.

**PA6.** **LO 14.2** Ellajane Corporation was organized several years ago and was authorized to issue 4,000,000 shares of \$50 par value 6% preferred stock. It is also authorized to issue 1,750,000 shares of \$1 par value common stock. In its fifth year, the corporation has the following transactions:

Mar. 1	Purchased 1,000 shares of its own common stock at \$11 per share
Apr. 10	Reissued 500 shares of its common stock held in the treasury for \$15 per share.
Jun. 12	Reissued 500 shares of common stock at \$9 per share

Journalize the transactions.

**PA7.** **LO 14.3** Aggregate Mining Corporation was incorporated five years ago. It is authorized to issue 500,000 shares of \$100 par value 8% preferred stock. It is also authorized to issue 750,000 shares of \$1 par value common stock. It has issued only 50,000 of the common shares and none of the preferred shares. In its sixth year, the corporation has the following transactions:

Mar. 1	Declares a cash dividend of \$2 per share
Mar. 30	Pays the cash dividend
Jul. 10	Declares a 5% stock dividend when the stock is trading at \$15 per share
Aug. 5	Issues the stock dividend

Journalize these transactions.

**PA8.** **LO 14.3** Aggregate Mining Corporation was incorporated five years ago. It is authorized to issue 500,000 shares of \$100 par value 8% preferred stock. It is also authorized to issue 750,000 shares of \$1 par value common stock. It has issued only 50,000 of the common shares and none of the preferred shares. In its seventh year, the corporation has the following transactions:

Mar. 1	Declares a cash dividend of \$5 per share
Mar. 30	Pays the cash dividend
Jul. 10	Declares a property dividend of 1/2 ton of limestone per share when the price of limestone is \$25 per ton

Journalize these transactions.

**PA9.** **LO 14.3** Aggregate Mining Corporation was incorporated five years ago. It is authorized to issue 500,000 shares of \$100 par value 8% cumulative preferred stock. It is also authorized to issue 750,000 shares of \$6 par value common stock. It has issued 50,000 of the common shares and 1,000 of the cumulative preferred shares. The corporation has never declared a dividend and the preferred shares are one year in arrears. Aggregate Mining has the following transactions this year:

Mar. 1	Declares a cash dividend of \$20,000
Mar. 30	Pays the cash dividend
Jul. 10	Declares a 3-for-1 stock split of its common shares

Journalize these transactions. For the stock split, show the calculation for how many shares are outstanding after the split and the par value per share after the split

**PA10.** **LO 14.4** The board of directors is interested in investing in a new technology. Appropriating existing retained earnings is a choice for funding the new technology. You are a consultant to the board. How would you explain this option to the board members so that they could make an educated decision?

**PA11.** **LO 14.4** You are a consultant for several emerging, high-growth technology firms that were started locally and have been a part of a business incubator in your area. These firms start out as sole proprietorships but quickly realize the need for more capital and often incorporate. One of the common questions you are asked is about stockholder's equity. Explain the characteristics and functions of the retained earnings account and how the account is different from contributed capital.

**PA12.** **LO 14.4** You are the accountant for Kamal Fabricating, Inc. and you oversee the preparation of financial statements for the year just ended 6/30/2020. You have the following information from the company's general ledger and other financial reports (all balances are end-of-year except for those noted otherwise):

Cash	\$9,000
Common stock	5,000
Accounts receivable	7,000
Accounts payable	2,000
Cash dividends declared for the year	1,000
Additional paid-in capital	4,000
Prepaid insurance	5,000
Prior period adjustment net of income tax	(2,000)
Unearned revenue	4,000
Retained earnings, beginning of the year	6,000
Net income for the year	9,000

Prepare the company's Statement of Retained Earnings.

**PA13.** **LO 14.5** You have some funds that you would like to invest. Do some internet research to find two publicly traded companies in the same industry and compare their earnings per share. Would the earnings per share reported by each company influence your decision in selecting which company to invest in?

**PA14.** **LO 14.5** You are a consultant working with various companies that are considering incorporating and listing shares on a stock exchange. Explain the importance of the EPS calculation to financial analysts who follow companies on the stock exchanges.



## Problem Set B

**PB1.** **LO 14.1** You are the president of Duke Company and are leading the company through the process of incorporation. The next step is determining the type of stock the company should offer. You are relying on feedback from several key executives at Duke to help you assess the wisdom in this decision. Prepare a memo to your executive team outlining the differences between common stock and preferred stock. The memo should be complete enough to assist them with assessing differences and providing you with robust feedback.

**PB2.** **LO 14.1** You are the president of Duke Company and are leading the company through the process of incorporation. The company has determined that common stock shares will be issued, but several key executives at Duke are not quite sure they understand the preemptive right feature associated with common shares. Prepare a memo to your executive team outlining the meaning of this right.

**PB3.** **LO 14.2** Autumn Corporation was organized in August. It is authorized to issue 100,000 shares of \$100 par value 7% preferred stock. It is also authorized to issue 500,000 shares of \$5 par value common stock. During the year, the corporation had the following transactions:

Aug. 22	Issued 2,000 shares of preferred stock at \$105 per share
Sep. 3	Issued 80,000 shares of common stock at \$13.25 per share
Oct. 11	Issued 12,000 shares of common stock for land valued at \$156,000. The stock is currently trading at \$12 per share, and the stock's trading value is a more accurate determinant of the land's value.
Nov. 12	Issued 5,000 shares of common stock at \$15 per share
Dec. 5	Issued 1,000 shares of preferred stock at \$112 per share

Journalize the transactions.

**PB4.** **LO 14.2** MacKenzie Mining Corporation is authorized to issue 50,000 shares of \$500 par value 7% preferred stock. It is also authorized to issue 5,000,000 shares of \$3 par value common stock. In its first year, the corporation has the following transactions:

May 1	Issued 3,000 shares of preferred stock for cash at \$750 per share
May 23	Issued 6,000 shares of common stock at \$12.50 per share
Jun. 10	Issued 5,000 shares of common stock for equipment without a readily determinable value. The stock is currently trading at \$11 per share

Journalize the transactions.

**PB5.** **LO 14.2** Paydirt Limestone, Incorporated was organized several years ago and was authorized to issue 3,000,000 shares of \$40 par value 9% preferred stock. It is also authorized to issue 3,750,000 shares of \$2 par value common stock. In its fifth year, the corporation has the following transactions:

Mar. 1	Purchased 2,000 shares of its own common stock at \$15 per share
Apr. 10	Reissued 1,000 shares of its common stock held in the treasury for \$18 per share.
Jun. 12	Reissued 1,000 shares of common stock at \$12 per share

Journalize the transactions.

**PB6.** **LO 14.3** Tent & Tarp Corporation is a manufacturer of outdoor camping equipment. The company was incorporated ten years ago. It is authorized to issue 50,000 shares of \$10 par value 5% preferred stock. It is also authorized to issue 500,000 shares of \$1 par value common stock. It has issued 5,000 common shares and none of the preferred shares. Tent & Tarp has the following transactions:

Mar. 1	Declares a cash dividend of \$3 per share
Mar. 30	Pays the cash dividend
Jul. 10	Declares a 35% stock dividend when the stock is trading at \$15 per share
Aug. 5	Issues the stock dividend

Journalize these transactions.

**PB7.** **LO 14.3** Tent & Tarp Corporation is a manufacturer of outdoor camping equipment. The company was incorporated ten years ago. It is authorized to issue 50,000 shares of \$10 par value 5% preferred stock. It is also authorized to issue 500,000 shares of \$1 par value common stock. It has issued 5,000 common shares and none of the preferred shares. Tent & Tarp has the following transactions:

Mar. 1	Declares a cash dividend of \$5 per share
Mar. 30	Pays the cash dividend
Jul. 10	Declares a property dividend of one 6-person camping tent per share of stock when the price per tent is \$150.

Journalize these transactions.

**PB8.** **LO 14.3** Tent & Tarp Corporation is a manufacturer of outdoor camping equipment. The company was incorporated ten years ago. It is authorized to issue 50,000 shares of \$10 par value 5% preferred stock. It is also authorized to issue 500,000 shares of \$1 par value common stock. It has issued 5,000 common shares and 2,000 of the preferred shares. The corporation has never declared a dividend and the preferred shares are one year in arrears. Tent & Tarp has the following transactions:

Mar. 1	Declares a cash dividend of \$10,000
Mar. 30	Pays the cash dividend
Jul. 10	Declares a 5-for-1 stock split of its common shares

Journalize these transactions. For the stock split, show the calculation for how many shares are outstanding after the split and the par value per share after the split

**PB9.** **LO 14.4** You are a CPA working with sole proprietors. Several of your clients are considering incorporating because they need to expand and grow. One client is curious about how her financial reports will change. She's heard that she may need to prepare a statement of retained earnings and a statement of stockholder's equity. She's confused about the difference between the two and what they report. How would you explain the characteristics and functions of the two types of statements?

**PB10.** **LO 14.4** You are a consultant for several emerging, high growth technology firms that were started locally and have been a part of a business incubator in your area. These firms start out as sole proprietorships but quickly realize the need for more capital and often incorporate. One of the common questions you get is about stockholder's equity. Explain the key ways the companies need to view retained earnings if they want to use it as a source of capital for future expansion and growth after incorporating.

**PB11.** **LO 14.4** You are the accountant for Trumpet and Trombone Manufacturing, Inc. and you oversee the preparation of financial statements for the year just ended 6/30/2020. You have the following information from the company's general ledger and other financial reports (all balances are end-of-year except for those noted otherwise):

Cash	18,000
Common stock	16,000
Accounts receivable	19,000
Accounts payable	11,000
Cash dividends declared for the year	12,000
Additional paid-in capital	17,000
Prepaid insurance	15,000
Unearned revenue	14,000
Retained earnings, beginning of the year	26,000
Net income for the year	39,000

Prepare the company's Statement of Retained Earnings

**PB12.** **LO 14.5** You have some funds that you would like to invest and you are relying heavily on the EPS calculation to help you make your decision. Initially you are baffled about why preferred dividends are subtracted in the numerator and why a weighted average is used in the denominator, so you do some research and reflection and come to understand why. Your friend is interested in hearing about your thought process. How would you explain to your friend why it's important to subtract preferred dividends and to use weighted averages?

**PB13.** **LO 14.5** You are a consultant working with various companies that are considering incorporating and listing shares on a stock exchange. One of your clients asks you about the various acronyms she has been hearing in conjunction with financial analysis. Explain the following acronyms and how they measure different things but may complement each other: EPS (earnings per share), EBITDA (earnings before interest, taxes, depreciation, and amortization), and NOPAT (net operating profit after taxes).



## Thought Provokers

**TP1.** **LO 14.1** Your bakery is incorporated and is looking for investors. Write a one paragraph story of why investors should buy stock in your company. What makes your bakery special?

**TP2.** **LO 14.1** Do some research: why did **Facebook** choose to reincorporate in Delaware?

**TP3.** **LO 14.1** Do some research: why is **Comcast** incorporated in Pennsylvania?

**TP4.** **LO 14.2** On November 7, 2013, **Twitter** released its initial public offering (IPO) priced at \$26 per share. When the day ended, it was priced at \$44.90, reportedly making about 1600 people into millionaires in a single day.<sup>[20]</sup> At the time it was considered a successful IPO. Four years later, **Twitter** is trading at around \$18 per share. Why do you think that occurred? Is **Twitter** profitable? How can you find out?

**TP5.** **LO 14.2** Research online to find a company that bought back shares of its own stock (treasury stock) within the last 6–12 months. Why did it repurchase the shares? What happened to the company's stock price immediately after the repurchase and in the months since then? Is there any reason to think the repurchase impacted the price?

**TP6.** **LO 14.3** As a bakery business continues to grow, cash flow has become more of a concern. The board of directors would like to maintain the market share price, so a discussion ensues about issuing a stock dividend versus a cash dividend. As a newly appointed board member you listen to the conversation and need to cast your vote. Which do you vote for: stock dividend or cash dividend?

**TP7.** **LO 14.3** Use the internet to find a company that declared a stock split within the last 1–2 years. Why did it declare the split? What happened to the company's stock price immediately after the split and in the months since then? Is there any reason to think the split impacted the price?

**TP8.** **LO 14.4** Use the internet to find a publicly-held company's annual report. Locate the section reporting Stockholder's Equity. Assume that you work for a consulting firm that has recently taken on this firm as a client, and it is your job to brief your boss on the financial health of the company. Write a short memo noting what insights you gather by looking at the Stockholder's Equity section of the financial reports.

**TP9.** **LO 14.4** Use the internet to find a publicly-held company's annual report. Locate the section that comments on the Stockholder's Equity section of the financial reports. What additional insights are you able to learn by looking further into the commentary? Is there anything that surprised you or that you think is missing and could help you if you were deciding whether to invest \$100,000 of your savings in this company's stock?

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20 Julie Bort. "Twitter's IPO Created 1,600 New Millionaires and a \$2.2 Billion Tax Bill, Analyst Says." *Business Insider*. November 11, 2013. <http://www.businessinsider.com/twitter-ipo-created-1600-millionaires-2013-11>



## Partnership Accounting

**Figure 15.1** Partnership. Dale, Ciara, and Remi discuss operations of a landscape architecture company and need to decide on a business model. Should they choose a partnership? (credit: modification of “Business Meeting Architect” by “889520”/Pixabay, CC0)

### Chapter Outline

- LO 15.1** Describe the Advantages and Disadvantages of Organizing as a Partnership
- LO 15.2** Describe How a Partnership Is Created, Including the Associated Journal Entries
- LO 15.3** Compute and Allocate Partners’ Share of Income and Loss
- LO 15.4** Prepare Journal Entries to Record the Admission and Withdrawal of a Partner
- LO 15.5** Discuss and Record Entries for the Dissolution of a Partnership

### Why It Matters

As a recent graduate of a landscape architecture program, Ciara is ready to start her professional career. Dale, her friend from high school, has started a small lawn mowing and hardscape business and wants to expand his services. Ciara and Dale sit down and work out that if they combine their talents, they will be able to take advantage of a growing need in their local housing market. They agree to form a partnership, and together they decide what each person will contribute to the business. Ciara has committed to invest cash, and Dale will contribute assets he has acquired in his business. In addition to the assets that each will provide, Ciara will contribute her expertise in landscape design, while Dale will contribute his experience in property maintenance and stonework/wood design and construction.

They set out on their adventure, creating a partnership agreement and detailing the roles each will play in this newly created partnership. At first, business is great and they work well together. There is one problem: they have more business than they can handle, and they are getting requests for services they currently don’t provide. However, Ciara’s friend Remi is a pond installer. From speaking with Remi, she knows he is very

dedicated and has a vast customer base. She realizes that if he joins the partnership, the company can handle all the business demand better. Therefore, Ciara and Dale decide to amend the partnership agreement and admit Remi as a new one-third partner.

## 15.1 Describe the Advantages and Disadvantages of Organizing as a Partnership

A **partnership** is legal business structure consisting of an association of two or more people who contribute money, property, or services to operate as co-owners of a business. When discussing partnerships as a form of business ownership, the term *person* can refer to individuals, corporations, or even other partnerships. However, in this chapter, all the partners are individuals.

### THINK IT THROUGH

#### Choosing a Partner

In some ways, a partnership is like a marriage; choosing a partner requires a great deal of thought. How do you know whether you and your potential partner or partners will be a good fit? A strong partnership agreement is one way to help settle future disagreements.

But before you get that far, it is really important to take a hard look at future partners. How do they deal with stressful situations? What skills and assets do they possess that you do not, and vice versa? What work ethic do they exemplify? Do they procrastinate? Are they planners? Do they get along with others? Do the two of you work well with each other?

All these questions and many more should be explored before choosing business partners. While you cannot predict the future or see all possible issues, doing your due diligence will help.

What other questions can you think of that would help you decide whether someone will be a good business partner for you?

## Characteristics of a Partnership

Just like a corporation, a partnership is a legal entity. It can own property and can be held legally liable for its actions. It is a separate entity from its owners, the **partners**. Partnerships have several distinct characteristics that set them apart from other entity types. The most common characteristics of a partnership are the following:

- **Formation by agreement.** A partnership is formed by voluntary membership or association. The partners must have an agreement about who contributes assets or services, who performs what functions of the business, and how profits and losses and any additional compensation are shared. Ideally, this agreement should be in writing; however, if not, the Uniform Partnership Act or the Revised Uniform Partnership Act (RUPA) governs in areas of disagreement, depending on the state in which the partnership is located.
- **Defined or limited life.** Typically, the life term of the partnership is established by agreement. Unlike corporations, which have an unlimited life, partnerships end when a new partner is accepted or a partner leaves (and a new partnership may be created), or the partnership dissolves.

- **Mutual agency.** In a partnership, partners are considered agents of the entity. **Mutual agency** give each partner the ability to act as an agent for the partnership in dealing with outside entities such as vendors and lenders. The partnership is then bound by the actions of each partner acting within the scope of partnership activities.
- **Unlimited liability.** Due to mutual agency, any partner has the ability to incur debt for the partnership. Regardless of who negotiated the debt, each partner is liable to pay it if the debt was incurred to further partnership activities. There are exceptions to this, but only for partners who meet limited partnership standards (which you will learn about later in this chapter). If you are considered a general partner, you are liable for the business's debt.
- **Non-taxable income at partnership level.** The net income of a partnership is not subject to federal taxation at the partnership level, despite the company's being a separate legal entity from its partners. Instead, its income or loss is allocated among the partners based upon the partnership agreement and tax legislation, and the allocation is reported on each partner's Tax Form K-1. The tax information on each partner's K-1 is then incorporated into each partner's individual tax return, and tax is paid at each individual partner's relevant tax rate.

Income tax is levied on the partners regardless of how much of that taxable income is actually withdrawn by the partner in a given year. For example, assume that a partner earned \$20,000 in taxable income from a partnership in 2019 and withdrew \$25,000 as a draw. The partner's taxable income from the partnership for the year is \$20,000. Draws are not considered taxable income. Instead, they are withdrawals from a partner's capital account. However, the \$25,000 draw in this example reduces the partner's capital account by \$25,000.
- **Co-ownership of property.** In a partnership, assets are jointly owned by all partners. If a dissolution occurs, each partner retains a claim on the total assets proportional to that partner's equity in the organization. The rule presented herein does not apply to specific assets.
- **Limited capital investment.** Unlike a corporation, which is able to raise capital investments by issuing stock, partners do not have the ability to raise capital except by incurring additional debt or agreeing to contribute more of their personal assets. This limits the partnerships' ability for rapid expansion.
- **Participation in both income and loss.** The net income or loss of the partnership is distributed as specified in the partnership agreement. If the arrangement is not specified in the partnership agreement, all partners participate equally in net income or losses.

## IFRS CONNECTION

### Partnerships and IFRS

You've learned how partnerships are formed, and you will soon learn how partnership capital and income can be allocated and what happens to the capital structure when a partner is added or subtracted. But how does a partnership account for normal day-to-day business transactions?

Partnership organizations can be very small, very large, or any size in between. What type of accounting rules do partnerships use to record their daily business activities? Partnerships can choose among various forms of accounting. The options broadly include using a cash basis, a tax basis, and a full accrual basis to track transactions. When choosing to use the full accrual basis of accounting, partnerships apply U.S. GAAP rules in their accounting processes. But you may be surprised to learn that some non-publicly

traded partnerships in the United States can use IFRS, or a simpler form of IFRS known as IFRS for Small and Medium Sized Entities (SMEs). In 2008, the AICPA designated IFRS and IFRS for SMEs as acceptable sets of generally accepted accounting principles. However, it is up to each State Board of Accountancy to determine whether that state will allow the use of IFRS or IFRS for SMEs by non-public entities incorporated in that state.

Despite the use of size descriptors in the title, qualifying as a small- or medium-sized entity has nothing to do with size. A SME is any entity that publishes general purpose financial statements for public use but does not have public accountability. In other words, the entity is not publicly traded. In addition, the entity, even if it is a partnership, cannot act as a fiduciary; for example, it cannot be a bank or insurance company and use SME rules.

Why might a partnership want to use IFRS for SMEs? First, IFRS for SMEs contains fewer and simpler standards. IFRS for SMEs is only about 300 pages in length, whereas regular IFRS is over 2,500 pages long and U.S. GAAP is over 25,000 pages. Second, IFRS for SMEs is modified only every three years, whereas U.S. GAAP and IFRS are modified more frequently. This means entities using IFRS for SMEs don't have to adjust their accounting systems and reporting to new standards as frequently. Finally, if a partnership transacts business with international businesses or hopes to attract international partners, seek capital from international sources, or be bought out by an international company, having its financial statements in IFRS form can make these transactions easier.

## Advantages of Organizing as a Partnership

When it comes to choosing a legal structure or form for your business, the most common options are sole proprietorships, partnerships, and different forms of corporations, each with advantages and disadvantages. Partnerships have several advantages over other forms of business entities, as follows:

- **Exemption from taxation at the partnership level.** A significant advantage to forming a partnership is the exemption from taxation as a business entity. In other words, although the individual partners are taxed at the individual level, the partnership itself (as a business unit) is not subject to income tax. The tax characteristics of a partnership “flow through” to the individual partners.
- **Ease and lower cost of formation.** Most business regulations tend to be written for corporations, which is to be expected given the complexities of many such companies. Partnerships, on the other hand, are simpler and have to comply with fewer regulations. Also, without shareholders, partnerships have fewer reporting requirements. The partnership formation paperwork also tends to be less cumbersome than that for other entities in most states. Overall, partnerships are simple to form, alter, and terminate.
- **Combined skills and financial resources.** Combining business acumen and financial assets can give a partnership an advantage over sole proprietorships.
- **Flexibility in managing and running the business.** Partnerships are often simpler to manage and run than other business structures (except for most sole proprietorships), and they can offer more management flexibility as well if the partners generally agree on management issues. Since there is no board of directors overseeing operations, partnerships can be nimble and make speedy changes—again, as long as the partners agree.
- **Easily changed business structure.** It is a relatively easy process to convert a partnership to a corporation in the future. With no shareholders to consider, a partnership's capital can be converted to shares of common stock.

- **Informality.** Unlike publicly traded corporations, partnerships do not need to prepare articles of incorporation, write bylaws, issue stock certificates to owners, document minutes or board meetings, pay incorporation fees to states, or file quarterly financial statements with the SEC. However, it is advised that partners create a written document detailing decision on issues such as profit sharing, dispute resolution procedures, partnership changes, and other terms that the partners might agree upon to prevent future complications.

## YOUR TURN

### All in the Family

Family partnerships are frequently utilized to allow family members to pool resources for investment purposes and to transfer assets in a tax-efficient manner. In what ways can you imagine using a family partnership?

#### Solution

Cash can be combined to purchase income-producing properties or other investments without having to sell assets, thus keeping costly investments all in the family. Through a family partnership, it becomes possible for those in high net worth tax brackets to transfer assets and wealth to younger generations in a way that reduces potential estate and gift taxes. For example, a family partnership can be formed by a grandparent who owns an apartment building. Children and grandchildren can be partners to share in profits of the building. As they earn the income from the building while living, this can be a very tax efficient way to transfer wealth.

## Disadvantages of Organizing as a Partnership

While partnerships carry some clear advantages, there are also several disadvantages to consider. For example, due to unlimited liability, each partner in a general partnership is equally and personally liable for all the debts of the partnership. Following are some of the disadvantages of the partnership form of business organization:

- **Difficulty of ownership transfer.** Since a partnership dissolves when there is a change in ownership, it tends to be difficult to transfer ownership. It is a complicated process when a new partner is added or a partnership interest is sold, requiring asset valuation and negotiation of previously agreed upon partnership operating terms.
- **Relative lack of regulation.** You learned, for example, that a partnership's informal agreement not need be in writing. But this could lead to legal disputes between partners and expose them to unlimited liability, something individuals in corporations do not need to worry about (they are liable only for the amount of their investment in the corporation's stock).
- **Taxation subject to individual's tax rate.** Individual partners often have other sources of income outside the partnership; this can make their allocated partnership income taxable at a higher rate than if the partnership were liable for the income taxes instead.
- **Limited life.** The partnership ends when a new partner is accepted into the partnership, a partner leaves, a partner dies, or the partnership dissolves. Therefore, most partnerships tend to have limited lives.

- **Unlimited liability.** **Unlimited liability** is the legal obligation of all general partners for the partnership's debts regardless of which partner incurred them. This liability can extend to the partners' personal assets.
- **Mutual agency and partnership disagreements.** Mutual agency is the right of all partners to represent the business and bind the partnership to contracts and agreements. This rule applies regardless of whether all the partners agree with the contract or agreement. Mutual agency could cause tension among the partners, since any of them can bind the partnership and make everyone liable as long as the action is taken in the interest of furthering the partnership.
- **Limited ability to raise capital.** A partnership is often limited in its ability to raise capital or additional funds, whether from the individual partners themselves or from a financial institution making a loan.

## CONCEPTS IN PRACTICE

### Sports Memorabilia Store

Farah and David decide to form a sports memorabilia retail partnership. They have known each other since business graduate school and have always worked well together on various projects. The business is doing well but cash flow is very tight. Farah takes several calls from vendors asking for payment. He believed David had been paying the bills. When he asks about this, David admits to embezzling from the partnership. What liability does Farah face as a result of the theft?

[Table 15.1](#) summarizes some of the main advantages and disadvantages of the partnership form of business organization.

### Advantages and Disadvantages of Forming a Partnership

Potential Advantages	Potential Disadvantages
<ul style="list-style-type: none"> <li>• No taxation at the partnership level</li> <li>• Ease and lower cost of formation</li> <li>• Combined skills and financial resources</li> <li>• Flexibility in managing and running the business</li> <li>• Easily changed business structure</li> <li>• Informality</li> </ul>	<ul style="list-style-type: none"> <li>• Difficulty of ownership transfer</li> <li>• Relative lack of oversight/regulation</li> <li>• Number of partners needed</li> <li>• Taxation subject to individual's tax rate</li> <li>• Limited life</li> <li>• Unlimited liability</li> <li>• Mutual agency and potential for partnership disagreements</li> <li>• Limited ability to raise capital</li> </ul>

**Table 15.1**

## Types of Partnerships

A **general partnership** is an association in which each partner is personally liable to the partnership's creditors if the partnership has insufficient assets to pay its creditors. These partners are often referred to as general partners. A **limited partnership (LP)** is an association in which at least one partner is a general

partner but the remaining partners can be limited partners, which means they are liable only for their own investment in the firm if the partnership cannot pay its creditors. Thus, their personal assets are not at risk.

Finally, the third type is a **limited liability partnership (LLP)**, which provides all partners with limited personal liability against another partner's obligations. **Limited liability** is a form of legal liability in which a partner's obligation to creditors is limited to his or her capital contributions to the firm. These types of partnerships include "LLP" or partnership in their names and are usually formed by professional groups such as lawyers and accountants. Each partner is at risk however, for his or her own negligence and wrongdoing as well as the negligence and wrongdoing of those who are under the partners' control or direction. [Table 15.2](#) summarizes the advantages and disadvantages of different types of partnerships.

**Advantages and Disadvantages of Types of Partnerships**

Type of partnership	Advantages	Disadvantages
General partnership	Business is simple to form	All partners have personal liability
Limited partnership (LP)	Limited partners have limited liability	General partners are personally liable
Limited liability partnership (LLP)	Partners are protected from other partners' malpractice	Some partners remain personally liable

**Table 15.2**

## LINK TO LEARNING

**Arthur Andersen** was one of the "Big 5" accounting firms until it was implicated in the **Enron** scandal. **Arthur Andersen** had been formed as an LLP. Read this [CNN Money article about the Arthur Andersen case \(https://openstax.org/l/50AACaseLiable\)](https://openstax.org/l/50AACaseLiable) to see how courts can hold partners liable.

## Dissolution of a Partnership

**Dissolution** occurs when a partner withdraws (due to illness or any other reason), a partner dies, a new partner is admitted, or the business declares bankruptcy. Whenever there is a change in partners for any reason, the partnership must be dissolved and a new agreement must be reached. This does not preclude the partnership from continuing business operations; it only changes the document underlying the business. In some cases, the new partnership may also require the revaluation of partnerships assets and, possibly, their sale. Ideally, the partnership agreement has been written to address dissolution.

## 15.2 Describe How a Partnership Is Created, Including the Associated Journal Entries

After examining all the relevant factors, Dale and Ciara decide to create their landscaping partnership. After much discussion, they agree on the name Acorn Lawn & Hardscapes. The first step is to formally document the actual partnership agreement. While a handshake would work, it is far more sensible to document it in case of disagreement.

### Creation of a Partnership

Ideally, the agreement to form a partnership should be in the form of a written contract. This **partnership agreement** details the partners' roles, the way profits and losses are shared, and the contributions each partner makes to the partnership. It also should contain basic information such as the business's name, its location, its purpose or mission, the names of the partners, and the date of inception. Even more importantly, it should outline the following information. There is no legal requirement for a written partnership agreement. In fact, individuals can end up in court after forming a partnership agreement by accident with no written documentation. It is strongly suggested that any business relationship has a written agreement. A properly drafted agreement will often contain the following details:

- capital contributions of each partner
- allocation of profit, losses, and draws (withdrawals) among the partners
- partners' authority and decision-making role
- process for change in partners
- process for partnership dissolutions
- process for settling disputes

The partners should also consider the following items:

- **Name of the partnership.** The business needs a name. Many partnerships are named for the partners or the location, or the partners can choose and register an invented name. In many situations, if you are using an invented name you must file a *Doing Business As* (DBA) statement with the appropriate governmental agency.
- **Contributions to the partnership.** Important to the start of any business is finding the capital and equipment with which to begin. The partners should agree up front about what each partner will contribute, how the contribution will be recorded, and how the investment will affect each partner's share of ownership. For example, it is common for a partnership to allocate an ownership interest to a partner who has valuable experience or contacts in an area of interest to a partnership. Partners can also contribute service to the partnership rather than assets. Failure to address these details can derail a business before it even starts.
- **Partners' authority.** As you've learned, mutual agency can allow every partner to bind the partnership in agreements with outside vendors or lenders. If the authority of each partner has not been documented, problems can arise. Thus, it is important to outline who is responsible for what. The same goes for decision making. A strong agreement will outline how decisions are made and at what thresholds all the partners need to be involved. A final point to cover is how management responsibilities will be divided up.
- **Allocation of profits, losses, and draws.** How will the partners share in the profits or losses of the partnership? Will any of the partners receive a guaranteed payment (salary)? If so, how much? Each partner is going to have different needs and requirements, and these should be agreed upon to avoid

dispute.

- **Change in Partners.** At some point there may be a change in partners – whether it is an addition or a withdrawal. A well-drafted partnership agreement will create rules for how that can happen.
- **Dispute resolution.** Selecting a means to resolve conflicts may one may be the most important choices for the new partners to make. It is human nature to disagree; the partnership agreement should cover how disputes will be handled so they do not interrupt business in the future.

Once the partnership agreement is complete, there are other steps to take to create the business as a legal entity.

1. Select the state in which you plan to operate. Typically, partnerships choose the state in which they are located. Since the partnership does not pay taxes and regulations are limited, state selection is not as important as it is for a corporation.
2. Register the name with the authorities required by the state in which the partnership is formed. This allows the partnership to use the name and prevents others from selecting it.
3. Obtain the required business licenses. If your partnership will be selling items subject to sales tax, you will need to obtain a sales tax license. If you are operating as a professional services firm, there may be state licensing requirements – attorneys, physicians, and certified public accountants (CPAs) are especially subject to license requirements.

## ETHICAL CONSIDERATIONS

### Ethical Obligations to Partners

Recall that each partner is jointly and severally liable for all the debts of the partnership, meaning each partner is personally liable for these obligations. As a result, in most business settings and jurisdictions, the actions of any partner are attributed to the partnership and each of its partners, whether the actions were approved by all partners or not. For example, if partner A signs a loan agreement on behalf of the partnership and the partnership defaults on the loan, partner B can be personally liable for the loan, even though this partner had no role in signing the initial agreement.

Due to this unlimited liability, whether there is a written partnership agreement or not, partners have an ethical duty to act in the best interests of the partnership and of each of their partners. This is generally called a fiduciary duty. A fiduciary is someone who has a legal and/or ethical obligation to act in the best interest of others in order to maintain a relationship of trust and confidence. What this means in practice is that partners are to avoid actual and potential conflicts of interests, and there is to be no self-dealing. Partners are expected to put the partnership's interest ahead of their own.

## Formation of the Partnership

Each partner's initial contribution is recorded on the partnership's books. These contributions are recorded at the fair value of the asset at the date of transfer. All partners must agree to the valuation being recorded.

As an example, let's go back to Dale and Ciara. On January 1, 2019 they combined their resources into a general partnership named Acorn Lawn & Hardscapes. They agree to a 50:50 split of income and losses. As

stated earlier, Ciara will invest cash and Dale has real assets to contribute to the partnership.

Dale's contributed assets include lawn equipment that he bought or created based on his specific needs. The equipment had a book value (determined in the process of filing Dale's past individual income taxes) of \$5,600 and a fair market value (the current price at which it would sell) of \$6,400. He also contributed accounts receivable from his business with a book value of \$2,000. However, he expects to collect only \$1,600 of it, so he is contributing accounts receivable with a market value of \$1,600. Since Ciara contributed cash of \$8,000 and no other assets, her contribution has a book value and a fair market value of \$8,000 (Figure 15.2).

Note this point about the formation of a partnership when its assets' fair market value differs from their book value: it wouldn't make sense to base the value of the capital contribution of assets (or liabilities) on their book value. To see why, consider the equipment and accounts receivable contributions made by Dale. The equipment had a book value of \$5,600 and a fair value of \$6,400. Why should Dale get credit for a contribution of only the \$5,600 book value when he could have sold the equipment for \$6,400 and contributed \$6,400 in cash, instead of the equipment with a fair value of \$6,400?

The same principle applies to Dale's Accounts Receivable but in the opposite direction. Dale is contributing Accounts Receivable with a book value of \$2,000, but since the partnership expects to collect only \$1,600, that is the amount of capital contribution credit he will receive.

	Book value		Fair value	
	Ciara	Dale	Ciara	Dale
Cash	\$8,000	\$ 0	\$8,000	\$ 0
Equipment	0	5,600	0	6,400
Accounts receivable	0	2,000	0	1,600
Total	\$8,000	\$7,600	\$8,000	\$8,000

**Figure 15.2** Assets Invested by Partners at Book Value and Fair Value. (attribution: Copyright Rice University, OpenStax, under CC BY-NC-SA 4.0 license)

The journal entries would be as follows:

JOURNAL			
Date	Account	Debit	Credit
2019 Jan. 1	Equipment Accounts receivable Dale, Capital <i>To record partner assets contributed</i>	6,400 1,600	8,000
Jan. 1	Cash Ciara, Capital <i>To record partner assets contributed</i>	8,000	8,000

When used fixed assets are contributed, depreciation is calculated based on their fair value and the partnership's estimate of their useful life. Fixed assets are contributed at their fair value, not the book value on the partner's individual books before the formation of the partnership. (In our examples, assume all the partners were sole proprietors before the formation of the partnership.)

Likewise, if the partnership were to assume liabilities from one of the partners, the liability would be recorded at the current value. And, as demonstrated above, any non-cash assets contributed to the partnership should be valued at their current values.

### 15.3 Compute and Allocate Partners' Share of Income and Loss

The landscaping partnership is going well and has realized increases in the number of jobs performed as well as in the partnership's earnings. At the end of the year, the partners meet to review the income and expenses. Once that has been done, they need to allocate the profit or loss based upon their agreement.

#### Allocation of Income and Loss

Just like sole proprietorships, partnerships make four entries to close the books at the end of the year. The entries for a partnership are:

1. Debit each revenue account and credit the income section account for total revenue.
2. Credit each expense account and debit the income section account for total expenses.
3. If the partnership had income, debit the income section for its balance and credit each partner's capital account based on his or her share of the income. If the partnership realized a loss, credit the income section and debit each partner's capital account based on his or her share of the loss.
4. Credit each partner's drawing account and debit each partner's capital account for the balance in that same partner's drawing account.

The first two entries are the same as for a proprietorship. Both revenue and expense accounts are temporary accounts. The last two entries are different because there is more than one equity account and more than one drawing account. **Capital accounts** are equity accounts for each partner that track all activities, such as profit sharing, reductions due to distributions, and contributions by partners to the partnership. Capital accounts are permanent while drawing accounts must be zeroed out for each accounting period.

By December 31 at the end of the first year, the partnership realized net income of \$50,000. Since Dale and Ciara had agreed to a 50:50 split in their partnership agreement, each partner will record an increase to their capital accounts of \$25,000. The journal records the entries to allocate year end net income to the partner capital accounts.

JOURNAL			
Date	Account	Debit	Credit
2019 Dec. 31	Income summary Dale, Capital <i>To record 50:50 split of net income</i>	25,000	25,000
	Income summary Ciara, Capital <i>To record 50:50 split of net income</i>	25,000	25,000

#### Income Allocations

Not every partnership allocates profit and losses on an even basis. As you've learned, the partnership agreement should delineate how the partners will share net income and net losses. The partnership needs to find a methodology that is fair and will equitably reflect each partner's service and financial commitment to the partnership. The following are examples of typical ways to allocate income:

1. A fixed ratio where income is allocated in the same way every period. The ratio can be expressed as a percentage (80% and 20%), a proportion (7:3) or a fraction ( $1/4$ ,  $3/4$ ).
2. A ratio based on beginning-of-year capital balances, end-of-year capital balances, or an average capital

balance during the year.

3. Partners may receive a guaranteed salary, and the remaining profit or loss is allocated on a fixed ratio.
4. Income can be allocated based on the proportion of interest in the capital account. If one partner has a capital account that equates to 75% of capital, that partner would take 75% of the income.
5. Some combination of all or some of the above methods.

A fixed ratio is the easiest approach because it is the most straightforward. As an example, assume that Jeffers and Singh are partners. Each contributed the same amount of capital. However, Jeffers works full time for the partnership and Singh works part time. As a result, the partners agree to a fixed ratio of 0.75:0.25 to share the net income.

Selecting a ratio based on capital balances may be the most logical basis when the capital investment is the most important factor to a partnership. These types of ratios are also appropriate when the partners hire managers to run the partnership in their place and do not take an active role in daily operations. The last three approaches on the list recognize differences among partners based upon factors such as time spent on the business or funds invested in it.

Salaries and interest paid to partners are considered expenses of the partnership and therefore deducted prior to income distribution. Partners are not considered employees or creditors of the partnership, but these transactions affect their capital accounts and the net income of the partnership.

Let's return to the partnership with Dale and Ciara to see how income and salaries can affect the split of net income ([Figure 15.3](#)). Acorn Lawn & Hardscapes reports net income of \$68,000. The partnership agreement has defined an income sharing ratio, which provides for salaries of \$15,000 to Dale and \$10,000 to Ciara. They will share in the net income on a 50:50 basis. The calculation for income sharing between the partners is as follows:

	Dale	Ciara	Total	Total Remaining
Income Realized			\$68,000	\$68,000
Salaries	\$15,000	\$10,000	(25,000)	43,000
Income allocation	<u>21,500</u>	<u>21,500</u>	(43,000)	<u>0</u>
Total Division of Income	<u>\$36,500</u>	<u>\$31,500</u>		<u>\$ 0</u>

**Figure 15.3** Income Allocation for Acorn Lawn & Hardscapes. (attribution: Copyright Rice University, OpenStax, under CC BY-NC-SA 4.0 license)

Now, consider the same scenario for Acorn Lawn & Hardscapes, but instead of net income, they realize a net loss of \$32,000. The salaries for Dale and Ciara remain the same. Also, the distribution process for allocating a loss is the same as the allocation process for distributing a gain, as demonstrated above. The partners will share in the net loss on a 50:50 basis. The calculation for the sharing of the loss between the partners is shown in [Figure 15.4](#)

	Dale	Ciara	Total	Total Remaining
Loss Realized			\$(32,000)	\$(32,000)
Salaries	\$ 15,000	\$ 10,000	(25,000)	(57,000)
Loss allocation	(28,500)	(28,500)	\$(57,000)	0
Total division of Loss	<u>\$(13,500)</u>	<u>\$(18,500)</u>		<u>\$ 0</u>

**Figure 15.4** Loss sharing Allocation for Acorn Lawn & Hardscapes. (attribution: Copyright Rice University, OpenStax, under CC BY-NC-SA 4.0 license)

## CONCEPTS IN PRACTICE

### Spidell and Diaz: A Partnership

For several years, Theo Spidell has operated a consulting company as a sole proprietor. On January 1, 2017 he formed a partnership with Juanita Diaz called Insect Management.

The facts are as follows:

- Spidell was to transfer the cash, accounts receivable, furniture and equipment, and all the liabilities of the sole proprietorship in return for 60% of the partnership capital.
- The fair market value in the relevant accounts of the sole proprietorship at the close of business on December 31, 2016 are shown in [Figure 15.5](#).

Cash	\$ 52,000
Accounts receivable	120,000
Furniture and equipment	34,000
Accounts payable	10,000

**Figure 15.5** Fair Market Values of Sole Proprietorship. (attribution: Copyright Rice University, OpenStax, under CC BY-NC-SA 4.0 license)

- In exchange for 40% of the partnership, Diaz will invest \$130,667 in cash.
- Each partner will be paid a salary – Spidell \$3,000 per month and Diaz \$2,000 per month.
- The partnership's net income for 2016 was \$300,000. The partnership agreement dictates an income-sharing ratio.
- Assume that all allocations are 60% Spidell and 40% Diaz.

Record the following transactions as journal entries in the partnership's records.

- Receipt of assets and liabilities from Spidell
- Investment of cash by Diaz
- Profit or loss allocation including salary allowances and the closing balance in the Income Section account

## THINK IT THROUGH

### Sharing Profits and Losses in a Partnership

Michael Wingra has operated a very successful hair salon for the past 7 years. It is almost too successful because Michael does not have any free time. One of his best customers, Jesse Tyree, would like to get involved, and they have had several conversations about forming a partnership. They have asked you to provide some guidance about how to share in the profits and losses.

Michael plans to contribute the assets from his salon, which have been appraised at \$500,000.

Jesse will invest cash of \$300,000. Michael will work full time at the salon and Jesse will work part time. Assume the salon will earn a profit of \$120,000.

Instructions:

1. What division of profits would you recommend to Michael and Jesse?
2. Using your recommendation, prepare a schedule sharing the net income.

## 15.4 Prepare Journal Entries to Record the Admission and Withdrawal of a Partner

So far we have demonstrated how to create a partnership, distribute the income or loss, and calculate income distributed at the end of the year after salaries have been paid. Acorn Lawn & Hardscapes has been doing well, but what if the opportunity arises to add another partner to handle more business? Or what happens if one partner wants to leave the partnership or sell his or her interest to someone else? This section will discuss those situations.

### Admission of New Partner

There are two ways for a new partner to join a partnership. In both, a new partnership agreement should be drawn up because the existing partnership will come to an end.

1. The new partner can invest cash or other assets into an existing partnership while the current partners remain in the partnership.
2. The new partner can purchase all or part of the interest of a current partner, making payment directly to the partner and not to the partnership. If the new partner buys an existing partner's entire interest, the existing partner leaves the partnership.

The new partner's investment, share of ownership capital, and share of the net income or loss are all negotiated in the process of developing the new partnership agreement. Based on how a partner is admitted, oftentimes the admission can create a situation to be illustrated called a bonus to those in the partnership. A **bonus** is the difference between the value of a partner's capital account and the cash payment made at the time of that partner's or another partner's withdrawal.

### Admission of New Partner—No Bonus

Whenever a new partner is admitted to the partnership, a new capital account must be opened for him or her. This will allow the partnership to reflect the new members of the partnership.

The purchase of an existing partner's ownership by a new partner is a personal transaction that involves the existing partner and the new partner without otherwise affecting the records of the partnership. Accounting for this method is very straightforward. The only changes that are recorded on the partnership's books occur in the two partners' capital accounts. The existing partner's capital account is debited and, after being created, the new partner's capital account is credited.

To illustrate, Dale decides to sell his interest in Acorn Lawn & Hardscapes to Remi. Since this is a personal transaction, the only entry Acorn needs to make is to record the transfer of partner interest from Dale to Remi on its books.

JOURNAL			
Date	Account	Debit	Credit
2021 Jan. 1	Dale, Capital Remi, Capital <i>To record transfer of partner interest</i>	55,000	55,000

No other entry needs to be made. Note that the entry is a paper transfer—it is to move the balance in the capital account. The amount paid by Remi to Dale does not affect this entry.

If instead the new partner invests directly into the partnership, the change increases the assets of the partnership as well as the capital accounts. Suppose that, instead of buying Dale's interest, Remi will join Dale and Ciara in the partnership. The following journal entry will be made to record the admission of Remi as a partner in Acorn Lawn & Hardscapes.

JOURNAL			
Date	Account	Debit	Credit
2021 Jan. 1	Cash Remi, Capital <i>To record new partner investment</i>	55,000	55,000

### Admission of New Partner—Bonus to Old Partners

A bonus to the old partners can come about when the new partner's investment in the partnership creates an inequity in the capital of the new partnership, such as when a new partner's capital account is not proportionate to that of a previous partner. Because a change in ownership of a partnership produces a new partnership agreement, a bonus may be used to record the change in the ownership capital to prevent inequities among the partners.

A bonus to the old partner or partners increases (or credits) their capital balances. The amount of the increase depends on the income ratio before the new partner's admission.

As an illustration, Remi is a skilled machine operator who will aid Acorn Lawn & Hardscapes in the building of larger projects. Assume the following information ([Figure 15.6](#)) for the partnership on the day Remi becomes a partner.

Total capital of Acorn Lawn & Hardscapes	\$100,000
Investment by new partner, Remi	65,000
Total capital of new partnership	165,000
Remi's capital credit (1/3 of \$165,000)	55,000
Total bonus to Dale and Ciara	10,000

**Figure 15.6** Breakdown of Allocation of Bonus to Old Partners. (attribution: Copyright Rice University, OpenStax, under CC BY-NC-SA 4.0 license)

To allocate the \$10,000 bonus to the old partners, Dale and Ciara, make the following calculations:

$$\text{Dale: } (\$10,000 \times 50\%) = \$5,000$$

$$\text{Ciara: } (\$10,000 \times 50\%) = \$5,000$$

The journal entry to record Remi's admission to the partnership and the allocation of the bonus to Dale and Ciara is as shown.

JOURNAL			
Date	Account	Debit	Credit
2021 Jan. 1	Cash	65,000	
	Dale, Capital		5,000
	Ciara, Capital		5,000
	Remi, Capital		55,000
	<i>To record bonus to old partners</i>		

### Admission of New Partner—Bonus to New Partner

When the new partner's investment may be less than his or her capital credit, a bonus to the new partner may be considered. Sometimes the partnership is more interested in the skills the new partner possesses than in any assets brought to the business. For instance, the new partner may have expertise in a particular field that would be beneficial to the partnership, or the new partner may be famous and can draw attention to the partnership as a result. This frequently happens with restaurants; many are named after sports celebrity partners. A bonus to a newly admitted partner can also occur when the book values of assets currently on the partnership's books have a higher value than their fair market values.

A bonus to a new admitted partner decreases (or debits) the capital balances of the old partners. The amount of the decrease depends on the income ratio defined by the old partnership agreement in place before the new partner's admission.

In our landscaping business example, suppose Remi receives a bonus based on his skills as a machine operator. Assume the following information ([Figure 15.7](#)) for the partnership on the day he becomes a partner.

Total capital of Acorn Lawn & Hardscapes	\$110,000
Investment by new partner, Remi	40,000
Total capital of new partnership	150,000
Remi's capital credit (1/3 of \$150,000)	50,000
Total bonus to Remi	10,000

**Figure 15.7** Breakdown of Allocation of Bonus to New Partner. (attribution: Copyright Rice University, OpenStax, under CC BY-NC-SA 4.0 license)

To allocate the \$10,000 bonus that each of the old partners will contribute to the new partner, Remi, make the following calculations.

$$\text{Dale: } (\$10,000 \times 50\%) = \$5,000$$

$$\text{Ciara: } (\$10,000 \times 50\%) = \$5,000$$

The journal entry to record Remi's admission and the payment of his bonus in the partnership records is as follows:

JOURNAL			
Date	Account	Debit	Credit
2021 Jan. 1	Cash Dale, Capital Ciara, Capital Remi, Capital <i>To record payment of bonus from old partners to new partner</i>	40,000 5,000 5,000	50,000

## Withdrawal of Partner

Now, let's explore the opposite situation—when a partner withdraws from a partnership. Partners may withdraw by selling their equity in the business, through retirement, or upon death. The withdrawal of a partner, just like the admission of a new partner, dissolves the partnership, and a new agreement must be reached. As with a new partner, only the economic effect of the change in ownership is reflected on the books.

When existing partners buy out a retiring partner, the case is the opposite of admitting a new partner, but the transaction is similar. The existing partners use personal assets to acquire the withdrawing partner's equity and, as a result, the partnership's assets are not affected. The only effect in the partnership's records is the change in capital accounts. For example, assume that, after much discussion, Dale is ready to retire. Each partner has capital account balances of \$60,000. Ciara and Remi agree to pay Dale \$30,000 each to close out his partnership account. To record the withdrawal of Dale from the partnership, the journal entry is as follows:

JOURNAL			
Date	Account	Debit	Credit
2021 Jan. 1	Dale, Capital Ciara, Capital Remi, Capital <i>To record withdrawal of a partner</i>	60,000	30,000 30,000

Note that there is no change to the net assets of Acorn Lawn & Hardscapes—only a change in the capital

accounts. Ciara and Remi now have to create a new partnership agreement to reflect their new situation.

### Partnership Buys Out Withdrawing Partner

When a partnership buys out a withdrawing partner, the terms of the buy-out should follow the partnership agreement. Using partnership assets to pay for a withdrawing partner is the opposite of having a new partner invest in the partnership. In accounting for the withdrawal by payment from partnership assets, the partnership should consider the difference, if any, between the agreed-upon buy-out dollar amount and the balance in the withdrawing partner's capital account. That difference is a bonus to the retiring partner.

This situation occurs when:

1. The partnership's fair market value of assets exceeds the book value.
2. Goodwill resulting from the partnership has not been accounted for.
3. The remaining partners urgently want the withdrawing partner to exit or want to show their appreciation of the partner's contributions.

The partnership debits (or reduces) the bonus from the remaining partners' capital balances on the basis of their income ratio at the time of the buy-out. To illustrate, Acorn Lawn & Hardscapes is appreciative of the hard work that Dale has put into its success and would like to pay him a bonus. Dale, Ciara, and Remi each have capital account balances of \$60,000 at the time of Dale's retirement. Acorn Lawn & Hardscapes intends to pay Dale \$80,000 for his interest. Ciara and Remi will do this as follows:

1. Calculate the amount of the bonus. This is done by subtracting Dale's capital account balance from the cash payment:  $(\$80,000 - \$60,000) = \$20,000$ .
2. Allocate the cost of the bonus to the remaining partners on the basis of their income ratio. This calculation comes to \$10,000 each for Ciara and Remi  $(\$20,000 \times 50\%)$ .

The journal entry to record Dale's retirement from the partnership and the bonus payment to reflect his withdrawal is as shown:

JOURNAL			
Date	Account	Debit	Credit
2021 Jan. 1	Dale, Capital Ciara, Capital Remi, Capital Cash <i>To record retirement of a partner with a bonus payment</i>	60,000 10,000 10,000	80,000

In some cases, the retiring partner may give a bonus to the remaining partners. This can happen when:

1. Recorded assets are overvalued.
2. The partnership is not performing well.
3. The partner urgently wants to leave the partnership

In these cases, the cash paid by the partnership to the retiring partner is less than the balance in his or her capital account. As a result, the other partners receive a bonus to their capital accounts based on the income-sharing ratio established prior to the withdrawal.

As an example, each of three partners of Acorn Lawn & Hardscapes has a capital balance of \$60,000. Dale has another opportunity and is eager to move on. He is willing to accept \$50,000 cash in order to retire. The difference between this cash amount and Dale's capital account is a bonus to the remaining partners. The

bonus will be allocated to Ciara and Remi based on the income ratio at the time of Dale's departure.

The journal entry to record Dale's withdrawal and the bonus to Ciara and Remi is as shown:

JOURNAL				
Date	Account	Debit	Credit	
2021 Jan. 1	Dale, Capital	60,000		
	Cash			50,000
	Ciara, Capital			5,000
	Remi, Capital			5,000
	<i>To record withdrawal of a partner and a bonus payment to remaining partners</i>			

When a partner passes away, the partnership dissolves. Most partnership agreements have provisions for the surviving partners to continue operating the partnership. Typically, a valuation is performed at the date of death, and the remaining partners settle with the deceased partner's estate either directly with cash or through distribution of the partnership's assets.

## 15.5 Discuss and Record Entries for the Dissolution of a Partnership

Partnerships dissolve. Sometime the decision is made to close the business. Sometimes there is a bankruptcy. Partner negligence, retirement, death, poor cash flow, and change in business practices are just some of the reasons for closing down.

### ETHICAL CONSIDERATIONS

#### Ethical Partnership Dissolution

In most dissolutions of a partnership, the business partners need to decide what will happen to the partnership itself. A partnership may be dissolved, but that may not end business operations. If the partnership's business operations are to continue, the partnership must decide what to do with its customers or clients, particularly those primarily served by a partner leaving the business. An ethical partnership will notify its customers and clients of the change and whether and how the partnership is going to continue as a business under a new partnership agreement. Partners who are unable to agree on how to notify their customers and clients should look to the Uniform Partnership Act, Article 8, which outlines the general obligations and duties of partners when a partnership is dissolved.

A partner's duties and obligation upon dissolution describe what the departing partner owes to the partnership and the other partners in duties of loyalty and care, which are the basic fiduciary duties of a partner prior to dissolution, as outlined in Section 409 of the Uniform Partnership Act. The one change upon dissolution is that "each partner's duty not to compete ends when the partnership dissolves." The Act states that "the dissolution of a partnership is the change in the relation of the partners caused by any partner ceasing to be associated in the carrying on as distinguished from the winding up of the business."<sup>[1]</sup> This may not terminate the partnership's business operations, but the partner's obligations under the dissolved partnership agreement will end, regardless of how the remaining partners create a

new partnership.

The departure or removal of a partner or partners and the resulting creation of a new partnership may be tricky, because all original partners owe each other the duty of fairness and loyalty until the dissolution has been completed. All the partners, departing or otherwise, are required to behave in a fashion that does not hurt business operations and avoid putting their individual interests ahead of the interests of the soon-to-be-dissolved partnership. Once the partnership has been dissolved, the departing partners no longer have an obligation to their old business partners.

## Fundamentals of Partnership Dissolution

The **liquidation** or dissolution process for partnerships is similar to the liquidation process for corporations. Over a period of time, the partnership's non-cash assets are converted to cash, creditors are paid to the extent possible, and remaining funds, if any, are distributed to the partners. Partnership liquidations differ from corporate liquidations in some respects, however:

1. General partners, as you may recall, have unlimited liability. Any general partner may be asked to contribute additional funds to the partnership if its assets are insufficient to satisfy creditors' claims.
2. If a general partner does not make good on his or her deficit capital balance, the remaining partners must absorb that deficit balance. Absorption of the partner's deficit balance gives the absorbing partner legal recourse against the deficit partner.

## Recording the Dissolution Process

As discussed above, the liquidation or dissolution of a partnership is synonymous with closing the business. This may occur due to mutual partner agreement to sell the business, the death of a partner, or bankruptcy. Before proceeding with liquidation, the partnership should complete the accounting cycle for its final operational period. This will require closing the books with only balance sheet accounts remaining. Once that process has been completed, four steps remain in the accounting for the liquidation, each requiring an accounting entry. They are:

- Step 1: Sell noncash assets for cash and recognize a gain or loss on **realization**. Realization is the sale of noncash assets for cash.
- Step 2: Allocate the gain or loss from realization to the partners based on their income ratios.
- Step 3: Pay partnership liabilities in cash.
- Step 4: Distribute any remaining cash to the partners on the basis of their capital balances.

These steps must be performed in sequence. Partnerships must pay creditors prior to distributing funds to partners. At liquidation, some partners may have a deficiency in their capital accounts, or a debit balance.

Let's consider an example. Football Partnership is liquidated; its balance sheet after closing the books is shown in [Figure 15.8](#).

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1 Uniform Law Commission. *Uniform Partnership Act (1997) (Last Amended 2013)*. <https://www.uniformlaws.org/viewdocument/final-act-with-comments-118?CommunityKey=52456941-7883-47a5-91b6-d2f086d0bb44&tab=librarydocuments>

<b>FOOTBALL PARTNERSHIP</b>	
<b>Balance Sheet</b>	
<b>For the Month Ended December 31, 2019</b>	
<b>Assets</b>	
Cash	\$ 5,000
Accounts Receivable	10,000
Inventory	22,000
Equipment	30,000
Accumulated Depreciation	(5,000)
Total Assets	<u>\$62,000</u>
<b>Liabilities and Partner Capital</b>	
Notes Payable	\$15,000
Accounts Payable	15,000
Raven, Capital	15,000
Brown, Capital	10,000
Eagle, Capital	7,000
Total Liabilities and Partner Capital	<u>\$62,000</u>

**Figure 15.8** Balance Sheet for Football Partnership. (attribution: Copyright Rice University, OpenStax, under CC BY-NC-SA 4.0 license)

The partners of Football Partnership agree to liquidate the partnership on the following terms:

1. All the partnership assets will be sold to Hockey Partnership for \$60,000 cash.
2. The partnership will satisfy the liabilities.
3. The income ratio will be 3:2:1 to partners Raven, Brown, and Eagle respectively. (Another way of saying this is 3/6:2/6:1/6.)
4. The remaining cash will be distributed to the partners based on their capital account basis.

The journal entry to record the sale of assets to Hockey Partnership (Step 1) is as shown:

<b>JOURNAL</b>			
Date	Account	Debit	Credit
2020 Jan. 1	Cash	60,000	
	Accumulated depreciation	5,000	
	Accounts receivable		10,000
	Inventory		22,000
	Equipment		30,000
	Gain on realization		3,000
	<i>To record the sale of assets to Hockey Partnership</i>		

The journal entry to allocate the gain on realization among the partners' capital accounts in the income ratio of 3:2:1 to Raven, Brown, and Eagle, respectively (Step 2), is as shown:

JOURNAL			
Date	Account	Debit	Credit
2020 Jan. 1	Gain on realization Raven, Capital ( $3/6 \times \$3,000$ ) Brown, Capital ( $2/6 \times \$3,000$ ) Eagle, Capital ( $1/6 \times \$3,000$ ) <i>To allocate gain on realization among partner capital accounts</i>	3,000	1,500 1,000 500

The journal entry for Football Partnership to pay off the liabilities (Step 3) is as shown:

JOURNAL			
Date	Account	Debit	Credit
2020 Jan. 1	Notes payable Accounts payable Cash <i>To record payment of liabilities</i>	15,000 15,000	30,000

The journal entry to distribute the remaining cash to the partners based on their capital account basis (Step 4) is as shown:

JOURNAL			
Date	Account	Debit	Credit
2020 Jan. 1	Raven, Capital Brown, Capital Eagle, Capital Cash <i>To allocate gain on realization among partner capital accounts</i>	16,500 11,000 7,500	35,000

## Key Terms

**bonus** difference between the value of a partner's capital account and the cash payment made at the time of that partner's or another partner's withdrawal

**capital account** equity account for each partner that tracks all activities such as profit sharing, reductions due to distributions, and contributions by partners to partnership

**dissolution** closing down of a partnership for economic, personal, or other reasons that may be unique to the particular partnership

**general partnership** partnership in which each partner is personally liable to the partnership's creditors if the partnership has insufficient assets to pay its creditors

**limited liability** form of legal liability in which a partner's obligation to creditors is limited to his or her capital contributions to the firm

**limited liability partnership (LLP)** partnership that provides all partners with limited personal liability against all other partners' obligations

**limited partnership (LP)** partnership in which at least one partner is a general partner but the remaining partners can be limited partners, which means they are liable only for their own investment in the firm if the partnership cannot pay its creditors; thus, their personal assets are not at risk

**liquidation** (also, dissolution) process of selling off non-cash assets

**mutual agency** ability of each partner to act as an agent of the partnership in dealing with persons outside the partnership

**partner** individuals, corporations, and even other partnerships participating in a partnership entity

**partnership** legal business structure consisting of an association of two or more people who contribute money, property, or services to operate as co-owners of a business

**partnership agreement** document that details the partners' role, the way profits and loss are shared, and the contributions each partner makes to the partnership

**realization** the sale of noncash assets for cash

**unlimited liability** form of legal liability in which general partners are liable for all business debts if the business cannot meet its liabilities

## Summary

### 15.1 Describe the Advantages and Disadvantages of Organizing as a Partnership

- There are many advantages and disadvantages of partnership as a form of business entity and they should be carefully considered.
- The most significant advantage of partnerships is the exemption from tax at the business level. Partners are taxed on their share of the profit or loss at their individual tax rates.
- Mutual agency and unlimited liability should be weighed against the tax benefits of partnership.
- There are other entity forms that have many of the characteristics of standard partnerships. These other entity forms often share the legal liability protection of corporations, and the tax and personal benefits of a partnership.

### 15.2 Describe How a Partnership Is Created, Including the Associated Journal Entries

- Partners must consider several factors when developing their partnership agreement, such as the contributions and authority of each partner and a means to resolve disputes.
- Non-cash assets such as equipment and prepaid expenses should be recorded at current market values.

- Partners are sometimes given an ownership interest based on their expertise or experience instead of any contributed assets.
- Liabilities assumed by the partnership should be recorded at their current value.

### 15.3 Compute and Allocate Partners' Share of Income and Loss

- There are several different approaches to sharing the income or loss of a partnership, including fixed ratios, capital account balances, and combinations of the two.

### 15.4 Prepare Journal Entries to Record the Admission and Withdrawal of a Partner

- There are two different methods for admitting a new partner to a partnership—direct investment to the partnership (affects partnership assets) and transaction among partners (does not affect partnership assets).
- There are two different methods for a partner to withdraw from a partnership—direct payment from the partnership and direct payment from the partners.

### 15.5 Discuss and Record Entries for the Dissolution of a Partnership

- There are times, such as following bankruptcy, death, or retirement, when a partnership ceases operation.
- The following four accounting steps must be taken, in order, to dissolve a partnership: sell noncash assets; allocate any gain or loss on the sale based on the income-sharing ratio in the partnership agreement; pay off liabilities; distribute any remaining cash to partners based on their capital account balances.



## Multiple Choice

1. **LO 15.1** A partnership \_\_\_\_\_.
  - A. has one owner
  - B. can issue stock
  - C. pays taxes on partnership income
  - D. can have more than one general partner
2. **LO 15.1** Any assets invested by a particular partner in a partnership \_\_\_\_\_.
  - A. do not become a partnership asset but instead remain with the partner
  - B. can be used only by the investing partner
  - C. become the property of all the partners
  - D. are the basis for all profit sharing
3. **LO 15.1** Which of the following is a *disadvantage* of the partnership form of organization?
  - A. limited life
  - B. no taxation at the partnership level
  - C. flexibility in business operations
  - D. combining of financial resources

4. **LO 15.1** Mutual agency is defined as:
- A. a mutual agreement
  - B. the right of all partners to represent the company's normal business operations
  - C. a synonym for partnership
  - D. a partnership between two partnerships
5. **LO 15.2** Chani contributes equipment to a partnership that she purchased 2 years ago for \$10,000. The current book value is \$7,500 and the market value is \$9,000. At what value should the partnership record the equipment?
- A. \$10,000
  - B. \$9,000
  - C. \$7,500
  - D. none of the above
6. **LO 15.2** Juan contributes marketable securities to a partnership. The book value of the securities is \$7,000 and they have a current market value of \$10,000. What amount should the partnership record in Juan's Capital account due to this contribution?
- A. \$10,000
  - B. \$7,000
  - C. \$3,000
  - D. none of the above
7. **LO 15.2** Which one of the following would *not* be considered in the development of a partnership agreement?
- A. profit and loss levels
  - B. processing disputes
  - C. stock options
  - D. asset contributions
8. **LO 15.3** A well written partnership agreement should include each of the following *except* \_\_\_\_\_.
- A. how to settle disputes
  - B. the name of the partnership
  - C. division of responsibilities
  - D. Partner's individual tax rate
9. **LO 15.3** What type of assets may a partner *not* contribute to a partnership?
- A. accounts receivable
  - B. furniture
  - C. equipment
  - D. personal credit cards
10. **LO 15.3** How does a newly formed partnership handle the contribution of previously depreciated assets?
- A. continues the depreciation life as if the owner had not changed
  - B. starts over, using the contributed value as the new cost basis
  - C. shortens the useful life of the asset per the partnership agreement
  - D. does not depreciate the contributed asset

11. **L0 15.4** Thandie and Marco are partners with capital balances of \$60,000. They share profits and losses at 50% each. Chris contributes \$30,000 to the partnership for a 1/3 share. What amount should the partnership record as a bonus to Chris?
- A. \$20,000
  - B. \$15,000
  - C. \$10,500
  - D. \$5,000
12. **L0 15.4** Thandie and Marco are partners with capital balances of \$60,000. They share profits and losses at 50%. Chris contributes \$30,000 to the partnership for a 1/3 share. What amount should Thandie's capital balance in the partnership be?
- A. \$60,000
  - B. \$50,000
  - C. \$45,000
  - D. \$30,000
13. **L0 15.4** Thandie and Marco are partners with capital balances of \$60,000. They share profits and losses at 50%. Chris contributes \$90,000 to the partnership for a 1/3 share. What amount should the partnership record as an individual bonus to each of the old partners?
- A. \$10,000
  - B. \$7,000
  - C. \$3,000
  - D. \$20,000
14. **L0 15.4** Thandie and Marco are partners with capital balances of \$60,000. They share profits and losses at 50%. Chris contributes \$60,000 to the partnership for a 1/3 share. What amount should the partnership record as an individual bonus to each of the old partners?
- A. \$10,000
  - B. \$7,000
  - C. \$0
  - D. \$5,000
15. **L0 15.5** When a partnership dissolves, the first step in the dissolution process is to \_\_\_\_\_.
- A. allocate the gain or loss on sale based on income sharing ratio
  - B. pay off liabilities
  - C. sell noncash assets
  - D. divide the remaining cash among the partners
16. **L0 15.5** When a partnership dissolves, the last step in the dissolution process is to \_\_\_\_\_.
- A. allocate the gain or loss on sale based on income sharing ratio
  - B. pay off liabilities
  - C. sell noncash assets
  - D. divide the remaining cash among the partners
17. **L0 15.5** Prior to proceeding with the liquidation, the partnership should \_\_\_\_\_.
- A. prepare adjusting entries without closing
  - B. complete the accounting cycle for final operational period
  - C. prepare only closing entries
  - D. complete financial statements only

## Questions

- LO 15.1** Does a partnership pay income tax?
- LO 15.1** Can a partner's personal assets in a limited liability partnership be at risk?
- LO 15.2** Can a partnership assume liabilities as part of one of the partner's contributions?
- LO 15.2** Does each partner have to contribute an equal amount of assets in order to split profit and losses?
- LO 15.3** What types of bases for dividing partnership net income or net loss are available?
- LO 15.3** Angela and Agatha are partners in Double A Partners. When they withdraw cash for personal use, how should that be recorded in the accounting records?
- LO 15.3** On February 3, 2016 Sam Singh invested \$90,000 cash for a 1/3 interest in a newly formed partnership. Prepare the journal entry to record the transaction.
- LO 15.5** Why do partnerships dissolve?
- LO 15.5** What are the four steps involved in liquidating a partnership?
- LO 15.5** When a partner withdraws from the firm, which accounts are affected?
- LO 15.5** What is the first step in a partnership liquidation (termination and sale of assets)?
- LO 15.5** When a partnership liquidates, do partners get paid first or do creditors get paid first?
- LO 15.5** Coffee Partners decides to close due to the increased competition from the national chains. If after liquidating the noncash assets there is not enough cash to cover accounts payable, what happens?

## Exercise Set A

**EA1. LO 15.2** On May 1, 2017, BJ and Paige formed a partnership. Each contributed assets with the following agreed-upon valuations.

	<b>BJ</b>	<b>Paige</b>
Cash	\$80,000	\$20,000
Equipment	50,000	60,000
Building	0	240,000
Loan payable	0	100,000

Prepare a separate journal entry to record each partner's contributions.

**EA2. LO 15.3** The partnership of Chase and Chloe shares profits and losses in a 70:30 ratio respectively after Chloe receives a \$10,000 salary. Prepare a schedule showing how the profit and loss should be divided, assuming the profit or loss for the year is:

- \$ 30,000
- \$ 6,000
- (\$10,000)

**EA3.** **LO 15.4** The partnership of Tasha and Bill shares profits and losses in a 50:50 ratio, and the partners have capital balances of \$45,000 each. Prepare a schedule showing how the bonus should be divided if Ashanti joins the partnership with a \$60,000 investment. The partner's new agreement will share profit and loss in a 1:3 ratio.

**EA4.** **LO 15.5** Cheese Partners has decided to close the store. At the date of closing, Cheese Partners had the following account balances:

Capital	\$ 9,000
Cash	\$ 6,000
Inventory	\$15,000
Store fixtures	\$10,000
Accounts payable	\$22,000

A competitor agrees to buy the inventory and store fixtures for \$20,000. Prepare the journal entries detailing the liquidation, assuming that partners Colette and Swarma are sharing profits on a 50:50 basis:



## Exercise Set B

**EB1.** **LO 15.4** The partnership of Michelle, Amal, and Maureen has done well. The three partners have shared profits and losses in a 1:3 ratio, with capital balances of \$60,000 each. Maureen wants to retire and withdraw. Prepare a schedule showing how the cost should be divided if Amal and Michelle decide to pay Maureen \$70,000 for retirement of her capital account and the new agreement will share profits and losses 50:50.



## Problem Set A

**PA1.** **LO 15.3** The partnership of Tatum and Brook shares profits and losses in a 60:40 ratio respectively after Tatum receives a 10,000 salary and Brook receives a 15,000 salary. Prepare a schedule showing how the profit and loss should be divided, assuming the profit or loss for the year is:

- A. \$40,000
- B. \$25,000
- C. (\$5,000)

In addition, show the resulting entries to each partner's capital account. Tatum's capital account balance is \$50,000 and Brook's is \$60,000.

**PA2.** **LO 15.4** Arun and Margot want to admit Tammy as a third partner for their partnership. Their capital balances prior to Tammy's admission are \$50,000 each. Prepare a schedule showing how the bonus should be divided among the three, assuming the profit or loss agreement will be 1:3 once Tammy has been admitted and her contribution is:

- A. \$20,000
- B. \$80,000
- C. \$50,000.

In addition, show the resulting journal entries to each of the three partners' capital accounts.

**PA3.** **LO 15.5** When a partnership is liquidated, any gains or losses realized by the sale of noncash assets are allocated to the partners based on their income sharing ratio. Why?



## Problem Set B

**PB1.** **LO 15.3** The partnership of Magda and Sue shares profits and losses in a 50:50 ratio after Mary receives a \$7,000 salary and Sue receives a \$6,500 salary. Prepare a schedule showing how the profit and loss should be divided, assuming the profit or loss for the year is:

- A. \$10,000
- B. \$5,000
- C. (\$12,000)

In addition, show the resulting entries to each partner's capital account.

**PB2.** **LO 15.4** The partnership of Arun, Margot, and Tammy has been doing well. Arun wants to retire and move to another state for a once-in-a-lifetime opportunity. The partners' capital balances prior to Arun's retirement are \$60,000 each. Prepare a schedule showing how Arun's withdrawal should be divided assuming his buyout is:

- A. \$70,000
- B. \$45,000
- C. \$60,000.

In addition, show the resulting entries to the capital accounts of each of the three.

**PB3.** **LO 15.5** Match each of the following descriptions with the appropriate term related to partnership accounting.

A. Each and every partner can enter into contracts on behalf of the partnership	i. liquidation
B. The business ceases operations.	ii. capital deficiency
C. How partners share in income and loss	iii. admission of a new partner
D. Adding a new partner by contributing cash	iv. mutual agency
E. A partner account with a debit balance	v. income sharing ratio



## Thought Provokers

**TP1.** **LO 15.1** While sole proprietorships and corporations are the most popular forms of business organization, the limited liability company (LLC) is a close third. Limited liability companies are treated like partnerships in the majority of situations. Why do you think LLCs are gaining in popularity?

**TP2.** **LO 15.5** A partnership is thriving. The three partners get along well; they complement each other's skill sets and enjoy each other's company. One of the partners, Melinda, begins to behave differently. She begins coming to work late or not at all. On several occasions she is spotted leaving the hotel next door in the afternoon. The other partners are concerned about the change in her behavior. They confront her and Melinda denies that anything is different. She points out that her work is still getting done and that she wants a little more flexibility in her hours. The other partners are not convinced and decide to terminate the partnership agreement. Can the other partners break the agreement? What considerations must the partners take into account?



16

## Statement of Cash Flows

**Figure 16.1** Cash. (credit: modification of "Money" by "Tax Credits"/Flickr, CC BY 2.0)

### Chapter Outline

- LO 16.1** Explain the Purpose of the Statement of Cash Flows
- LO 16.2** Differentiate between Operating, Investing, and Financing Activities
- LO 16.3** Prepare the Statement of Cash Flows Using the Indirect Method
- LO 16.4** Prepare the Completed Statement of Cash Flows Using the Indirect Method
- LO 16.5** Use Information from the Statement of Cash Flows to Prepare Ratios to Assess Liquidity and Solvency
- LO 16.6** Appendix: Prepare a Completed Statement of Cash Flows Using the Direct Method



### Why It Matters

Most financial accounting processes focus on the accrual basis of accounting, which reflects revenue earned, regardless of whether that revenue has been collected or not, and the related costs involved in producing that revenue, whether those costs have been paid or not. Yet the single-minded focus on accrued revenues and expenses, without consideration of the cash impact of these transactions, can jeopardize the ability of users of the financial statements to make well-informed decisions. Some investors say that "cash is king," meaning that they think a company's cash flow is more important than its net income in determining investment opportunities. Companies go bankrupt because they run out of cash. Financial statement users should be able to develop a picture of how well a company's net income generates cash and the sources and uses of a company's cash. From the statement of cash flows, it becomes possible to reconcile income on the income statement to the cash actually generated during the same period. Having cash alone is not important, but the source and use of cash are also important, specifically where the cash is coming from. If the business is generating cash from operations (selling products and services), that is positive. If the company only has cash

as it is taking out loans and selling assets, one must be careful in their analysis.

## 16.1 Explain the Purpose of the Statement of Cash Flows

The **statement of cash flows** is a financial statement listing the cash inflows and cash outflows for the business for a period of time. **Cash flow** represents the cash receipts and cash disbursements as a result of business activity. The statement of cash flows enables users of the financial statements to determine how well a company's income generates cash and to predict the potential of a company to generate cash in the future.

Accrual accounting creates timing differences between income statement accounts and cash. A revenue transaction may be recorded in a different fiscal year than the year the cash related to that revenue is received. One purpose of the statement of cash flows is that users of the financial statements can see the amount of cash inflows and outflows during a year in addition to the amount of revenue and expense shown on the income statement. This is important because cash flows often differ significantly from accrual basis net income. For example, assume in 2019 that **Amazon** showed a loss of approximately \$720 million, yet **Amazon's** cash balance increased by more than \$91 million. Much of the change can be explained by timing differences between income statement accounts and cash receipts and distributions.

A related use of the statement of cash flows is that it provides information about the quality of a company's net income. A company that has records that show significantly less cash inflow on the statement of cash flows than the reported net income on the income statement could very well be reporting revenue for which cash will never be received from the customer or underreporting expenses.

A third use of the statement of cash flows is that it provides information about a company's sources and uses of cash not related to the income statement. For example, assume in 2019 that **Amazon** spent \$287 million on purchasing fixed assets and almost \$370 million acquiring other businesses. This indicated to financial statement users that **Amazon** was expanding even as it was losing money. Investors must have thought that spending was good news as **Amazon** was able to raise more than \$1 billion in borrowings or stock issuances in 2019.

## ETHICAL CONSIDERATIONS

### Cash Flow Statement Reporting

US generally accepted accounting principles (GAAP) has codified how cash flow statements are to be presented to users of financial statements. This was codified in Topic 230: Statement of Cash Flows as part of US GAAP.<sup>[1]</sup> Accountants in the United States should follow US GAAP. Accountants working internationally must report in accordance with International Accounting Standard (IAS) 7 Statement of Cash Flows.<sup>[2]</sup> The ethical accountant understands the users of a company's financial statement and properly prepares a Statement of Cash Flow. There is often more than one way that financial statements can be presented, such as US GAAP and International Financial Reporting Standards (IFRS). What if a company under US GAAP showed reporting issues on their financial statements and switched to IFRS where results looked better. Is this proper? Does this occur?

1 Financial Accounting Standards Board (FASB). "Statement of Cash Flows (Topic 230) Classification of Certain Cash Receipts and Cash Payments." An Amendment of the **FASB Accounting Standards Codification**. August 2016. <https://asc.fasb.org/imageRoot/55/95454355.pdf>

2 International Financial Reporting Standards (IFRS). "IAS 7 Statement of Cash Flows." n.d. <https://www.ifrs.org/issued-standards/list-of-standards/ias-7-statement-of-cash-flows/>

The statement of cash flows identifies the sources of cash as well as the uses of cash, for the period being reported, which leads the user of the financial statement to the period's **net cash flows**, which is a method used to determine profitability by measuring the difference between an entity's cash inflows and cash outflows. The statement answers the following two questions: What are the sources of cash (where does the cash come from)? What are the uses of cash (where does the cash go)? A positive net cash flow indicates an increase in cash during the reporting period, whereas a negative net cash flow indicates a decrease in cash during the reporting period. The statement of cash flows is also used as a predictive tool for external users of the financial statements, for estimated future cash flows, based on cash flow results in the past.

## LINK TO LEARNING

This [video from Khan Academy explains cash flows \(https://openstax.org/l/50CashFlowsVid\)](https://openstax.org/l/50CashFlowsVid) in a unique way.

## Approaches to Preparing the Statement of Cash Flows

The statement of cash flows can be prepared using the indirect approach or the direct approach. The **indirect method** reconciles net income to cash flows by subtracting noncash expenses and adjusting for changes in current assets and liabilities, which reflects timing differences between accrual-based net income and cash flows. A **noncash expense** is an expense that reduces net income but is not associated with a cash flow; the most common example is depreciation expense. The **direct method** lists net cash flows from revenue and expenses, whereby accrual basis revenue and expenses are converted to cash basis collections and payments. Because the vast majority of financial statements are presented using the indirect method, the indirect approach will be demonstrated within the chapter, and the direct method will be demonstrated in [Appendix: Prepare a Completed Statement of Cash Flows Using the Direct Method](#).

## LINK TO LEARNING

[AccountingCoach \(https://openstax.org/l/50AccountCoach\)](https://openstax.org/l/50AccountCoach) is a great resource for many accounting topics, including cash flow issues.

### 16.2 Differentiate between Operating, Investing, and Financing Activities

The statement of cash flows presents sources and uses of cash in three distinct categories: *cash flows from operating activities*, *cash flows from investing activities*, and *cash flows from financing activities*. Financial statement users are able to assess a company's strategy and ability to generate a profit and stay in business by assessing how much a company relies on operating, investing, and financing activities to produce its cash flows.

## THINK IT THROUGH

### Classification of Cash Flows Makes a Difference

Assume you are the chief financial officer of T-Shirt Pros, a small business that makes custom-printed T-shirts. While reviewing the financial statements that were prepared by company accountants, you discover an error. During this period, the company had purchased a warehouse building, in exchange for a \$200,000 note payable. The company's policy is to report noncash investing and financing activities in a separate statement, after the presentation of the statement of cash flows. This noncash investing and financing transaction was inadvertently included in both the financing section as a source of cash, and the investing section as a use of cash.

T-Shirt Pros' statement of cash flows, as it was prepared by the company accountants, reported the following for the period, and had no other capital expenditures.

Cash flows from operating activities	\$195,000
Cash flows from investing activities	(120,000)
Cash flows from financing activities	120,000
Total net cash flows	195,000

Because of the misplacement of the transaction, the calculation of free cash flow by outside analysts could be affected significantly. Free cash flow is calculated as cash flow from operating activities, reduced by capital expenditures, the value for which is normally obtained from the investing section of the statement of cash flows. As their manager, would you treat the accountants' error as a harmless misclassification, or as a major blunder on their part? Explain.

## Cash Flows from Operating Activities

Cash flows from **operating activities** arise from the activities a business uses to produce net income. For example, operating cash flows include cash sources from sales and cash used to purchase inventory and to pay for operating expenses such as salaries and utilities. Operating cash flows also include cash flows from interest and dividend revenue interest expense, and income tax.

## Cash Flows from Investing Activities

Cash flows from **investing activities** are cash business transactions related to a business' investments in long-term assets. They can usually be identified from changes in the Fixed Assets section of the long-term assets section of the balance sheet. Some examples of investing cash flows are payments for the purchase of land, buildings, equipment, and other investment assets and cash receipts from the sale of land, buildings, equipment, and other investment assets.

## Cash Flows from Financing Activities

Cash flows from **financing activities** are cash transactions related to the business raising money from debt or stock, or repaying that debt. They can be identified from changes in long-term liabilities and equity. Examples of financing cash flows include cash proceeds from issuance of debt instruments such as notes or bonds

payable, cash proceeds from issuance of capital stock, cash payments for dividend distributions, principal repayment or redemption of notes or bonds payable, or purchase of treasury stock. Cash flows related to changes in equity can be identified on the Statement of Stockholder's Equity, and cash flows related to long-term liabilities can be identified by changes in long-term liabilities on the balance sheet.

## CONCEPTS IN PRACTICE

### Can a Negative Be Positive?

Investors do not always take a negative cash flow as a negative. For example, assume in 2018 **Amazon** showed a loss of \$124 billion and a net cash outflow of \$262 billion from investing activities. Yet during the same year, **Amazon** was able to raise a net \$254 billion through financing. Why would investors and lenders be willing to place money with **Amazon**? For one thing, despite having a net loss, **Amazon** produced \$31 billion cash from operating activities. Much of this was through delaying payment on inventories. **Amazon's** accounts payable increased by \$78 billion, while its inventory increased by \$20 billion.

Another reason lenders and investors were willing to fund **Amazon** is that investing payments are often signs of a company growing. Assume that in 2018 **Amazon** paid almost \$50 billion to purchase fixed assets and to acquire other businesses; this is a signal of a company that is growing. Lenders and investors interpreted **Amazon's** cash flows as evidence that **Amazon** would be able to produce positive net income in the future. In fact, **Amazon** had net income of \$19 billion in 2017. Furthermore, **Amazon** is still showing growth through its statement of cash flows; it spent about \$26 billion in fixed equipment and acquisitions.

### 16.3

## Prepare the Statement of Cash Flows Using the Indirect Method

The statement of cash flows is prepared by following these steps:

#### Step 1: Determine Net Cash Flows from Operating Activities

Using the indirect method, operating net cash flow is calculated as follows:

- Begin with net income from the income statement.
- Add back noncash expenses, such as depreciation, amortization, and depletion.
- Remove the effect of gains and/or losses from disposal of long-term assets, as cash from the disposal of long-term assets is shown under investing cash flows.
- Adjust for changes in current assets and liabilities to remove accruals from operating activities.

#### Step 2: Determine Net Cash Flows from Investing Activities

Investing net cash flow includes cash received and cash paid relating to long-term assets.

#### Step 3: Present Net Cash Flows from Financing Activities

Financing net cash flow includes cash received and cash paid relating to long-term liabilities and equity.

#### Step 4: Reconcile Total Net Cash Flows to Change in Cash Balance during the Period

To reconcile beginning and ending cash balances:

- The net cash flows from the first three steps are combined to be total net cash flow.
- The beginning cash balance is presented from the prior year balance sheet.
- Total net cash flow added to the beginning cash balance equals the ending cash balance.

#### Step 5: Present Noncash Investing and Financing Transactions

Transactions that do not affect cash but do affect long-term assets, long-term debt, and/or equity are disclosed, either as a notation at the bottom of the statement of cash flow, or in the notes to the financial statements.

The remainder of this section demonstrates preparation of the statement of cash flows of the company whose financial statements are shown in [Figure 16.2](#), [Figure 16.3](#), and [Figure 16.4](#).

<b>PROPENSITY COMPANY</b>			
<b>Comparative Balance Sheet</b>			
<b>December 31</b>			
	<b>2018</b>	<b>2017</b>	<b>Change increase/ (decrease)</b>
<b>Assets</b>			
Cash	\$ 47,500	\$ 24,300	\$ 23,200
Accounts Receivable	21,500	26,000	(4,500)
Prepaid Insurance	2,500	1,800	700
Inventory	48,000	45,500	2,500
Land	20,000	10,000	10,000
Plant Assets	230,000	190,000	40,000
Accumulated Depreciation	<u>(85,500)</u>	<u>(71,100)</u>	<u>(14,400)</u>
Total Assets	\$284,000	\$226,500	\$ 57,500
<b>Liabilities and Equity</b>			
Liabilities:			
Accounts Payable	\$ 17,200	\$ 19,000	\$ (1,800)
Salaries Payable	1,900	1,500	400
Notes Payable	<u>85,000</u>	<u>75,000</u>	<u>10,000</u>
Total Liabilities	104,100	95,500	8,600
Equity:			
Common Stock	115,000	70,000	45,000
Retained Earnings	<u>64,900</u>	<u>61,000</u>	<u>3,900</u>
Total Equity	<u>179,900</u>	<u>131,000</u>	<u>48,900</u>
Total Liabilities and Equity	\$284,000	\$226,500	\$ 57,500

**Figure 16.2** Comparative Balance Sheet. (attribution: Copyright Rice University, OpenStax, under CC BY-NC-SA 4.0 license)

<b>PROPENSITY COMPANY</b>		
<b>Income Statement</b>		
<b>Year Ended December 31, 2018</b>		
Sales Revenue		\$238,000
Cost of Goods Sold		<u>153,000</u>
Gross Profit		85,000
Operating Expenses:		
Depreciation Expense	\$14,400	
Insurance Expense	12,000	
Salaries Expense	42,600	
Other Operating Expenses	<u>11,100</u>	
Total Operating Expenses		<u>80,100</u>
Operating Income		4,900
Other Revenue and (Expenses):		
Gain on Sale of Land	4,800	
Interest Expense	<u>(3,500)</u>	
Total Other Revenue and Expenses		<u>1,300</u>
Income Before Income Tax		6,200
Income Tax Expense		<u>1,860</u>
Net Income		\$ 4,340

**Figure 16.3** Income Statement. (attribution: Copyright Rice University, OpenStax, under CC BY-NC-SA 4.0 license)

Additional Information:

1. Propensity Company sold land with an original cost of \$10,000, for \$14,800 cash.
2. A new parcel of land was purchased for \$20,000, in exchange for a note payable.
3. Plant assets were purchased for \$40,000 cash.
4. Propensity declared and paid a \$440 cash dividend to shareholders.
5. Propensity issued common stock in exchange for \$45,000 cash.

<b>PROPENSITY COMPANY</b> <b>Statement of Cash Flows</b> <b>Indirect Method</b> <b>For the Year Ended December 31, 2018</b>		
Cash Flow from Operating Activities:		
Net Income		\$ 4,340
Adjustments to Reconcile Net Income to Net Cash Flow from Operating Activities:		
Depreciation	\$ 14,400	
Gain on Sale of Plant Assets	(4,800)	
Accounts Receivable decrease	4,500	
Prepaid Insurance increase	(700)	
Inventory increase	(2,500)	
Accounts Payable decrease	(1,800)	
Salaries Payable increase	400	9,500
Net Cash Flow: Operating Activities		<u>13,840</u>
Cash Flow from Investing Activities:		
Proceeds from Sale of Land	14,800	
Cost of New Plant Assets (Equipment)	<u>(40,000)</u>	
Net Cash Flow: Investing Activities		(25,200)
Cash Flow from Financing Activities:		
Payment of Notes Payable (principal)	(10,000)	
Issuance of Common Stock	45,000	
Payment of Dividends	<u>(440)</u>	
Net Cash Flow: Financing Activities		<u>34,560</u>
Total Cash Flow increase/(decrease)		23,200
Cash Balance, December 31, 2017		<u>24,300</u>
Cash Balance, December 31, 2018		\$ 47,500
<b>Noncash Investing and Financing Activities</b>		
Land Acquired in Exchange for Note Payable		\$ 20,000

**Figure 16.4** Statement of Cash Flows. (attribution: Copyright Rice University, OpenStax, under CC BY-NC-SA 4.0 license)

## Prepare the Operating Activities Section of the Statement of Cash Flows Using the Indirect Method

In the following sections, specific entries are explained to demonstrate the items that support the preparation of the operating activities section of the Statement of Cash Flows (Indirect Method) for the Propensity Company example financial statements.

- Begin with net income from the income statement.
- Add back noncash expenses, such as depreciation, amortization, and depletion.
- Reverse the effect of gains and/or losses from investing activities.
- Adjust for changes in current assets and liabilities, to reflect how those changes impact cash in a way that is different than is reported in net income.

### Start with Net Income

The operating activities cash flow is based on the company's net income, with adjustments for items that

affect cash differently than they affect net income. The net income on the Propensity Company income statement for December 31, 2018, is \$4,340. On Propensity's statement of cash flows, this amount is shown in the Cash Flows from Operating Activities section as Net Income.

Cash Flow from Operating Activities:	
Net Income	\$ 4,340

## Add Back Noncash Expenses

Net income includes deductions for noncash expenses. To reconcile net income to cash flow from operating activities, these noncash items must be added back, because no cash was expended relating to that expense. The sole noncash expense on Propensity Company's income statement, which must be *added back*, is the depreciation expense of \$14,400. On Propensity's statement of cash flows, this amount is shown in the Cash Flows from Operating Activities section as an adjustment to reconcile net income to net cash flow from operating activities.

Adjustments to Reconcile Net Income to Net Cash Flow from Operating Activities:	
Depreciation	\$14,400
Gain on Sale of Plant Assets	(4,800)
Accounts Receivable decrease	4,500
Prepaid Insurance increase	(700)
Inventory increase	(2,500)
Accounts Payable decrease	(1,800)
Salaries Payable decrease	400

## Reverse the Effect of Gains and/or Losses

Gains and/or losses on the disposal of long-term assets are included in the calculation of net income, but cash obtained from disposing of long-term assets is a cash flow from an investing activity. Because the disposition gain or loss is not related to normal operations, the adjustment needed to arrive at cash flow from operating activities is a reversal of any gains or losses that are included in the net income total. A gain is subtracted from net income and a loss is added to net income to reconcile to cash from operating activities. Propensity's income statement for the year 2018 includes a gain on sale of land, in the amount of \$4,800, so a reversal is accomplished by *subtracting* the gain from net income. On Propensity's statement of cash flows, this amount is shown in the Cash Flows from Operating Activities section as Gain on Sale of Plant Assets.

Adjustments to Reconcile Net Income to Net Cash Flow from Operating Activities:	
Depreciation	\$14,400
Gain on Sale of Plant Assets	(4,800)
Accounts Receivable decrease	4,500
Prepaid Insurance increase	(700)
Inventory increase	(2,500)
Accounts Payable decrease	(1,800)
Salaries Payable decrease	400

## Adjust for Changes in Current Assets and Liabilities

Because the Balance Sheet and Income Statement reflect the accrual basis of accounting, whereas the statement of cash flows considers the incoming and outgoing cash transactions, there are continual differences between (1) cash collected and paid and (2) reported revenue and expense on these statements.

Changes in the various current assets and liabilities can be determined from analysis of the company's comparative balance sheet, which lists the current period and previous period balances for all assets and liabilities. The following four possibilities offer explanations of the type of difference that might arise, and demonstrate examples from Propensity Company's statement of cash flows, which represent typical differences that arise relating to these current assets and liabilities.

### Increase in Noncash Current Assets

Increases in current assets indicate a decrease in cash, because either (1) cash was paid to generate another current asset, such as inventory, or (2) revenue was accrued, but not yet collected, such as accounts receivable. In the first scenario, the use of cash to increase the current assets is not reflected in the net income reported on the income statement. In the second scenario, revenue is included in the net income on the income statement, but the cash has not been received by the end of the period. In both cases, current assets increased and net income was reported on the income statement greater than the actual net cash impact from the related operating activities. To reconcile net income to cash flow from operating activities, *subtract* increases in current assets.

Propensity Company had two instances of increases in current assets. One was an increase of \$700 in prepaid insurance, and the other was an increase of \$2,500 in inventory. In both cases, the increases can be explained as additional cash that was spent, but which was not reflected in the expenses reported on the income statement.

Adjustments to Reconcile Net Income to Net Cash Flow from Operating Activities:	
Depreciation	\$14,400
Gain on Sale of Plant Assets	(4,800)
Accounts Receivable decrease	4,500
Prepaid Insurance increase	(700)
Inventory increase	(2,500)
Accounts Payable decrease	(1,800)
Salaries Payable decrease	400

### Decrease in Noncash Current Assets

Decreases in current assets indicate lower net income compared to cash flows from (1) prepaid assets and (2) accrued revenues. For decreases in prepaid assets, using up these assets shifts these costs that were recorded as assets over to current period expenses that then reduce net income for the period. Cash was paid to obtain the prepaid asset in a prior period. Thus, cash from operating activities must be increased to reflect the fact that these expenses reduced net income on the income statement, but cash was not paid this period. Secondly, decreases in accrued revenue accounts indicates that cash was collected in the current period but was recorded as revenue on a previous period's income statement. In both scenarios, the net income reported on the income statement was lower than the actual net cash effect of the transactions. To reconcile net income to cash flow from operating activities, *add* decreases in current assets.

Propensity Company had a decrease of \$4,500 in accounts receivable during the period, which normally results only when customers pay the balance, they owe the company at a faster rate than they charge new account balances. Thus, the decrease in receivable identifies that more cash was collected than was reported as revenue on the income statement. Thus, an addback is necessary to calculate the cash flow from operating activities.

Adjustments to Reconcile Net Income to Net Cash Flow from Operating Activities:	
Depreciation	\$14,400
Gain on Sale of Plant Assets	(4,800)
Accounts Receivable decrease	4,500
Prepaid Insurance increase	(700)
Inventory increase	(2,500)
Accounts Payable decrease	(1,800)
Salaries Payable increase	400

### Current Operating Liability Increase

Increases in current liabilities indicate an increase in cash, since these liabilities generally represent (1) expenses that have been accrued, but not yet paid, or (2) deferred revenues that have been collected, but not yet recorded as revenue. In the case of accrued expenses, costs have been reported as expenses on the income statement, whereas the deferred revenues would arise when cash was collected in advance, but the revenue was not yet earned, so the payment would not be reflected on the income statement. In both cases, these increases in current liabilities signify cash collections that exceed net income from related activities. To reconcile net income to cash flow from operating activities, *add* increases in current liabilities.

Propensity Company had an increase in the current operating liability for salaries payable, in the amount of \$400. The payable arises, or increases, when an expense is recorded but the balance due is not paid at that time. An increase in salaries payable therefore reflects the fact that salaries expenses on the income statement are greater than the cash outgo relating to that expense. This means that net cash flow from operating is greater than the reported net income, regarding this cost.

Adjustments to Reconcile Net Income to Net Cash Flow from Operating Activities:	
Depreciation	\$14,400
Gain on Sale of Plant Assets	(4,800)
Accounts Receivable decrease	4,500
Prepaid Insurance increase	(700)
Inventory increase	(2,500)
Accounts Payable decrease	(1,800)
Salaries Payable decrease	400

### Current Operating Liability Decrease

Decreases in current liabilities indicate a decrease in cash relating to (1) accrued expenses, or (2) deferred revenues. In the first instance, cash would have been expended to accomplish a decrease in liabilities arising from accrued expenses, yet these cash payments would not be reflected in the net income on the income statement. In the second instance, a decrease in deferred revenue means that some revenue would have been reported on the income statement that was collected in a previous period. As a result, cash flows from operating activities must be decreased by any reduction in current liabilities, to account for (1) cash payments to creditors that are higher than the expense amounts on the income statement, or (2) amounts collected that are lower than the amounts reflected as income on the income statement. To reconcile net income to cash flow from operating activities, *subtract* decreases in current liabilities.

Propensity Company had a decrease of \$1,800 in the current operating liability for accounts payable. The fact that the payable decreased indicates that Propensity paid enough payments during the period to keep up with new charges, and also to pay down on amounts payable from previous periods. Therefore, the company had to have paid more in cash payments than the amounts shown as expense on the Income Statements, which means net cash flow from operating activities is lower than the related net income.

Adjustments to Reconcile Net Income to Net Cash Flow from Operating Activities:	
Depreciation	\$14,400
Gain on Sale of Plant Assets	(4,800)
Accounts Receivable decrease	4,500
Prepaid Insurance increase	(700)
Inventory increase	(2,500)
Accounts Payable decrease	(1,800)
Salaries Payable decrease	400

### Analysis of Change in Cash

Although the net income reported on the income statement is an important tool for evaluating the success of the company's efforts for the current period and their viability for future periods, the practical effectiveness of management is not adequately revealed by the net income alone. The net cash flows from operating activities adds this essential facet of information to the analysis, by illuminating whether the company's operating cash sources were adequate to cover their operating cash uses. When combined with the cash flows produced by investing and financing activities, the operating activity cash flow indicates the feasibility of continuance and advancement of company plans.

### Determining Net Cash Flow from Operating Activities (Indirect Method)

Net cash flow from operating activities is the net income of the company, adjusted to reflect the cash impact of operating activities. Positive net cash flow generally indicates adequate cash flow margins exist to provide continuity or ensure survival of the company. The magnitude of the net cash flow, if large, suggests a comfortable cash flow cushion, while a smaller net cash flow would signify an uneasy comfort cash flow zone. When a company's net cash flow from operations reflects a substantial negative value, this indicates that the company's operations are not supporting themselves and could be a warning sign of possible impending doom for the company. Alternatively, a small negative cash flow from operating might serve as an early warning that allows management to make needed corrections, to ensure that cash sources are increased to amounts in excess of cash uses, for future periods.

For Propensity Company, beginning with net income of \$4,340, and reflecting adjustments of \$9,500, delivers a net cash flow from operating activities of \$13,840.

Cash Flow from Operating Activities:	
Net Income	\$ 4,340
Adjustments to Reconcile Net Income to Net Cash Flow from Operating Activities:	
Depreciation	\$14,400
Gain on Sale of Plant Assets	(4,800)
Accounts Receivable decrease	4,500
Prepaid Insurance increase	(700)
Inventory increase	(2,500)
Accounts Payable decrease	(1,800)
Salaries Payable increase	400
	<u>9,500</u>
Net Cash Flow: Operating Activities	<u>\$13,840</u>

**Figure 16.5** Cash from Operating. (attribution: Copyright Rice University, OpenStax, under CC BY-NC-SA 4.0 license)

## YOUR TURN

### Cash Flow from Operating Activities

Assume you own a specialty bakery that makes gourmet cupcakes. Excerpts from your company's financial statements are shown.

	Income Statement	Balance Sheets
Sales	\$189,000	
Cost of Goods Sold	(75,600)	
Operating Expense (except depreciation)	(81,500)	
Depreciation Expense	<u>(12,000)</u>	
Net Income	19,900	
Accounts Receivable decrease		\$2,000
Merchandise Inventory increase		1,600
Accounts Payable decrease		5,500

How much cash flow from operating activities did your company generate?

#### Solution

Cash flows from operating activities:	
Net income	\$19,900
Depreciation add back	12,000
Accounts Receivable decrease	2,000
Merchandise Inventory increase	(1,600)
Accounts Payable decrease	<u>(5,500)</u>
= Net cash flows from operating activities	26,800

## THINK IT THROUGH

### Explaining Changes in Cash Balance

Assume that you are the chief financial officer of a company that provides accounting services to small businesses. You are called upon by the board of directors to explain why your cash balance did not increase much from the beginning of 2018 until the end of 2018, since the company produced a reasonably strong profit for the year, with a net income of \$88,000. Further assume that there were no investing or financing transactions, and no depreciation expense for 2018. What is your response? Provide the calculations to back up your answer.

	Dec. 31, 2018	Dec. 31, 2017
Cash	\$195,700	\$146,000
Accounts Receivable	216,000	198,500
Prepaid Costs (Insurance and Office Rent)	6,000	7,200
Accounts Payable	80,500	102,500

Operating Activities:	
Net Income	\$ 88,000
Increase in Accounts Receivable	(17,500)
Decrease in Prepaid Costs	1,200
Decrease in Accounts Payable	<u>(22,000)</u>
Net cash flow from operating activities	49,700

## Prepare the Investing and Financing Activities Sections of the Statement of Cash Flows

Preparation of the investing and financing sections of the statement of cash flows is an identical process for both the direct and indirect methods, since only the technique used to arrive at net cash flow from operating activities is affected by the choice of the direct or indirect approach. The following sections discuss specifics regarding preparation of these two nonoperating sections, as well as notations about disclosure of long-term noncash investing and/or financing activities. Changes in the various long-term assets, long-term liabilities, and equity can be determined from analysis of the company's comparative balance sheet, which lists the current period and previous period balances for all assets and liabilities.

### Investing Activities

Cash flows from investing activities always relate to long-term asset transactions and may involve increases or decreases in cash relating to these transactions. The most common of these activities involve purchase or sale of property, plant, and equipment, but other activities, such as those involving investment assets and notes receivable, also represent cash flows from investing. Changes in long-term assets for the period can be identified in the Noncurrent Assets section of the company's comparative balance sheet, combined with any related gain or loss that is included on the income statement.

In the Propensity Company example, the investing section included two transactions involving long-term assets, one of which increased cash, while the other one decreased cash, for a total net cash flow from investing of (\$25,200). Analysis of Propensity Company's comparative balance sheet revealed changes in land and plant assets. Further investigation identified that the change in long-term assets arose from three transactions:

1. Investing activity: A tract of land that had an original cost of \$10,000 was sold for \$14,800.
2. Investing activity: Plant assets were purchased, for \$40,000 cash.
3. Noncash investing and financing activity: A new parcel of land was acquired, in exchange for a \$20,000 note payable.

Details relating to the treatment of each of these transactions are provided in the following sections.

Cash Flow from Investing Activities:		
Proceeds from Sale of Land	\$ 14,800	
Cost of New Plant Assets (Equipment)	<u>(40,000)</u>	
Net Cash Flow: Investing Activities		\$(25,200)

Cash Flow from Investing Activities:		
Proceeds from Sale of Land	\$ 14,800	
Cost of New Plant Assets (Equipment)	<u>(40,000)</u>	
Net Cash Flow: Investing Activities		\$(25,200)

Noncash Investing and Financing Activities		
Land Acquired in Exchange for Note Payable		\$ 20,000

### Investing Activities Leading to an Increase in Cash

Increases in net cash flow from investing usually arise from the sale of long-term assets. The cash impact is the cash proceeds received from the transaction, which is not the same amount as the gain or loss that is reported on the income statement. Gain or loss is computed by subtracting the asset's net book value from the cash proceeds. Net book value is the asset's original cost, less any related accumulated depreciation. Propensity Company sold land, which was carried on the balance sheet at a net book value of \$10,000, representing the original purchase price of the land, in exchange for a cash payment of \$14,800. The data set explained these net book value and cash proceeds facts for Propensity Company. However, had these facts not been stipulated in the data set, the cash proceeds could have been determined by adding the reported \$4,800 gain on the sale to the \$10,000 net book value of the asset given up, to arrive at cash proceeds from the sale.

Proceeds from Sale of Land	\$ 14,800
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### Investing Activities Leading to a Decrease in Cash

Decreases in net cash flow from investing normally occur when long-term assets are purchased using cash. For example, in the Propensity Company example, there was a decrease in cash for the period relating to a simple purchase of new plant assets, in the amount of \$40,000.

Cost of New Plant Assets (Equipment)	<u>\$(40,000)</u>
--------------------------------------	-------------------

### Financing Activities

Cash flows from financing activities always relate to either long-term debt or equity transactions and may involve increases or decreases in cash relating to these transactions. Stockholders' equity transactions, like stock issuance, dividend payments, and treasury stock buybacks are very common financing activities. Debt transactions, such as issuance of bonds payable or notes payable, and the related principal payback of them, are also frequent financing events. Changes in long-term liabilities and equity for the period can be identified in the Noncurrent Liabilities section and the Stockholders' Equity section of the company's Comparative Balance Sheet, and in the retained earnings statement.

In the Propensity Company example, the financing section included three transactions. One long-term debt transaction decreased cash. Two transactions related to equity, one of which increased cash, while the other one decreased cash, for a total net cash flow from financing of \$34,560. Analysis of Propensity Company's Comparative Balance Sheet revealed changes in notes payable and common stock, while the retained earnings statement indicated that dividends were distributed to stockholders. Further investigation identified that the change in long-term liabilities and equity arose from three transactions:

1. Financing activity: Principal payments of \$10,000 were paid on notes payable.
2. Financing activity: New shares of common stock were issued, in the amount of \$45,000.
3. Financing activity: Dividends of \$440 were paid to shareholders.

Specifics about each of these three transactions are provided in the following sections.

Cash Flow from Financing Activities:		
Payment of Notes Payable (principal)	\$(10,000)	
Issuance of Common Stock	45,000	
Payment of Dividends	(440)	
Net Cash Flow: Financing Activities		\$34,560

### Financing Activities Leading to an Increase in Cash

Increases in net cash flow from financing usually arise when the company issues share of stock, bonds, or notes payable to raise capital for cash flow. Propensity Company had one example of an increase in cash flows, from the issuance of common stock.

Issuance of Common Stock	\$45,000
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### Financing Activities Leading to a Decrease in Cash

Decreases in net cash flow from financing normally occur when (1) long-term liabilities, such as notes payable or bonds payable are repaid, (2) when the company reacquires some of its own stock (treasury stock), or (3) when the company pays dividends to shareholders. In the case of Propensity Company, the decreases in cash resulted from notes payable principal repayments and cash dividend payments.

Payment of Notes Payable (principal)	\$(10,000)
Payment of Dividends	(440)

### Noncash Investing and Financing Activities

Sometimes transactions can be very important to the company, yet not involve any initial change to cash. Disclosure of these noncash investing and financing transactions can be included in the notes to the financial statements, or as a notation at the bottom of the statement of cash flows, after the entire statement has been completed. These noncash activities usually involve one of the following scenarios:

- exchanges of long-term assets for long-term liabilities or equity, or
- exchanges of long-term liabilities for equity.

Propensity Company had a noncash investing and financing activity, involving the purchase of land (investing activity) in exchange for a \$20,000 note payable (financing activity).

**Noncash Investing and Financing Activities**

Land Acquired in Exchange for Note Payable	\$20,000
--	----------

**Summary of Investing and Financing Transactions on the Cash Flow Statement**

Investing and financing transactions are critical activities of business, and they often represent significant amounts of company equity, either as sources or uses of cash. Common activities that must be reported as investing activities are purchases of land, equipment, stocks, and bonds, while financing activities normally relate to the company's funding sources, namely, creditors and investors. These financing activities could include transactions such as borrowing or repaying notes payable, issuing or retiring bonds payable, or issuing stock or reacquiring treasury stock, to name a few instances.

**YOUR TURN****Cash Flow from Investing Activities**

Assume your specialty bakery makes gourmet cupcakes and has been operating out of rented facilities in the past. You owned a piece of land that you had planned to someday use to build a sales storefront. This year your company decided to sell the land and instead buy a building, resulting in the following transactions.

Acquired new building, to be used as the storefront for the bakery	\$85,000
Collected interest on investment assets	2,250
Gain on the sale of land	25,200
Additional information: Original cost of land	22,000

What are the cash flows from investing activities relating to these transactions?

**Solution**

Investing activities:	
Cash proceeds from sale of land	\$ 47,200
Cash paid for purchase of building	(85,000)
Net cash flows from investing activities	(37,800)

Note: Interest earned on investments is an operating activity.

## 16.4 Prepare the Completed Statement of Cash Flows Using the Indirect Method

In this section, we use the example of Virtual Co. to work through the entire process of preparing the company's statement of cash flows using the indirect method. Virtual's comparative balance sheet and income statement are provided as a base for the preparation of the statement of cash flows.

## Review Problem: Preparing the Virtual Co. Statement of Cash Flows

<b>VIRTUAL CO.</b>			
<b>Comparative Balance Sheet</b>			
<b>December 31</b>			
	<b>2018</b>	<b>2017</b>	<b>Change increase/ (decrease)</b>
<b>Assets</b>			
Cash	\$ 66,700	\$ 83,250	\$(16,550)
Accounts Receivable	55,400	54,220	1,180
Prepaid Insurance	2,400	3,600	(1,200)
Investments	95,000	75,000	20,000
Plant Assets	356,000	290,000	66,000
Accumulated Depreciation	<u>(65,700)</u>	<u>(36,700)</u>	<u>(29,000)</u>
Total Assets	\$509,800	\$469,370	\$ 40,430
<b>Liabilities and Equity</b>			
Liabilities:			
Accounts Payable	\$ 48,100	\$ 47,300	\$ 800
Notes Payable	<u>160,000</u>	<u>185,000</u>	<u>(25,000)</u>
Total Liabilities	208,100	232,300	(24,200)
Equity:			
Common Stock	130,000	100,000	30,000
Retained Earnings	<u>171,700</u>	<u>137,070</u>	<u>34,630</u>
Total Equity	<u>301,700</u>	<u>237,070</u>	<u>64,630</u>
Total Liabilities and Equity	\$509,800	\$469,370	\$ 40,430

**Figure 16.6** Comparative Balance Sheet. (attribution: Copyright Rice University, OpenStax, under CC BY-NC-SA 4.0 license)

<b>VIRTUAL CO.</b>		
<b>Income Statement</b>		
<b>For the Year Ended December 31, 2018</b>		
Sales Revenue		\$433,000
Cost of Goods Sold		<u>289,000</u>
Gross Profit		144,000
Operating Expenses:		
Depreciation Expense	\$29,000	
Insurance Expense	14,400	
Other Operating Expenses	<u>57,200</u>	
Total Operating Expenses		<u>100,600</u>
Operating Income		43,400
Other Revenue and (Expenses):		
Gain on Sale of Land	<u>17,500</u>	
Total Other Revenue and Expenses		<u>17,500</u>
Income Before Income Tax		60,900
Income Tax Expense		<u>18,270</u>
Net Income		\$ 42,630

**Figure 16.7** Income Statement. (attribution: Copyright Rice University, OpenStax, under CC BY-NC-SA 4.0 license)

### Additional Information

The following additional information is provided:

1. Investments that originally cost \$30,000 were sold for \$47,500 cash.
2. Investments were purchased for \$50,000 cash.
3. Plant assets were purchased for \$66,000 cash.
4. Cash dividends were declared and paid to shareholders in the amount of \$8,000.

### Directions:

Prepare the statement of cash flows (indirect method), for the year ended December 31, 2018.

VIRTUAL CO. Statement of Cash Flows: Indirect Method For the Year Ended December 31, 2018		
Cash Flow from Operating Activities:		
Net Income		\$ 42,630
Adjustments to Reconcile Net Income to Net Cash Flow from Operating Activities:		
Depreciation	\$ 29,000	
Gain on Sale of Plant Assets	(17,500)	
Accounts Receivable decrease	(1,180)	
Prepaid Insurance decrease	1,200	
Accounts Payable increase	800	12,320
Net Cash Flow: Operating Activities		<u>54,950</u>
Cash Flow from Investing Activities:		
Proceeds from Sale of Investments	47,500	
Cost of Investments Purchased	(50,000)	
Cost of New Plant Assets	<u>(66,000)</u>	
Net Cash Flow: Investing Activities		(68,500)
Cash Flow from Financing Activities:		
Payment of Notes Payable (principal)	(25,000)	
Issuance of Common Stock	30,000	
Payment of Dividends	<u>(8,000)</u>	
Net Cash Flow: Financing Activities		<u>(3,000)</u>
Total Cash Flow increase/(decrease)		(16,550)
Cash Balance, December 31, 2017		<u>83,250</u>
Cash Balance, December 31, 2018		\$ 66,700

**Figure 16.8** Statement of Cash Flows. (attribution: Copyright Rice University, OpenStax, under CC BY-NC-SA 4.0 license)

## 16.5 Use Information from the Statement of Cash Flows to Prepare Ratios to Assess Liquidity and Solvency

Cash flow ratio analysis allows financial statement users to see the company's liquidity position from a clearer perspective. The ratios presented in this section focus on **free cash flow**, calculated as operating cash, reduced by expected capital expenditures and by cash dividends payments. The free cash flow value is thus an adaptation of cash flow from operating activities. The result obtained in the initial free cash flow calculation is then used to calculate the **free cash flow to sales ratio**, which is the ratio of free cash flow to sales revenue, and the **free cash flow to assets ratio**, which is the ratio of free cash flow to total assets. These three tools give indicators about the company's flexibility and agility, which equates to their ability to seize opportunities in the future, as they arise.

## ETHICAL CONSIDERATIONS

### Cash Flow Analysis

Cash is required to pay the bills. All businesses need to have a clear picture of available cash so they can plan and pay their bills. The statement of cash flows allows investors direct insight into the actual activity on the company's cash balances. Mark A. Siegel wrote in *The CPA Journal* that "as Wall Street analysts have lost faith in earnings-based metrics in the wake of Enron, WorldCom, and others, many have gravitated toward the cash flow statement. Companies are regularly evaluated on the basis of free cash flow yield and other measures of cash generation."<sup>[3]</sup> The operating cash flow ratio, and the cash flow margin ratio, and the other cash flow-related metrics discussed allow an investor and other users of the financial statements to analyze financial statement data to see a company's ability to pay for current debt and assess its operational cash flow to function as a going concern.<sup>[4]</sup> This helps investors and other users of the financial statements ensure the veracity of a company's financial statements and its ability to pay its bills.

### Free Cash Flow

Free cash flow calculations start with cash flows from operating activities, reduced by planned capital expenditures and planned cash dividend payments. In the example case demonstrated, free cash flow would be as follows:

Free cash flow calculation:

Cash flow from operating	\$ 13,840
– Cash planned for capital expenditures	(40,000)
– Cash dividends	(440)
= Free Cash Flow	<u>(26,600)</u>

The absence of free cash flow is an indicator of severe liquidity concern for Propensity Company and could be an early indicator that the company may not be able to continue operations. This could also be a one-time occurrence, in a year where a large capital investment was planned, to be financed with resources from the company's capital reserves from previous years' profits. In such a case, the negative free cash flow would not be an issue of concern.

## LINK TO LEARNING

This [article by Investopedia](https://openstax.org/l/50FreeCashFlow) presents information about how to use free cash flow (<https://openstax.org/l/50FreeCashFlow>) to evaluate strengths of various businesses:

3 Marc A. Siegel. "Accounting Shenanigans on the Cash Flow Statement." *CPA Journal*. March 2006. <http://archives.cpajournal.com/2006/306/essentials/p38.htm>

4 Steven D. Jones. "Why Cash Flow Matters in Evaluating a Company." *The Wall Street Journal*. August 11, 2016. <https://www.wsj.com/articles/SB997466275287616386>. Miriam Gottfried. "Spoiler Alert for Netflix: Debt and Cash Flow Matter." *The Wall Street Journal*. April 17, 2017. <https://www.wsj.com/articles/spoiler-alert-for-netflix-debt-and-cash-flow-matter-1492468397>

## Cash Flows to Sales

The cash flows to sales ratio is computed by dividing free cash flow by sales revenue. In the Propensity Company case, free cash flow had a negative outcome, so the calculation would not be useful in this case.

## Cash Flows to Assets

The cash flows to assets ratio is computed by dividing free cash flow by total assets. Again, when the free cash flow had a negative outcome, as it did in the Propensity Company example scenario, the calculation would not be useful.

### CONCEPTS IN PRACTICE

#### Lehman Brothers: Would You Have Invested?

Between 2005 and 2007, **Lehman Brothers** (an investment bank) increased its net income from \$3.1 billion to \$4.1 billion. It received nearly \$42 billion interest and dividends on its investments, a primary part of its business model, in 2007 alone. It also had \$7.2 billion available in cash at the end of 2007. Would you be interested in investing in **Lehman Brothers**? However, **Lehman Brothers** went bankrupt in September 2008; it was the biggest corporate bankruptcy in history. Could investors have known?

A clue would be its free cash ratio. Assuming that you would expect **Lehman Brothers**' actual capital expenditures and dividend payments from 2007 be expected in 2008, Lehman's free cash ratio would be calculated as, in millions:

Cash flows from operating activities	\$(45,595)
Cash planned for capital expenditures	(1,931)
Cash dividends:	(418)
Free cash flow	<u>\$(47,944)</u>

**Lehman Brothers** invested heavily in securities created from subprime mortgages. When the subprime mortgage market collapsed in 2008, **Lehman Brothers** was not able to generate enough cash to stay in business. The large negative free cash flow gave warning that **Lehman Brothers** was a risky investment.

### IFRS CONNECTION

#### Statement of Cash Flows

In every type of business across the globe, it is important to understand the business's cash position. Analyzing cash inflows and outflows, current cash flow, and cash flow trends, and predicting future cash flows all importantly inform decision-making. The US Securities and Exchange Commission (SEC) requires the statement of cash flows as the mechanism that allows users to better assess a company's cash position. US generally accepted accounting principles (GAAP) and International Financial Reporting

Standards (IFRS) set forth rules regarding the composition and presentation of the statement of cash flows.

- **Method:** Both GAAP and IFRS recommend and encourage the direct method of preparing the statement of cash flows but allow the indirect method. Under US GAAP, if the direct method is used, a reconciliation between net income and operating income must also be presented. This reconciliation is not required under IFRS.
- **Presentation:** The three categories—Cash Flows from Operating Activities, Cash Flows from Investing Activities, and Cash Flows from Financing Activities—are required under both US GAAP and IFRS. US GAAP requires the presentation of only one year of information, while IFRS requires two years of data.
- **Categorizing Transactions:** IFRS is more flexible in where to present certain cash flow transactions than is US GAAP. This flexibility occurs around interest, dividends, and taxes. As shown in [Table 16.1](#), US GAAP is more rigid in reporting.

#### Comparing GAAP and IFRS

	US GAAP	IFRS
Interest paid	Operating	Operating or financing
Interest received	Operating	Operating or investing
Dividends paid	Financing	Operating or financing
Dividends received	Operating	Operating or investing
Taxes	Operating	Usually operating but option to dissect tax into operating and financing components

**Table 16.1**

Understanding the impact of these potential differences is important. The statement of cash flows is used not only to evaluate from where a company receives and spends its cash, but also to predict future cash flows. The flexibility of these reporting items in the statement of cash flows can result in decreased comparability between similar companies using different reporting methods. For example, Free Cash Flow (Operating Cash Flows less Capital Expenditures), will have different results if interest and dividends are classified in sections other than operating activities.

Let's consider an example: World-Wide Co. is headquartered in London and currently reports under US GAAP because it is traded on the New York Stock Exchange (NYSE). World-Wide is considering switching to reporting under IFRS to make the company more comparable to its competitors, since most of them use IFRS. World-Wide has the following information in the operating activities section of its most recent statement of cash flows.

Cash flows from operating activities	\$2,500,000
Cash interest payments	200,000
Cash interest received	90,000
Taxes paid	125,000
Cash dividends received	50,000

World-Wide had \$1,000,000 in capital expenditures during the year, and they paid dividends of \$80,000 to shareholders.

Based on this information, World-Wide's Free Cash Flow would be as follows:

$$\text{Free Cash Flow} = \text{Cash from Operating Activities} - \text{Capital Expenditures}$$

or

$$\$2,500,000 - \$1,000,000 = \$1,500,000$$

If World-Wide switches to IFRS reporting, it has determined that its cash interest payments would be classified as financing activities because the payments are related to long-term debt. The interest received is from a short-term receivable and thus will remain classified as an operating activity, but the dividends received are from a long-term investment and will be reclassified to an investing activity. And, \$60,000 of the taxes have been identified as being associated with tax consequences of an investing opportunity and therefore will be reclassified as an investing activity. With these reclassifications, the free cash flow of World-Wide would be as follows:

$$\text{FCF} = (\$2,500,000 + \$200,000 - \$50,000 + \$60,000) - 1,000,000 = \$1,710,000$$

The take-away from this example is that the flexibility afforded by IFRS can have an impact on comparability between companies.

These, and other differences, between US GAAP and IFRS arise because of the more rules-based nature of the standards put forth by FASB versus the more principles-based rules set forth by IASB. The IASB, in creating IFRS standards, follows a substance-over-form viewpoint that allows firms more flexibility in assessing the intent of transactions. Anytime more judgement is allowed and/or utilized, there must be adequate disclosure to explain the chosen reporting methodology.

## 16.6 Appendix: Prepare a Completed Statement of Cash Flows Using the Direct Method

<b>PROPENSITY COMPANY</b>		
<b>Statement of Cash Flows: Direct Method</b>		
<b>For the Year Ended December 31, 2018</b>		
Cash Flow from Operating Activities:		
Cash Collected from Customers		\$242,500
Cash Payments:		
To Suppliers for Inventory	\$157,300	
For Salaries	42,200	
For Insurance	12,700	
For Interest	3,500	
For Income Taxes	1,860	
For Other Operating Expenses	<u>11,100</u>	<u>228,660</u>
Net Cash Flow: Operating Activities		13,840
Cash Flow from Investing Activities:		
Proceeds from Sale of Land	14,800	
Cost of New Plant Assets (Equipment)	<u>(40,000)</u>	
Net Cash Flow: Investing Activities		(25,200)
Cash Flow from Financing Activities:		
Payment of Notes Payable (principal)	(10,000)	
Issuance of Common Stock	45,000	
Payment of Dividends	<u>(440)</u>	
Net Cash Flow: Financing Activities		<u>34,560</u>
Total Cash Flow increase/(decrease)		23,200
Cash Balance, December 31, 2017		<u>24,300</u>
Cash Balance, December 31, 2018		\$ 47,500
<b>Noncash Investing and Financing Activities</b>		
Land Acquired in Exchange for Note Payable		\$ 20,000

**Figure 16.9** Statement of Cash Flows. (attribution: Copyright Rice University, OpenStax, under CC BY-NC-SA 4.0 license)

As previously mentioned, the net cash flows for all sections of the statement of cash flows are identical when using the direct method or the indirect method. The difference is just in the way that net cash flows from operating activities are calculated and presented. The direct approach requires that each item of income and expense be converted from the accrual basis value to the cash basis value for that item. This is accomplished by adjusting the accrual amount for the revenue or expense by any related current operating asset or liability. Revenue and expense items that are not related to those current asset and liability accounts would not need an adjustment.

In the following section, we demonstrate the calculations needed to assess the component pieces of the operating section using the direct approach.

## Cash Collected from Customers

Cash collected from customers is different from the sales revenue that is recorded on the accrual basis financial statements. To reconcile the amount of sales revenue reported on the income statement to the cash collected from sales, calculate the maximum amount of cash that could have been collected this period (potential cash collected) by combining (a) the amount that was due from customers on the first day of the period (beginning accounts receivable) and (b) total sales revenue recorded this period. If there were no outstanding accounts receivable balance at the end of the period, then one could reasonably assume that this total was collected in full during this period. Thus, the amount collected for sales can be determined by subtracting the ending accounts receivable balance from the total potential cash that could have been collected.

<b>Cash Collected from Sales Revenue</b>	
Beginning balance, Accounts Receivable	\$ 26,000
+ Accrual Basis Sales	<u>238,000</u>
= Potential Cash Collected	264,000
- Ending balance, Accounts Receivable	<u>21,500</u>
= Cash Collected from Customers this Period	<b>\$242,500</b>

## Cash Paid to Suppliers for Inventory

Cash paid for inventory is different from the cost of goods sold that is recorded on the accrual basis financial statements. To reconcile the amount of cost of goods sold reported on the income statement to the cash paid for inventory, it is necessary to perform two calculations. The first part of the calculation determines how much inventory was purchased, and the second part of the calculation determines how much of those purchases were paid for during the current period.

First, calculate the maximum amount of inventory that was available for sale this period by combining (a) the amount of inventory that was on hand on the last day of the period (ending inventory) and (b) total cost of goods sold recorded this period. If there were no inventory balance at the beginning of the period, then one could reasonably assume that this total was purchased entirely during the current period. Thus, the amount of inventory purchased this period can be determined by subtracting the beginning inventory balance from the total goods (inventory) available for sale.

Second, calculate the maximum amount of cash that could have been paid for inventory this period (total obligation to pay inventory costs) by combining (a) the amount that was due to suppliers on the first day of the period (beginning accounts payable) and (b) total inventory purchases this period, from the first inventory calculation. If there were no outstanding accounts payable balance at the end of the period, then one could reasonably assume that this total was paid in full during this current period. Thus, the amount paid for inventory can be determined by subtracting the ending accounts payable balance from the total obligation to pay inventory costs that could have been paid. The final number of the second calculation is the actual cash paid for inventory.

**Cash Paid for Inventory Purchases: Part 1**

Ending balance, Inventory	\$ 48,000
+ Cost of Goods Sold	153,000
= Goods Available for Sale	201,000
- Beginning balance, Inventory	<u>45,500</u>
= Inventory Purchased this Period	155,500

**Cash Paid for Inventory Purchases: Part 2**

Beginning balance, Accounts Payable	19,000
+ Inventory Purchased (from Part 1)	<u>155,500</u>
= Total Obligation to Pay Inventory Costs	174,500
- Ending balance, Accounts Payable	<u>17,200</u>
= Cash Paid for Inventory this Period	<b>\$157,300</b>

## Cash Paid for Salaries

Cash paid for salaries is different from the salaries expense that is recorded on the accrual basis financial statements. To reconcile the amount of salaries expense reported on the income statement to the cash paid for salaries, calculate the maximum amount of cash that could have been paid for salaries this period (total obligation to pay salaries) by combining (a) the amount that was due to employees on the first day of the period (beginning salaries payable) and (b) total salaries expense recorded this period. If there were no outstanding salaries payable balance at the end of the period, then one could reasonably assume that this total was paid in full during this current period. Thus, the amount paid for salaries can be determined by subtracting the ending salaries payable balance from the total obligation to pay salaries that could have been paid.

**Cash Paid for Expense Related to a Current Liability**

Beginning balance, Salaries Payable	\$ 1,500
+ Expense on Income Statement	<u>42,600</u>
= Total Obligation to Pay Salaries	44,100
- Ending balance, Salaries Payable	<u>1,900</u>
= Cash paid for Salaries this Period	<b>\$42,200</b>

## Cash Paid for Insurance

Cash paid for insurance is different from the insurance expense that is recorded on the accrual basis financial statements. To reconcile the amount of insurance expense reported on the income statement to the cash paid for insurance premiums, calculate the maximum amount of cash that could have been paid for insurance this period (total insurance premiums expended) by combining (a) the amount of insurance premiums that were prepaid on the last day of the period (ending prepaid insurance) and (b) total insurance expense recorded this period. If there were no prepaid insurance balance at the beginning of the period, then one could reasonably assume that this total was paid entirely during the current period. Thus, the amount paid for insurance this period can be determined by subtracting the beginning prepaid insurance balance from the total insurance premiums that had been recorded as expended.

**Cash Paid for Expense Related to a Prepaid Asset**

Ending balance, Prepaid Insurance	\$ 2,500
+ Insurance Expense on Income Statement	<u>12,000</u>
= Total Insurance Premiums Expended	14,500
- Beginning balance, Prepaid Insurance	<u>1,800</u>
= Insurance Paid this Period	<b>\$12,700</b>

## Key Terms

**cash flow** cash receipts and cash disbursements as a result of business activity

**direct method** approach used to determine net cash flows from operating activities, whereby accrual basis revenue and expenses are converted to cash basis collections and payments

**financing activity** cash business transaction reported on the statement of cash flows that obtains or retires financing

**free cash flow** operating cash, reduced by expected capital expenditures and by cash dividends payments

**free cash flow to assets ratio** ratio of free cash flow to total assets

**free cash flow to sales ratio** ratio of free cash flow to sales revenue

**indirect method** approach used to determine net cash flows from operating activities, starting with net income and adjusting for items that impact net income but do not require outlay of cash

**investing activity** cash business transaction reported on the statement of cash flows from the acquisition or disposal of a long-term asset

**net cash flow** method used to determine profitability by measuring the difference between an entity's cash inflows and cash outflows

**noncash expense** expense that reduces net income but is not associated with a cash flow; most common example is depreciation expense

**operating activity** cash business transaction reported on the statement of cash flows that relates to ongoing day-to-day operations

**statement of cash flows** financial statement listing the cash inflows and cash outflows for the business for a period of time

## Summary

### 16.1 Explain the Purpose of the Statement of Cash Flows

- The statement of cash flows presents the sources and uses of cash.
- The statement of cash flows is used to predict future cash flows and to assess the quality of an entity's earnings.
- There are two approaches utilized to prepare the statement of cash flow: the indirect method and the direct method.

### 16.2 Differentiate between Operating, Investing, and Financing Activities

- Transactions must be segregated into the three types of activities presented on the statement of cash flows: operating, investing, and financing.
- Operating cash flows arise from the normal operations of producing income, such as cash receipts from revenue and cash disbursements to pay for expenses.
- Investing cash flows arise from a company investing in or disposing of long-term assets.
- Financing cash flows arise from a company raising funds through debt or equity and repaying debt.

### 16.3 Prepare the Statement of Cash Flows Using the Indirect Method

- Preparing the operating section of statement of cash flows by the indirect method starts with net income from the income statement and adjusts for items that affect cash flows differently than they affect net income.
- Multiple levels of adjustments are required to reconcile accrual-based net income to cash flows from operating activities.

- The investing section of statement of cash flows relates to changes in long-term assets.
- The financing section of statement of cash flows relates to changes in long-term liabilities and changes in equity.
- Company activities that reflect changes in long-term assets, long-term liabilities, or equity, but have no cash impact, require special reporting treatment, as noncash investing and financing transactions.

#### 16.4 Prepare the Completed Statement of Cash Flows Using the Indirect Method

- Preparing the operating section of statement of cash flows by the indirect method starts with net income from the income statement and adjusts for items that affect cash flows differently than they affect net income.
- Multiple levels of adjustments are required to reconcile accrual-based net income to cash flows from operating activities.
- The investing section of the statement of cash flows relates to changes in long-term assets.
- The financing section of statement of cash flows relates to changes in long-term liabilities and changes in equity.
- Company activities that reflect changes in long-term assets, long-term liabilities, or equity, but have no cash impact, require special reporting treatment, as noncash investing and financing transactions.

#### 16.5 Use Information from the Statement of Cash Flows to Prepare Ratios to Assess Liquidity and Solvency

- Free cash flow relates to the amount of expected cash from operations which is left over after planned capital expenditures and dividends are paid.
- The cash flow to assets ratio correlates the company's free cash flow to its total asset value.
- The cash flow to sales ratio considers free cash flow in relation to the company's sales revenue.

#### 16.6 Appendix: Prepare a Completed Statement of Cash Flows Using the Direct Method

- This section included an example of a statement of cash flows, prepared under the direct method, using the continuing example for Propensity Company.
- The direct method of preparing the statement of cash flows is identical to the indirect method except for the cash flows from the operating section.
- To complete the cash flows from operating activities, the direct method directly shows the cash collected from customers from revenue activities and the cash spent on operations, rather than reconciling net income to cash flows from operating activities as done using the indirect method. Calculating the amounts directly collected from revenues and spent on expenditures involves calculating the cash effect of the accrual amounts reported on the income statement.



### Multiple Choice

1. **LO 16.1** Which of the following statements is false?
  - A. Noncash activities should be reported in accrual basis financial statements.
  - B. Net cash flow from operating activities relates to normal business operations.
  - C. Net income usually equals net cash flow from operating activities.
  - D. The statement of cash flows is an essential part of the basic financial statements.

2. **LO 16.2** Which of these transactions would *not* be part of the cash flows from the operating activities section of the statement of cash flows?
- A. credit purchase of inventory
  - B. sales of product, for cash
  - C. cash paid for purchase of equipment
  - D. salary payments to employees
3. **LO 16.2** Which is the proper order of the sections of the statement of cash flows?
- A. financing, investing, operating
  - B. operating, investing, financing
  - C. investing, operating, financing
  - D. operating, financing, investing
4. **LO 16.2** Which of these transactions would be part of the financing section?
- A. inventory purchased for cash
  - B. sales of product, for cash
  - C. cash paid for purchase of equipment
  - D. dividend payments to shareholders, paid in cash
5. **LO 16.2** Which of these transactions would be part of the operating section?
- A. land purchased, with note payable
  - B. sales of product, for cash
  - C. cash paid for purchase of equipment
  - D. dividend payments to shareholders, paid in cash
6. **LO 16.2** Which of these transactions would be part of the investing section?
- A. land purchased, with note payable
  - B. sales of product, for cash
  - C. cash paid for purchase of equipment
  - D. dividend payments to shareholders, paid in cash
7. **LO 16.3** What is the effect on cash when current noncash operating assets increase?
- A. Cash increases by the same amount.
  - B. Cash decreases by the same amount.
  - C. Cash decreases by twice as much.
  - D. Cash does not change.
8. **LO 16.3** What is the effect on cash when current liabilities increase?
- A. Cash increases by the same amount.
  - B. Cash decreases by the same amount.
  - C. Cash decreases by twice as much.
  - D. Cash does not change.
9. **LO 16.3** What is the effect on cash when current noncash operating assets decrease?
- A. Cash increases by the same amount.
  - B. Cash decreases by the same amount.
  - C. Cash decreases by twice as much.
  - D. Cash does not change.

10. **LO 16.3** What is the effect on cash when current liabilities decrease?
- A. Cash increases by the same amount.
  - B. Cash decreases by the same amount.
  - C. Cash decreases by twice as much.
  - D. Cash does not change.
11. **LO 16.3** Which of the following would trigger a subtraction in the indirect operating section?
- A. gain on sale of investments
  - B. depreciation expense
  - C. decrease in accounts receivable
  - D. decrease in bonds payable
12. **LO 16.3** Which of the following represents a source of cash in the investing section?
- A. sale of investments
  - B. depreciation expense
  - C. decrease in accounts receivable
  - D. decrease in bonds payable
13. **LO 16.3** Which of the following would be included in the financing section?
- A. loss on sale of investments
  - B. depreciation expense
  - C. increase in notes receivable
  - D. decrease in notes payable
14. **LO 16.4** If beginning cash equaled \$10,000 and ending cash equals \$19,000, which is true?
- A. Operating cash flow 9,000; Investing cash flow (3,500); Financing cash flow (2,500)
  - B. Operating cash flow 4,500; Investing cash flow 9,000; Financing cash flow (4,500)
  - C. Operating cash flow 2,000; Investing cash flow (13,000); Financing cash flow 2,000
  - D. none of the above
15. **LO 16.5** Which of the following is a stronger indicator of cash flow flexibility?
- A. cash flow from operating activities
  - B. cash flow to sales ratio
  - C. free cash flow
  - D. all three indicate comparable degrees of flexibility



## Questions

1. **LO 16.1** What function does the statement of cash flows serve, as one of the four basic financial statements?
2. **LO 16.1** Is it possible for a company to have significant net income in the same time period that net cash flows are negative? Explain.
3. **LO 16.2** What categories of activities are reported on the statement of cash flows? Does it matter in what order these sections are presented?
4. **LO 16.2** Describe three examples of operating activities, and identify whether each of them represents cash collected or cash spent.

5. **LO 16.2** Describe three examples of investing activities, and identify whether each of them represents cash collected or cash spent.
6. **LO 16.2** Describe three examples of financing activities, and identify whether each of them represents cash collected or cash spent.
7. **LO 16.3** Explain the difference between the two methods used to prepare the operating section of the statement of cash flows. How do the results of these two approaches compare?
8. **LO 16.3** Why is depreciation an addition in the operating section of the statement of cash flows, when prepared by the indirect method?
9. **LO 16.3** When preparing the operating section of the statement of cash flows, using the indirect method, how must gains and losses be handled? Why?
10. **LO 16.3** If a company reports a gain/(loss) from the sale of assets, as part of the net income on the income statement, and the net book value of those assets on the date of the sale is known, can the amount of the cash proceeds from the sale be determined? If so, how?
11. **LO 16.3** Note payments reduce cash and are related to long-term debt. Do these facts automatically lead to their inclusion as elements of the financing section of the statement of cash flows? Explain.
12. **LO 16.4** Is there any significance that can be attributed to whether net cash flows are generated from operating activities, versus investing and/or financing activities? Explain.
13. **LO 16.4** Would there ever be activities that relate to operating, investing, or financing activities that would not be reported in their respective sections of the statement of cash flows? Explain. If a company had any such activities, how would they be reported in the financial statements, if at all?
14. **LO 16.5** What insight does the calculation of free cash flow provide about the company's cash flow position?
15. **LO 16.6** Why is using the direct method to prepare the operating section of the statement of cash flows more challenging for accountants than preparing the balance sheet, income statement, and retained earnings statement?



## Exercise Set A

- EA1. LO 16.1** Provide journal entries to record each of the following transactions. For each, identify whether the transaction represents a source of cash (S), a use of cash (U), or neither (N).
- A. Declared and paid to shareholders, a dividend of \$24,000.
  - B. Issued common stock at par value for \$12,000 cash.
  - C. Sold a tract of land that had cost \$10,000, for \$16,000.
  - D. Purchased a company truck, with a note payable of \$38,000.
  - E. Collected \$8,000 from customer accounts receivable.

**EA2.** **LO 16.2** In which section of the statement of cash flows would each of the following transactions be included? For each, identify the appropriate section of the statement of cash flows as operating (O), investing (I), financing (F), or none (N). (Note: some transactions might involve two sections.)

- A. paid advertising expense
- B. paid dividends to shareholders
- C. purchased business equipment
- D. sold merchandise to customers
- E. purchased plant assets

**EA3.** **LO 16.2** In which section of the statement of cash flows would each of the following transactions be included? For each, identify the appropriate section of the statement of cash flows as operating (O), investing (I), financing (F), or none (N). (Note: some transactions might involve two sections.)

- A. borrowed from the bank for business loan
- B. declared dividends, to be paid next year
- C. purchased treasury stock
- D. purchased a two-year insurance policy
- E. purchased plant assets

**EA4.** **LO 16.3** Use the following information from Albuquerque Company's financial statements to determine operating net cash flows (indirect method).

Net income	\$325,000
Change in accumulated depreciation (no sale of depreciable assets this year)	26,200
Loss on sale of company truck	7,800

**EA5.** **LO 16.3** What adjustment(s) should be made to reconcile net income to net cash flows from operating activities (indirect method) considering the following balances in current assets?

Accounts receivable, beginning of year	\$20,000
Accounts receivable, end of year	25,000
Prepaid insurance, beginning of year	12,000
Prepaid insurance, end of year	9,000

**EA6.** **LO 16.3** Use the following information from Birch Company's balance sheets to determine net cash flows from operating activities (indirect method), assuming net income for 2018 of \$122,000.

	Dec. 31, 2018	Dec. 31, 2017
Accounts Receivable	\$12,800	\$15,000
Prepaid Insurance	4,000	3,500
Accounts Payable	9,000	8,200
Accrued Liabilities	2,500	2,800

**EA7.** **L0** 16.3 Use the following information from Chocolate Company's financial statements to determine operating net cash flows (indirect method).

	Income Statement	Balance Sheet
Sales	\$ 98,500	
Cost of Goods Sold	(62,000)	
Salaries Expense	(18,000)	
Depreciation Expense	<u>(9,000)</u>	
Net Income	9,500	
Accounts Receivable decrease		\$2,000
Merchandise Inventory increase		1,600
Salaries Payable increase		450

**EA8.** **L0** 16.3 Use the following information from Denmark Company's financial statements to determine operating net cash flows (indirect method).

Net income	\$145,000
Depreciation expense	16,500
Loss on sale of land	5,000
Decrease in accounts receivable	1,500
Decrease in accounts payable	1,250

**EA9.** **L0** 16.3 Use the following excerpts from Eagle Company's financial records to determine net cash flows from financing activities.

Acquired new plant assets	\$18,000
Borrowed from bank, note payable	40,000
Declared and paid dividends to shareholders	15,000

**EA10.** **L0** 16.3 Use the following excerpts from Fruitcake Company's financial records to determine net cash flows from investing activities.

Acquired new plant assets	\$18,000
Collected interest on investment assets	4,000
Sold land used in business	36,500

**EA11.** **L0** 16.3 Use the following excerpts from Grenada Company's financial records to determine net cash flows from operating activities and net cash flows from investing activities.

Net income this year	\$158,750
Purchased plant assets this year	40,000
Sold tract of land this year	35,000
Original cost of land that was sold	25,000

**EA12.** **L0** 16.4 Provide the missing piece of information for the following statement of cash flows puzzle.

Cash flows from operating activities	\$ 60,000
Cash flows from investing activities	(28,500)
Cash flows from financing activities	?
Cash at the beginning of the year	12,000
Cash at the end of the year	19,500

**EA13.** **L0** 16.4 Provide the missing piece of information for the following statement of cash flows puzzle.

Cash flows from operating activities	\$	?
Cash flows from investing activities		8,900
Cash flows from financing activities		(25,000)
Cash at the beginning of the year		24,000
Cash at the end of the year		22,100

**EA14.** **L0** 16.5 Use the following excerpts from Kirsten Company's Statement of Cash Flows and other financial records to determine the company's free cash flow.

From Statement of Cash Flows:	
Cash flows from operating activities	\$135,000
Cash flows from investing activities	(50,000)
Cash flows from financing activities	65,000
From other records:	
Cash capital expenditures	75,000
Cash dividends paid	15,000

**EA15.** **L0** 16.5 Use the following excerpts from Franklin Company's statement of cash flows and other financial records to determine the company's free cash flow for 2018 and 2017.

	2018	2017
Cash flows from operating activities	\$222,000	\$200,000
Cash flows from investing activities	(33,000)	(35,000)
Cash flows from financing activities	66,000	60,000
Capital expenditures were 50% of investing activities, both years		
Cash dividends paid were \$15,000, both years		

**EA16.** **L0** 16.5 The following are excerpts from Hamburg Company's statement of cash flows and other financial records.

From Statement of Cash Flows:	
Cash flows from operating activities	\$100,000
Cash flows from investing activities	(50,000)
Cash flows from financing activities	(25,000)
From other records:	
Capital expenditure costs	20,000
Cash dividends payments	22,500
Sales revenue	221,000
Total assets	302,500

Compute the following for the company:

- free cash flow
- cash flows to sales ratio
- cash flows to assets ratio

**EA17.** **L0 16.6** Use the following excerpts from Algona Company's financial statements to determine cash received from customers in 2018.

From Balance Sheets	<b>Dec. 31, 2018</b>	<b>Dec. 31, 2017</b>
Accounts Receivable	\$ 85,000	\$105,000
From Income Statement:	<b>2018</b>	
Sales	700,000	

**EA18.** **L0 16.6** Use the following excerpts from Huckleberry Company's financial statements to determine cash paid to suppliers for inventory in 2018.

From Balance Sheets:	<b>Dec. 31, 2018</b>	<b>Dec. 31, 2017</b>
Inventory	\$ 74,000	\$82,000
Accounts Payable	55,000	58,000
From Income Statement:	<b>2018</b>	
Cost of Goods Sold	\$520,000	



## Exercise Set B

**EB1.** **L0 16.1** Provide journal entries to record each of the following transactions. For each, identify whether the transaction represents a source of cash (S), a use of cash (U), or neither (N).

- Paid \$22,000 cash on bonds payable.
- Collected \$12,600 cash for a note receivable.
- Declared a dividend to shareholders for \$16,000, to be paid in the future.
- Paid \$26,500 to suppliers for purchases on account.
- Purchased treasury stock for \$18,000 cash.

**EB2.** **L0 16.2** In which section of the statement of cash flows would each of the following transactions be included? For each, identify the appropriate section of the statement of cash flows as operating (O), investing (I), financing (F), or none (N). (Note: some transactions might involve two sections.)

- collected accounts receivable from customers
- issued common stock for cash
- declared and paid dividends
- paid accounts payable balance
- sold a long-term asset for the same amount as purchased

**EB3.** **L0 16.2** In which section of the statement of cash flows would each of the following transactions be included? For each, identify the appropriate section of the statement of cash flows as operating (O), investing (I), financing (F), or none (N). (Note: some transactions might involve two sections.)

- purchased stock in Xerox Corporation
- purchased office supplies
- issued common stock
- sold plant assets for cash
- sold equipment for cash

**EB4.** **LO 16.3** Use the following information from Hamlin Company's financial statements to determine operating net cash flows (indirect method).

Net income	\$113,750
Change in accumulated depreciation (no sale of depreciable assets this year)	9,800
Gain on sale of investments	11,400

**EB5.** **LO 16.3** What adjustment(s) should be made to reconcile net income to net cash flows from operating activities (indirect method) considering the following balances in current assets?

Accounts payable, beginning of year	\$18,000
Accounts payable, end of year	28,000
Salaries payable, beginning of year	6,000
Salaries payable, end of year	4,000

**EB6.** **LO 16.3** Use the following excerpts from Indigo Company's balance sheets to determine net cash flows from operating activities (indirect method), assuming net income for 2018 of \$225,000.

	Dec. 31, 2018	Dec. 31, 2017
Accounts Receivable	\$33,000	\$31,500
Prepaid Insurance	17,000	18,000
Accounts Payable	19,000	19,500
Accrued Liabilities	11,700	11,000

**EB7.** **LO 16.3** Use the following information from Jumper Company's financial statements to determine operating net cash flows (indirect method).

	Income Statement	Balance Sheet
Sales	\$111,000	
Cost of Goods Sold	(73,000)	
Salaries Expense	(12,000)	
Depreciation Expense	<u>(8,000)</u>	
Net Income	18,000	
Accounts Receivable decrease		\$3,500
Merchandise Inventory increase		2,200
Salaries Payable increase		925

**EB8.** **LO 16.3** Use the following information from Kentucky Company's financial statements to determine operating net cash flows (indirect method).

Net income	\$176,000
Depreciation expense	18,750
Gain on sale of plant assets	15,000
Increase in accounts receivable	12,000
Decrease in accounts payable	5,500

**EB9.** **LO 16.3** Use the following excerpts from Leopard Company's financial records to determine net cash flows from investing activities.

Collected payments on a customer note receivable	\$27,500
Purchased plant assets	19,000
Received dividend income from stocks owned	2,500

**EB10.** **L0** 16.3 Use the following information from Manuscript Company's financial records to determine net cash flows from financing activities.

Repaid principal on bank loan	\$16,500
Issued common stock, at par value	32,000
Declared dividends, to be paid to shareholders next year	9,000

**EB11.** **L0** 16.3 Use the following excerpts from Nutmeg Company's financial records to determine net cash flows from operating activities and net cash flows from investing activities.

Net income this year	\$83,700
Purchased land this year	20,000
Sold investments this year	31,500
Original cost of investments that were sold	33,000

**EB12.** **L0** 16.4 Provide the missing piece of information for the following statement of cash flows puzzle.

Cash flows from operating activities	\$ 75,000
Cash flows from investing activities	13,300
Cash flows from financing activities	(33,000)
Cash at the beginning of the year	?
Cash at the end of the year	65,000

**EB13.** **L0** 16.4 Provide the missing piece of information for the following statement of cash flows puzzle.

Cash flows from operating activities	\$ 88,000
Cash flows from investing activities	?
Cash flows from financing activities	(45,000)
Cash at the beginning of the year	77,000
Cash at the end of the year	113,000

**EB14.** **L0** 16.5 Use the following excerpts from Indira Company's Statement of Cash Flows and other financial records to determine the company's free cash flow.

From Statement of Cash Flows:	
Cash flows from operating activities	\$ 98,700
Cash flows from investing activities	125,000
Cash flows from financing activities	(16,500)
From other records:	
Cash capital expenditures	40,000
Cash dividends paid	12,000

**EB15.** **L0** 16.5 Use the following excerpts from Bolognese Company's statement of cash flows and other financial records to determine the company's free cash flow for 2018 and 2017.

	2018	2017
Cash flows from operating activities	\$121,000	\$114,000
Cash flows from investing activities	(56,000)	(40,000)
Cash flows from financing activities	(12,000)	(15,000)
Capital expenditures were 40% of investing activities, both years		
Cash dividends paid were \$20,000, both years		

**EB16.** **LO 16.5** The following shows excerpts from Camole Company's statement of cash flows and other financial records.

From Statement of Cash Flows:	
Cash flows from operating activities	\$225,000
Cash flows from investing activities	(75,000)
Cash flows from financing activities	61,500
From other records:	
Capital expenditure costs	144,000
Cash dividends payments	36,000
Sales revenue	642,000
Total assets	450,000

Compute the following for the company:

- free cash flow
- cash flows to sales ratio
- cash flows to assets ratio

**EB17.** **LO 16.6** Use the following excerpts from Brownstone Company's financial statements to determine cash received from customers in 2018.

From Balance Sheets	<b>Dec. 31, 2018</b>	<b>Dec. 31, 2017</b>
Accounts Receivable	\$ 25,000	\$20,000
From Income Statement:	<b>2018</b>	
Sales	220,000	

**EB18.** **LO 16.6** Use the following excerpts from Jasper Company's financial statements to determine cash paid to suppliers for inventory in 2018.

From Balance Sheets:	<b>Dec. 31, 2018</b>	<b>Dec. 31, 2017</b>
Inventory	\$ 35,000	\$31,000
Accounts Payable	22,000	20,500
From Income Statement:	<b>2018</b>	
Cost of Goods Sold	175,900	



## Problem Set A

**PA1.** **LO 16.2** Provide journal entries to record each of the following transactions. For each, also identify \*the appropriate section of the statement of cash flows, and \*\*whether the transaction represents a source of cash (S), a use of cash (U), or neither (N).

- paid \$12,000 of accounts payable
- collected \$6,000 from a customer
- issued common stock at par for \$24,000 cash
- paid \$6,000 cash dividend to shareholders
- sold products to customers for \$15,000
- paid current month's utility bill, \$1,500

**PA2.** **LO 16.3** Use the following information from Acorn Company's financial statements to determine operating net cash flows (indirect method).

	<b>2018 Income Statement</b>	<b>Balance Sheets</b>
Sales	\$ 453,000	
Cost of Goods Sold	(359,000)	
Operating Expenses, other than depreciation expense	(65,000)	
Depreciation Expense	(8,000)	
Loss on sale of plant assets	<u>(11,900)</u>	
Net Income	9,100	
		<b>Dec. 31, 2018</b>
Accounts Receivable		\$29,500
Accounts Payable		13,250
		<b>Dec. 31, 2017</b>
Accounts Receivable		\$26,500
Accounts Payable		11,750

**PA3.** **LO 16.3** Use the following information from Berlin Company's financial statements to prepare the operating activities section of the statement of cash flows (indirect method) for the year 2018.

	<b>Dec. 31, 2018</b>	<b>Dec. 31, 2017</b>
Cash	\$29,000	\$24,000
Accounts Receivable	11,500	12,000
Prepaid Assets	<u>1,200</u>	<u>1,000</u>
Total Assets	41,700	37,000
Accrued Liabilities	1,700	1,800
Common Stock	33,000	30,000
Retained Earnings	<u>7,000</u>	<u>5,200</u>
Total Liabilities and Equity	41,700	37,000
<b>Additional information:</b>		
Net income	5,800	
Dividends paid	4,000	

**PA4.** **LO 16.3** Use the following information from Coconut Company's financial statements to prepare the operating activities section of the statement of cash flows (indirect method) for the year 2018.

	<b>Dec. 31, 2018</b>	<b>Dec. 31, 2017</b>
Cash	\$201,000	\$175,000
Accounts Receivable	22,000	21,500
Inventory	33,750	30,500
Prepaid Rent	6,000	2,000
Accounts Payable	19,500	28,750
<b>Additional information:</b>		
Net income	55,000	
Depreciation expense	11,500	

**PA5.** **L0** 16.3 Use the following information from Dubuque Company's financial statements to prepare the operating activities section of the statement of cash flows (indirect method) for the year 2018.

From the Dec. 31, 2018, balance sheet, changes from prior year:	
Accounts Receivable	\$ 7,600
Inventory	3,200
Prepaid Insurance	(2,000)
Accounts Payable	(4,000)
Sales Tax Payable	1,900
From the 2018 Income Statement:	
Gain from sale of investments	12,000
Depreciation Expense	26,500
Net Income	79,300

**PA6.** **L0** 16.3 Use the following information from Eiffel Company's financial statements to prepare the operating activities section of the statement of cash flows (indirect method) for the year 2018.

	2018 Income Statement	Balance Sheets
Sales	\$ 299,000	
Cost of Goods Sold	(135,000)	
Operating Expenses, other than depreciation expense	(27,000)	
Depreciation Expense	(17,000)	
Gain on Sale of Plant Assets	16,500	
Net Income	136,500	
		<b>Dec. 31, 2018</b>
Accounts Receivable		\$45,300
Inventory		1,600
Accounts Payable		22,500
Accrued Liabilities		900
		<b>Dec. 31, 2017</b>
Accounts Receivable		\$43,400
Inventory		1,800
Accounts Payable		21,250
Accrued Liabilities		1,150

**PA7.** **L0** 16.3 Analysis of Forest Company's accounts revealed the following activity for its Land account, with descriptions added for clarity of analysis. How would these two transactions be reported for cash flow purposes? Note the section of the statement of cash flow, if applicable, and if the transaction represents a cash source, cash use, or noncash transaction.

	Land
Account balance, beginning of year	\$220,000
Purchase of land this year, for cash	95,000
Purchase of land this year, with note payable	75,000
Account balance, end of year	390,000

**PA8. LO 16.4** Use the following excerpts from Zowleski Company's financial information to prepare a statement of cash flows (indirect method) for the year 2018.

	<b>Dec. 31, 2018</b>	<b>Dec. 31, 2017</b>
Cash	\$ 92,300	\$ 85,000
Account Receivable	22,000	22,900
Merchandise Inventory	140,000	131,000
Plant Assets	180,000	150,000
Accumulated Depreciation	(25,000)	(21,000)
<b>Total Assets</b>	<b>409,300</b>	<b>367,900</b>
Accounts Payable	18,500	21,000
Notes Payable	135,500	120,000
Common Stock	20,000	20,000
Retained Earnings	235,300	206,900
<b>Total Liabilities and Equity</b>	<b>409,300</b>	<b>367,900</b>
<b>Additional information:</b>		
Net income for 2018	28,400	
Depreciation expense for 2018 (accumulated depreciation increase)	4,000	
Plant assets purchased (plant assets increase), financed by note	30,000	
Notes payable increased by amount of plant asset purchase	30,000	
Notes payable decreased by amount of principal note payments	14,500	

**PA9. LO 16.4** Use the following excerpts from Yardley Company's financial information to prepare a statement of cash flows (indirect method) for the year 2018.

	<b>2018 Income Statement</b>	<b>Balance Sheets</b>
Sales	\$ 455,000	
Cost of Goods Sold	(221,500)	
Operating Expenses, other than depreciation expense	(58,600)	
Depreciation Expense	(24,000)	
Gain on Sale of Plant Assets	23,500	
Net Income	174,400	
		<b>Dec. 31, 2018</b>
Cash		\$321,450
Accounts Receivable		39,750
Inventory		33,000
Accounts Payable		17,550
Accrued Liabilities		3,500
		<b>Dec. 31, 2017</b>
Cash		\$133,500
Accounts Receivable		36,500
Inventory		35,000
Accounts Payable		19,550
Accrued Liabilities		2,200
<b>Additional information:</b>		
Plant assets were sold for \$40,000; book value \$16,500		
Dividends of \$25,000 were declared and paid		

**PA10.** LO 16.4 Use the following excerpts from Wickham Company's financial information to prepare a statement of cash flows (indirect method) for the year 2018.

	Dec. 31, 2018	Dec. 31, 2017
Cash	\$225,000	\$200,000
Account Receivable	38,350	35,350
Merchandise Inventory	59,500	58,200
Land	150,000	50,000
Plant Assets	160,000	160,000
Accumulated Depreciation	(49,000)	(37,000)
Total Assets	583,850	466,550
Accounts Payable	29,100	27,300
Accrued Liabilities	15,500	12,000
Common Stock	45,000	20,000
Retained Earnings	494,250	407,250
Total Liabilities and Equity	583,850	466,550
<b>Additional information:</b>		
Net income for 2018	98,000	
Depreciation expense for 2018	12,000	
Land purchased, for cash	100,000	
Stock issued in exchange for cash, at par value	25,000	
Dividends declared and paid	11,000	

**PA11.** LO 16.4 Use the following excerpts from Tungsten Company's financial information to prepare a statement of cash flows (indirect method) for the year 2018.

Beginning cash	\$18,444
Net income	36,500
Depreciation expense	11,000
Accounts receivable change	(8,300)
Inventory change	4,900
Prepaid assets change	3,400
Investments change (no asset sales)	10,000
Accounts payable change	450
Note payable principal balance change (no new loans)	(9,400)
Common stock balance change (due to stock issuance)	20,000

**PA12.** LO 16.5 The following shows excerpts from financial information relating to Aspen Company and Bergamot Company.

	Aspen	Bergamot
Net Cash Flows from Operating Activities	\$320,000	\$486,900
Total Assets	450,400	625,000
Net Income	300,000	550,200
Sales Revenue	463,500	875,000
Capital Expenditures	120,750	250,000
Dividend Payments	25,000	65,700

Compute the following for both companies. Compare your results.

- A. free cash flow
- B. cash flows to sales ratio
- C. cash flows to assets ratio

**PA13.** **LO 16.6** Use the following excerpts from Fromera Company's financial information to prepare the operating section of the statement of cash flows (direct method) for the year 2018.

	<b>2018 Income Statement</b>	<b>Balance Sheets</b>
Sales	\$ 299,000	
Cost of Goods Sold	(135,000)	
Operating Expenses, other than depreciation expense	(27,000)	
Depreciation Expense	(17,000)	
Gain on Sale of Plant Assets	<u>16,500</u>	
Net Income	136,500	
		<b>Dec. 31, 2018</b>
Accounts Receivable (associated with Sales)		\$45,300
Inventory (associated with Inventory)		1,600
Accounts Payable (associated with Inventory)		22,500
Accrued Liabilities (associated with Other Expense)		900
		<b>Dec. 31, 2017</b>
Accounts Receivable (associated with Sales)		\$43,400
Inventory (associated with Inventory)		1,800
Accounts Payable (associated with Inventory)		21,250
Accrued Liabilities (associated with Other Expense)		1,150

**PA14.** **LO 16.6** Use the following excerpts from Victrolia Company's financial information to prepare a statement of cash flows (direct method) for the year 2018.

	<b>2018 Income Statement</b>	<b>Balance Sheets</b>
Sales	\$ 455,000	
Cost of Goods Sold	(221,500)	
Operating Expenses, other than depreciation expense	(58,600)	
Depreciation Expense	(24,000)	
Gain on Sale of Plant Assets	<u>23,500</u>	
Net Income	174,400	
		<b>Dec. 31, 2018</b>
Cash		\$321,450
Accounts Receivable		39,750
Inventory		33,000
Accounts Payable		17,550
Accrued Liabilities		3,500
		<b>Dec. 31, 2017</b>
Cash		\$133,500
Accounts Receivable		36,500
Inventory		35,000
Accounts Payable		19,550
Accrued Liabilities		2,200
<b>Additional information:</b>		
Plant assets were sold for \$40,000; book value \$16,500		
Dividends of \$25,000 were declared and paid		

**PA15.** **LO 16.6** Use the following cash transactions relating to Lucknow Company to determine the cash flows from operating, using the direct method.

Beginning cash balance	\$122,000
Collected from customers	33,000
Paid dividends to stockholders	3,000
Paid for interest on notes payable	4,750
Collected dividends from stock owned	3,500
Collected cash from sale of land	20,000
Paid principal payments on notes payable	12,000
Collected cash from issuance of stock	40,000
Paid suppliers for merchandise	29,400
Ending cash balance	169,350



## Problem Set B

**PB1.** **LO 16.2** Provide journal entries to record each of the following transactions. For each, also identify: \*the appropriate section of the statement of cash flows, and \*\*whether the transaction represents a source of cash (S), a use of cash (U), or neither (N).

- reacquired \$30,000 treasury stock
- purchased inventory for \$20,000
- issued common stock of \$40,000 at par
- purchased land for \$25,000
- collected \$22,000 from customers for accounts receivable
- paid \$33,000 principal payment toward note payable to bank

**PB2.** **LO 16.3** Use the following information from Grenada Company's financial statements to prepare the operating activities section of the statement of cash flows (indirect method) for the year 2018.

	<b>2018 Income Statement</b>	<b>Balance Sheets</b>
Sales	\$ 286,000	
Cost of Goods Sold	(159,000)	
Operating Expenses, other than depreciation expense	(77,500)	
Depreciation Expense	(9,500)	
Gain on Sale of Investments	14,200	
Net Income	<u>54,200</u>	
		<b>Dec. 31, 2018</b>
Accounts Receivable		\$16,500
Accounts Payable		7,400
		<b>Dec. 31, 2017</b>
Accounts Receivable		\$18,250
Accounts Payable		8,800

**PB3.** **LO 16.3** Use the following information from Honolulu Company's financial statements to prepare the operating activities section of the statement of cash flows (indirect method) for the year 2018.

	Dec. 31, 2018	Dec. 31, 2017
Cash	\$275,000	\$254,000
Accounts Receivable	143,000	132,000
Prepaid Assets	8,500	9,000
Total Assets	<u>426,500</u>	<u>395,000</u>
Accrued Liabilities	120,000	112,000
Common Stock	285,000	270,000
Retained Earnings	21,500	13,000
Total Liabilities and Equity	<u>426,500</u>	<u>395,000</u>
<b>Additional information:</b>		
Net income	20,500	
Dividends paid	12,000	

**PB4.** **LO 16.3** Use the following information from Isthmus Company's financial statements to prepare the operating activities section of the statement of cash flows (indirect method) for the year 2018.

	Dec. 31, 2018	Dec. 31, 2017
Cash	\$295,000	\$259,000
Account Receivable	45,300	48,700
Inventory	92,200	91,000
Accounts Payable	23,000	26,300
Salaries Payable	1,700	1,500
<b>Additional information:</b>		
Net income	45,200	
Depreciation expense	33,300	

**PB5.** **LO 16.3** Use the following information from Juniper Company's financial statements to prepare the operating activities section of the statement of cash flows (indirect method) for the year 2018.

From the Dec. 31, 2018, balance sheet, changes from prior year:	
Account Receivable	\$ 4,000
Inventory	(5,500)
Prepaid Insurance	4,000
Accounts Payable	3,000
Sales Tax Payable	(200)
From the 2018 Income Statement:	
Loss from sale of land	4,200
Depreciation Expense	17,250
Net Income	22,222

**PB6.** **LO 16.3** Use the following excerpts from Kayak Company's financial information to prepare the operating section of the statement of cash flows (indirect method) for the year 2018.

	<b>2018 Income Statement</b>	<b>Balance Sheets</b>
Sales	\$ 777,000	
Cost of Goods Sold	(555,000)	
Operating Expenses, other than depreciation expense	(22,000)	
Depreciation Expense	(44,000)	
Loss on Sale of Plant Assets	(11,000)	
Net Income	<u>145,000</u>	
		<b>Dec. 31, 2018</b>
Accounts Receivable		\$63,300
Inventory		2,400
Accounts Payable		35,000
Accrued Liabilities		2,100
		<b>Dec. 31, 2017</b>
Accounts Receivable		\$63,000
Inventory		2,800
Accounts Payable		37,400
Accrued Liabilities		2,650

**PB7.** **LO 16.3** Analysis of Longmind Company's accounts revealed the following activity for Equipment, with descriptions added for clarity of analysis. How would these two transactions be reported for cash flow purposes? Note the section of the statement of cash flow, if applicable, and if the transaction represents a cash source, cash use, or noncash transaction.

	<b>Equipment</b>
Account balance, beginning of year	\$ 88,000
Purchase of equipment this year, for cash	29,500
Purchase of equipment this year, with note payable	34,750
Account balance, end of year	152,250

	<b>Equipment</b>
Account balance, beginning of year	\$ 88,000
• Purchase of equipment this year, for cash	29,500
• Purchase of equipment this year, with note payable	34,750
Account balance, end of year	152,250

**PB8.** LO 16.4 Use the following excerpts from Stern Company's financial information to prepare a statement of cash flows (indirect method) for the year 2018.

	Dec. 31, 2018	Dec. 31, 2017
Cash	\$121,000	\$101,000
Account Receivable	37,200	35,300
Merchandise Inventory	120,000	128,700
Plant Assets	304,000	254,000
Accumulated Depreciation	<u>(85,000)</u>	<u>(64,000)</u>
Total Assets	497,200	455,000
Accounts Payable	23,200	19,900
Notes Payable	179,500	144,000
Common Stock	30,000	30,000
Retained Earnings	<u>264,500</u>	<u>261,100</u>
Total Liabilities and Equity	497,200	455,000
<b>Additional information:</b>		
Net income for 2018	3,400	
Depreciation expense for 2018 (accumulated depreciation increase)	21,000	
Plant assets purchased (plant assets increase), financed by note	50,000	
Notes payable increased by amount of plant asset purchase	50,000	
Notes payable decreased by amount of principal note payments	14,500	

**PB9.** LO 16.4 Use the following excerpts from Unigen Company's financial information to prepare the operating section of the statement of cash flows (indirect method) for the year 2018.

	2018 Income Statement	Balance Sheets
Sales	\$ 777,000	
Cost of Goods Sold	(555,000)	
Operating Expenses, other than depreciation expense	(22,000)	
Depreciation Expense	(44,000)	
Loss on Sale of Plant Assets	<u>(11,000)</u>	
Net Income	145,000	
Cash		<b>Dec. 31, 2018</b>
Accounts Receivable		\$429,850
Inventory		63,300
Accounts Payable		2,400
Accrued Liabilities		35,000
		2,100
Cash		<b>Dec. 31, 2017</b>
Accounts Receivable		\$228,700
Inventory		63,000
Accounts Payable		2,800
Accrued Liabilities		37,400
		2,650
<b>Additional information:</b>		
Plant assets were sold for \$22,000; book value \$33,000		
Dividends of \$18,000 were declared and paid		

**PB10.** **L0** 16.4 Use the following excerpts from Mountain Company's financial information to prepare a statement of cash flows (indirect method) for the year 2018.

	Dec. 31, 2018	Dec. 31, 2017
Cash	\$100,000	\$ 93,000
Account Receivable	19,000	18,000
Merchandise Inventory	29,000	31,500
Investments	132,000	120,000
Plant Assets	90,000	90,000
Accumulated Depreciation	<u>(37,000)</u>	<u>(23,000)</u>
Total Assets	333,000	329,500
Accounts Payable	12,100	13,400
Accrued Liabilities	2,400	1,900
Common Stock	81,000	63,000
Retained Earnings	<u>237,500</u>	<u>251,200</u>
Total Liabilities and Equity	333,000	329,500
<b>Additional information:</b>		
Net income (loss) for 2018	(5,700)	
Depreciation expense for 2018	14,000	
Investments purchased, for cash	12,000	
Common stock issued for cash, at par value	18,000	
Dividends declared and paid	8,000	

**PB11.** **L0** 16.4 Use the following excerpts from OpenAir Company's financial information to prepare a statement of cash flows (indirect method) for the year 2018.

Beginning cash	\$120,000
Net income	87,500
Depreciation expense	22,000
Accounts receivable change	8,900
Inventory change	(6,500)
Prepaid assets change	2,400
Investments change (no asset sales)	30,000
Accounts payable change	(800)
Note payable principal balance change (no new loans)	(21,000)
Common stock balance change (due to stock issuance)	36,000

**PB12.** **L0** 16.5 The following shows excerpts from financial information relating to Stanwell Company and Thodes Company.

	Stanwell	Thodes
Net Cash Flows from Operating Activities	\$138,000	\$115,000
Total Assets	272,000	350,000
Net Income	35,000	32,000
Sales Revenue	385,000	250,000
Capital Expenditures	28,000	60,000
Dividend Payments	17,000	13,000

Compute the following for both companies. Compare your results.

- free cash flow
- cash flows to sales ratio
- cash flows to assets ratio

**PB13.** **LO 16.6** Use the following excerpts from Swansea Company's financial information to prepare the operating section of the statement of cash flows (direct method) for the year 2018.

	<b>2018 Income Statement</b>	<b>Balance Sheets</b>
Sales	\$ 777,000	
Cost of Goods Sold	(555,000)	
Operating Expenses, other than depreciation expense	(22,000)	
Depreciation Expense	(44,000)	
Loss on Sale of Plant Assets	(11,000)	
Net Income	<u>145,000</u>	
		<b>Dec. 31, 2018</b>
Accounts Receivable (associated with Sales)		\$63,300
Inventory (associated with Inventory)		2,400
Accounts Payable (associated with Inventory)		35,000
Accrued Liabilities (associated with Other Expense)		2,100
		<b>Dec. 31, 2017</b>
Accounts Receivable (associated with Sales)		\$63,000
Inventory (associated with Inventory)		2,800
Accounts Payable (associated with Inventory)		37,400
Accrued Liabilities (associated with Other Expense)		2,650

**PB14.** **LO 16.6** Use the following excerpts from Swahilia Company's financial information to prepare a statement of cash flows (direct method) for the year 2018.

	<b>2018 Income Statement</b>	<b>Balance Sheets</b>
Sales	\$ 777,000	
Cost of Goods Sold	(555,000)	
Operating Expenses, other than depreciation expense	(22,000)	
Depreciation Expense	(44,000)	
Loss on Sale of Plant Assets	(11,000)	
Net Income	<u>145,000</u>	
		<b>Dec. 31, 2018</b>
Cash		\$429,850
Accounts Receivable		63,300
Inventory		2,400
Accounts Payable		35,000
Accrued Liabilities		2,100
		<b>Dec. 31, 2017</b>
Cash		\$228,700
Accounts Receivable		63,000
Inventory		2,800
Accounts Payable		37,400
Accrued Liabilities		2,650
<b>Additional information:</b>		
Plant assets were sold for \$22,000; book value \$33,000		
Dividends of \$18,000 were declared and paid		

**PB15.** **L0** 16.6 Use the following cash transactions relating to Warthoff Company to determine the cash flows from operating, using the direct method.

Beginning cash balance	\$45,000
Collected from customers	24,500
Paid dividends to stockholders	5,000
Paid for interest on notes payable	3,200
Collected dividends from stock owned	1,800
Collected cash from sale of land	15,000
Paid principal payments on notes payable	18,800
Collected cash from issuance of stock	25,000
Paid suppliers for merchandise	31,000
Ending cash balance	53,300



## Thought Provokers

**TP1.** **L0** 16.2 Use the [EDGAR \(Electronic Data Gathering, Analysis, and Retrieval system\) search tools on the US Securities and Exchange Commission website \(https://openstax.org/l/50EDGAR\)](https://openstax.org/l/50EDGAR) to locate the latest Form 10-K for a company you would like to analyze. Submit a short memo that provides the following information:

- the name and ticker symbol of the company you have chosen
- the following information from the company's statement of cash flows:
  - A. amount of cash flows from operating activities
  - B. amount of cash flows from investing activities
  - C. amount of cash flows from financing activities
- the URL to the company's Form 10-K to allow accurate verification of your answers

**TP2.** **L0** 16.3 Use a spreadsheet and the following financial information from Mineola Company's financial statements to build a template that automatically calculates the net operating cash flow. It should be suitable for use in preparing the operating section of the statement of cash flows (indirect method) for the year 2018.

	Dec. 31, 2018	Dec. 31, 2017
Cash	\$57,000	\$42,000
Account Receivable	12,500	15,000
Prepaid Assets	1,500	1,100
Total Assets	71,000	58,100
Accounts Payable	2,700	1,800
Common Stock	39,000	30,000
Retained Earnings	29,300	26,300
Total Liabilities and Equity	71,000	58,100
<b>Additional information:</b>		
Net income	7,000	
Dividends paid	4,000	

**TP3. LO 16.3** Consider the dilemma you might someday face if you are the chief financial officer of a company that is struggling to maintain a positive cash flow, despite the fact that the company is reporting a substantial positive net income. Maybe the problem is so severe that there is often insufficient cash to pay ordinary business expenses, like utilities, salaries, and payments to suppliers. Assume that you have been asked to communicate to your board of directors about your company's year, in retrospect, as well as your vision for the company's future. Write a memo that expresses your insights about past experience and present prospects for the company. Note that the challenge of the assignment is to keep your integrity intact, while putting a positive spin on the situation, as much as is reasonably possible. How can you envision the situation turning into a success story?

**TP4. LO 16.4** Use the [EDGAR \(Electronic Data Gathering, Analysis, and Retrieval system\) search tools on the US Securities and Exchange Commission website \(https://openstax.org/l/50EDGAR\)](https://openstax.org/l/50EDGAR) to locate the latest Form 10-K for a company you would like to analyze. Pick a company and submit a short memo that provides the following information:

- The name and ticker symbol of the company you have chosen.
- A description of two items from the company's statement of cash flows:
  - One familiar item that you expected to be reported on the statement, based on what you've learned about cash flows
  - One unfamiliar item that you did not expect to be on the statement, based on what you've learned about cash flows
- The URL to the company's Form 10-K to allow accurate verification of your answers

**TP5. LO 16.5** If you had \$100,000 available for investing, which of these companies would you choose to invest with? Support your answer with analysis of free cash flow, based on the data provided, and include in your decision whatever other reasoning you chose to utilize.

	<b>Aswan</b>	<b>Merrick</b>
From Statement of Cash Flows:		
Cash flows from operating activities	\$ 88,000	\$146,500
Cash flows from investing activities	(30,000)	(50,000)
Cash flows from financing activities	58,000	(24,750)
From other records:		
Capital expenditure costs	30,000	50,000
Cash dividends payments	32,000	52,000
Sales Revenue	326,000	542,000
Net Income	65,000	160,500
Total Assets	150,000	350,000



## A Financial Statement Analysis

### Financial Statement Analysis

Financial statement analysis reviews financial information found on financial statements to make informed decisions about the business. The income statement, statement of retained earnings, balance sheet, and statement of cash flows, among other financial information, can be analyzed. The information obtained from this analysis can benefit decision-making for internal and external stakeholders and can give a company valuable information on overall performance and specific areas for improvement. The analysis can help them with budgeting, deciding where to cut costs, how to increase revenues, and future capital investments opportunities.

When considering the outcomes from analysis, it is important for a company to understand that data produced needs to be compared to others within industry and close competitors. The company should also consider their past experience and how it corresponds to current and future performance expectations. Three common analysis tools are used for decision-making; horizontal analysis, vertical analysis, and financial ratios.

For our discussion of financial statement analysis, we will use Banyan Goods. Banyan Goods is a merchandising company that sells a variety of products. [Figure A.1](#) shows the comparative income statements and balance sheets for the past two years.

BARRY'S SUPERSTORE Comparative Year-End Income Statements			BARRY'S SUPERSTORE Comparative Year-End Balance Sheets		
	Prior Year	Current Year		Prior Year	Current Year
Net Sales	\$100,000	\$120,000	<b>Assets:</b>		
Cost of Goods Sold	50,000	60,000	Cash	\$90,000	\$110,000
Gross Profit	50,000	60,000	Accounts Receivable	20,000	30,000
			Inventory	35,000	40,000
Rent Expense	5,000	5,500	Short-Term Investments	15,000	20,000
Depreciation Expense	2,500	3,600	Total Current Asstes	160,000	200,000
Salaries Expense	3,000	5,400	Equipment	40,000	50,000
Utility Expense	1,500	2,500	<b>Total Assets</b>	<b>\$200,000</b>	<b>\$250,000</b>
Operating Income	38,000	43,000	<b>Liabilities:</b>		
Interest Expense	3,000	2,000	Accounts Payable	\$ 60,000	\$ 75,000
Income Tax Expense	5,000	6,000	Unearned Revenue	10,000	25,000
Net Income	\$ 30,000	\$ 35,000	Total Current Liabilities	70,000	100,000
			Notes Payable	40,000	50,000
			Total Liabilities	110,000	150,000
			<b>Stockholder Equity</b>		
			Common Stock	75,000	80,000
			Ending Retained Earnings	15,000	20,000
			Total Stockholder Equity	90,000	100,000
			<b>Total Liabilities and Stockholder Equity</b>	<b>\$200,000</b>	<b>\$250,000</b>

**Figure A.1** Comparative Income Statements and Balance Sheets.

Keep in mind that the comparative income statements and balance sheets for Banyan Goods are simplified for our calculations and do not fully represent all the accounts a company could maintain. Let's begin our analysis discussion by looking at horizontal analysis.

## Horizontal Analysis

Horizontal analysis (also known as trend analysis) looks at trends over time on various financial statement line items. A company will look at one period (usually a year) and compare it to another period. For example, a company may compare sales from their current year to sales from the prior year. The trending of items on these financial statements can give a company valuable information on overall performance and specific areas for improvement. It is most valuable to do horizontal analysis for information over multiple periods to see how change is occurring for each line item. If multiple periods are not used, it can be difficult to identify a trend. The year being used for comparison purposes is called the base year (usually the prior period). The year of comparison for horizontal analysis is analyzed for dollar and percent changes against the base year.

The dollar change is found by taking the dollar amount in the base year and subtracting that from the year of analysis.

$$\text{Dollar Change} = \text{Year of Analysis Amount} - \text{Base Year Amount}$$

Using Banyan Goods as our example, if Banyan wanted to compare net sales in the current year (year of analysis) of \$120,000 to the prior year (base year) of \$100,000, the dollar change would be as follows:

$$\text{Dollar change} = \$120,000 - \$100,000 = \$20,000 \quad (\text{A1})$$

The percentage change is found by taking the dollar change, dividing by the base year amount, and then multiplying by 100.

$$\text{Percent Change} = \left( \frac{\text{Dollar Change}}{\text{Base Year Amount}} \right) \times 100$$

Let's compute the percentage change for Banyan Goods' net sales.

$$\text{Percentage change} = \left( \frac{\$20,000}{\$100,000} \right) \times 100 = 20\% \quad (\text{A2})$$

This means Banyan Goods saw an increase of \$20,000 in net sales in the current year as compared to the prior year, which was a 20% increase. The same dollar change and percentage change calculations would be used for the income statement line items as well as the balance sheet line items. [Figure A.2](#) shows the complete horizontal analysis of the income statement and balance sheet for Banyan Goods.

BARRY'S SUPERSTORE Comparative Year-End Income Statements Horizontal Analysis					BARRY'S SUPERSTORE Comparative Year-End Balance Sheets Horizontal Analysis				
	Prior Year	Current Year	Dollar Change	% Change		Prior Year	Current Year	Dollar Change	% Change
Net Sales	\$100,000	\$120,000	\$20,000	20%	<b>Assets:</b>				
Cost of Goods Sold	50,000	60,000	\$10,000	20%	Cash	\$90,000	\$110,000	\$20,000	22%*
Gross Profit	50,000	60,000	\$10,000	20%	Accounts Receivable	20,000	30,000	\$10,000	50%
Rent Expense	5,000	5,500	\$ 500	10%	Inventory	35,000	40,000	\$ 5,000	14%*
Depreciation Expense	2,500	3,600	\$ 1,100	44%	Short-Term Investments	15,000	20,000	\$ 5,000	33%*
Salaries Expense	3,000	5,400	\$ 2,400	80%	Total Current Asstes	160,000	200,000	\$40,000	25%
Utility Expense	1,500	2,500	\$ 1,000	67% *	Equipment	40,000	50,000	\$10,000	25%
Operating Income	38,000	43,000	\$ 5,000	13% *	<b>Total Assets</b>	<u>\$200,000</u>	<u>\$250,000</u>	\$50,000	25%
Interest Expense	3,000	2,000	(\$ 1,000)	(33%)*	<b>Liabilities:</b>				
Income Tax Expense	5,000	6,000	\$ 1,000	20%	Accounts Payable	\$ 60,000	\$ 75,000	\$15,000	25%
Net Income	<u>\$ 30,000</u>	<u>\$ 35,000</u>	\$ 5,000	17% *	Unearned Revenue	10,000	25,000	\$15,000	150%
					Total Current Liabilities	70,000	100,000	\$30,000	43%*
					Notes Payable	40,000	50,000	\$10,000	25%
					Total Liabilities	<u>110,000</u>	<u>150,000</u>	\$40,000	36%*
					<b>Stockholder Equity</b>				
					Common Stock	75,000	80,000	\$ 5,000	7%*
					Ending Retained Earnings	15,000	20,000	\$ 5,000	33%*
					Total Stockholder Equity	<u>90,000</u>	<u>100,000</u>	\$10,000	11%*
					<b>Total Liabilities and Stockholder Equity</b>	<u>\$200,000</u>	<u>\$250,000</u>	\$50,000	25%

\*Rounded to nearest whole percent

\*Rounded to nearest whole percent

**Figure A.2** Income Statements and Horizontal Analysis.

Depending on their expectations, Banyan Goods could make decisions to alter operations to produce expected outcomes. For example, Banyan saw a 50% accounts receivable increase from the prior year to the current year. If they were only expecting a 20% increase, they may need to explore this line item further to determine what caused this difference and how to correct it going forward. It could possibly be that they are extending credit more readily than anticipated or not collecting as rapidly on outstanding accounts receivable. The company will need to further examine this difference before deciding on a course of action. Another method of analysis Banyan might consider before making a decision is vertical analysis.

## Vertical Analysis

Vertical analysis shows a comparison of a line item within a statement to another line item within that same statement. For example, a company may compare cash to total assets in the current year. This allows a company to see what percentage of cash (the comparison line item) makes up total assets (the other line item) during the period. This is different from horizontal analysis, which compares across years. Vertical analysis compares line items within a statement in the current year. This can help a business to know how much of one item is contributing to overall operations. For example, a company may want to know how much inventory contributes to total assets. They can then use this information to make business decisions such as preparing the budget, cutting costs, increasing revenues, or capital investments.

The company will need to determine which line item they are comparing all items to within that statement and then calculate the percentage makeup. These percentages are considered *common-size* because they make businesses within industry comparable by taking out fluctuations for size. It is typical for an income statement to use net sales (or sales) as the comparison line item. This means net sales will be set at 100% and all other

line items within the income statement will represent a percentage of net sales.

On the balance sheet, a company will typically look at two areas: (1) total assets, and (2) total liabilities and stockholders' equity. Total assets will be set at 100% and all assets will represent a percentage of total assets. Total liabilities and stockholders' equity will also be set at 100% and all line items within liabilities and equity will be represented as a percentage of total liabilities and stockholders' equity. The line item set at 100% is considered the base amount and the comparison line item is considered the comparison amount. The formula to determine the common-size percentage is:

$$\text{Common-Size Percentage} = \left( \frac{\text{Comparison Amount}}{\text{Base Amount}} \right) \times 100$$

For example, if Banyan Goods set total assets as the base amount and wanted to see what percentage of total assets were made up of cash in the current year, the following calculation would occur.

$$\text{Common-size percentage} = \left( \frac{\$110,000}{\$250,000} \right) \times 100 = 44\% \quad (\text{A3})$$

Cash in the current year is \$110,000 and total assets equal \$250,000, giving a common-size percentage of 44%. If the company had an expected cash balance of 40% of total assets, they would be exceeding expectations. This may not be enough of a difference to make a change, but if they notice this deviates from industry standards, they may need to make adjustments, such as reducing the amount of cash on hand to reinvest in the business. [Figure A.3](#) shows the common-size calculations on the comparative income statements and comparative balance sheets for Banyan Goods.

BARRY'S SUPERSTORE Comparative Year-End Income Statements Vertical Analysis					BARRY'S SUPERSTORE Comparative Year-End Balance Sheets Vertical Analysis				
	Prior Year	Current Year	Common Size*			Prior Year	Current Year	Common Size	
			Prior Year	Current Year				Prior Year	Current Year
Net Sales	\$100,000	\$120,000	100%	100%	<b>Assets:</b>				
Cost of Goods Sold	50,000	60,000	50%	50%	Cash	\$90,000	\$110,000	45%	44%
Gross Profit	50,000	60,000	50%	50%	Accounts Receivable	20,000	30,000	10%	12%
					Inventory	35,000	40,000	17.5%	16%
Rent Expense	5,000	5,500	5%	5%	Short-Term Investments	15,000	20,000	7.5%	8%
Depreciation Expense - Eq.	2,500	3,600	3%	3%	Total Current Asstes	160,000	200,000	80%	80%
Salaries Expense	3,000	5,400	3%	5%	Equipment	40,000	50,000	20%	20%
Utility Expense	1,500	2,500	2%	2%	<b>Total Assets</b>	<u>\$200,000</u>	<u>\$250,000</u>	<u>100%</u>	<u>100%</u>
Operating Income	38,000	43,000	38%	36%	<b>Liabilities:</b>				
Interest Expense	3,000	2,000	3%	2%	Accounts Payable	\$ 60,000	\$ 75,000	30%	30%
Income Tax Expense	5,000	6,000	5%	5%	Unearned Revenue	10,000	25,000	5%	10%
Net Income	<u>\$ 30,000</u>	<u>\$ 35,000</u>	<u>30%</u>	<u>29%</u>	Total Current Liabilities	70,000	100,000	35%	40%
					Notes Payable	40,000	50,000	20%	20%
					Total Liabilities	<u>110,000</u>	<u>150,000</u>	<u>55%</u>	<u>60%</u>
					<b>Stockholder Equity</b>				
					Common Stock	75,000	80,000	37.5%	32%
					Ending Retained Earnings	15,000	20,000	7.5%	8%
					Total Stockholder Equity	<u>90,000</u>	<u>100,000</u>	<u>45%</u>	<u>40%</u>
					<b>Total Liabilities and Stockholder Equity</b>	<u>\$200,000</u>	<u>\$250,000</u>	<u>100%</u>	<u>100%</u>

\*Some figures rounded to the nearest whole percent, which may alter the total percentage to +/- 1% of 100%

**Figure A.3** Income Statements and Vertical Analysis.

Even though vertical analysis is a statement comparison within the same year, Banyan can use information from the prior year's vertical analysis to make sure the business is operating as expected. For example, unearned revenues increased from the prior year to the current year and made up a larger portion of total liabilities and stockholders' equity. This could be due to many factors, and Banyan Goods will need to examine this further to see why this change has occurred. Let's turn to financial statement analysis using financial ratios.

## Overview of Financial Ratios

Financial ratios help both internal and external users of information make informed decisions about a company. A stakeholder could be looking to invest, become a supplier, make a loan, or alter internal operations, among other things, based in part on the outcomes of ratio analysis. The information resulting from ratio analysis can be used to examine trends in performance, establish benchmarks for success, set budget expectations, and compare industry competitors. There are four main categories of ratios: liquidity, solvency, efficiency, and profitability. Note that while there are more ideal outcomes for some ratios, the industry in which the business operates can change the influence each of these outcomes has over stakeholder decisions. (You will learn more about ratios, industry standards, and ratio interpretation in advanced accounting courses.)

### Liquidity Ratios

Liquidity ratios show the ability of the company to pay short-term obligations if they came due immediately with assets that can be quickly converted to cash. This is done by comparing current assets to current liabilities. Lenders, for example, may consider the outcomes of liquidity ratios when deciding whether to extend a loan to a company. A company would like to be liquid enough to manage any currently due obligations but not too liquid where they may not be effectively investing in growth opportunities. Three common liquidity measurements are working capital, current ratio, and quick ratio.

#### Working Capital

Working capital measures the financial health of an organization in the short-term by finding the difference between current assets and current liabilities. A company will need enough current assets to cover current liabilities; otherwise, they may not be able to continue operations in the future. Before a lender extends credit, they will review the working capital of the company to see if the company can meet their obligations. A larger difference signals that a company can cover their short-term debts and a lender may be more willing to extend the loan. On the other hand, too large of a difference may indicate that the company may not be correctly using their assets to grow the business. The formula for working capital is:

$$\text{Working Capital} = \text{Current Assets} - \text{Current Liabilities}$$

Using Banyan Goods, working capital is computed as follows for the current year:

$$\text{Working capital} = \$200,000 - \$100,000 = \$100,000 \quad (\text{A4})$$

In this case, current assets were \$200,000, and current liabilities were \$100,000. Current assets were far greater than current liabilities for Banyan Goods and they would easily be able to cover short-term debt.

The dollar value of the difference for working capital is limited given company size and scope. It is most useful to convert this information to a ratio to determine the company's current financial health. This ratio is the current ratio.

## Current Ratio

Working capital expressed as a ratio is the current ratio. The current ratio considers the amount of current assets available to cover current liabilities. The higher the current ratio, the more likely the company can cover its short-term debt. The formula for current ratio is:

$$\text{Current Ratio} = \left( \frac{\text{Current Assets}}{\text{Current Liabilities}} \right)$$

The current ratio in the current year for Banyan Goods is:

$$\text{Current ratio} = \left( \frac{\$200,000}{\$100,000} \right) = 2 \text{ or } 2:1 \quad (\text{A5})$$

A 2:1 ratio means the company has twice as many current assets as current liabilities; typically, this would be plenty to cover obligations. This may be an acceptable ratio for Banyan Goods, but if it is too high, they may want to consider using those assets in a different way to grow the company.

## Quick Ratio

The quick ratio, also known as the acid-test ratio, is similar to the current ratio except current assets are more narrowly defined as the most liquid assets, which exclude inventory and prepaid expenses. The conversion of inventory and prepaid expenses to cash can sometimes take more time than the liquidation of other current assets. A company will want to know what they have on hand and can use quickly if an immediate obligation is due. The formula for the quick ratio is:

$$\text{Quick Ratio} = \left( \frac{\text{Cash} + \text{Short-Term Investments} + \text{Accounts Receivable}}{\text{Current Liabilities}} \right)$$

The quick ratio for Banyan Goods in the current year is:

$$\text{Quick ratio} = \left( \frac{\$110,000 + \$20,000 + \$30,000}{\$100,000} \right) = 1.6 \text{ or } 1.6:1 \quad (\text{A6})$$

A 1.6:1 ratio means the company has enough quick assets to cover current liabilities.

Another category of financial measurement uses solvency ratios.

## Solvency Ratios

Solvency implies that a company can meet its long-term obligations and will likely stay in business in the future. To stay in business the company must generate more revenue than debt in the long-term. Meeting long-term obligations includes the ability to pay any interest incurred on long-term debt. Two main solvency ratios are the debt-to-equity ratio and the times interest earned ratio.

### Debt to Equity Ratio

The debt-to-equity ratio shows the relationship between debt and equity as it relates to business financing. A company can take out loans, issue stock, and retain earnings to be used in future periods to keep operations running. It is less risky and less costly to use equity sources for financing as compared to debt resources. This is mainly due to interest expense repayment that a loan carries as opposed to equity, which does not have this requirement. Therefore, a company wants to know how much debt and equity contribute to its financing. Ideally, a company would prefer more equity than debt financing. The formula for the debt to equity ratio is:

$$\text{Debt-to-Equity Ratio} = \left( \frac{\text{Total Liabilities}}{\text{Total Stockholder Equity}} \right)$$

The information needed to compute the debt-to-equity ratio for Banyan Goods in the current year can be found on the balance sheet.

$$\text{Debt-to-equity ratio} = \left( \frac{\$150,000}{\$100,000} \right) = 1.5 \text{ or } 1.5:1 \quad (\text{A7})$$

This means that for every \$1 of equity contributed toward financing, \$1.50 is contributed from lenders. This would be a concern for Banyan Goods. This could be a red flag for potential investors that the company could be trending toward insolvency. Banyan Goods might want to get the ratio below 1:1 to improve their long-term business viability.

### Times Interest Earned Ratio

Time interest earned measures the company's ability to pay interest expense on long-term debt incurred. This ability to pay is determined by the available earnings before interest and taxes (EBIT) are deducted. These earnings are considered the operating income. Lenders will pay attention to this ratio before extending credit. The more times over a company can cover interest, the more likely a lender will extend long-term credit. The formula for times interest earned is:

$$\text{Times Interest Earned} = \left( \frac{\text{Earnings before Interest and Taxes}}{\text{Interest Expense}} \right)$$

The information needed to compute times interest earned for Banyan Goods in the current year can be found on the income statement.

$$\text{Times interest earned} = \left( \frac{\$43,000}{\$2,000} \right) = 21.5 \text{ times} \quad (\text{A8})$$

The \$43,000 is the operating income, representing earnings before interest and taxes. The 21.5 times outcome suggests that Banyan Goods can easily repay interest on an outstanding loan and creditors would have little risk that Banyan Goods would be unable to pay.

Another category of financial measurement uses efficiency ratios.

### Efficiency Ratios

Efficiency shows how well a company uses and manages their assets. Areas of importance with efficiency are management of sales, accounts receivable, and inventory. A company that is efficient typically will be able to generate revenues quickly using the assets it acquires. Let's examine four efficiency ratios: accounts receivable turnover, total asset turnover, inventory turnover, and days' sales in inventory.

#### Accounts Receivable Turnover

Accounts receivable turnover measures how many times in a period (usually a year) a company will collect cash from accounts receivable. A higher number of times could mean cash is collected more quickly and that credit customers are of high quality. A higher number is usually preferable because the cash collected can be reinvested in the business at a quicker rate. A lower number of times could mean cash is collected slowly on these accounts and customers may not be properly qualified to accept the debt. The formula for accounts receivable turnover is:

$$\text{Accounts Receivable Turnover} = \left( \frac{\text{Net Credit Sales}}{\text{Average Accounts Receivable}} \right)$$

$$\text{Average Accounts Receivable} = \left( \frac{\text{Beginning Accounts Receivable} + \text{Ending Accounts Receivable}}{2} \right)$$

Many companies do not split credit and cash sales, in which case net sales would be used to compute accounts receivable turnover. Average accounts receivable is found by dividing the sum of beginning and ending accounts receivable balances found on the balance sheet. The beginning accounts receivable balance in the current year is taken from the ending accounts receivable balance in the prior year.

When computing the accounts receivable turnover for Banyan Goods, let's assume net credit sales make up \$100,000 of the \$120,000 of the net sales found on the income statement in the current year.

$$\begin{aligned} \text{Average accounts receivable} &= \frac{\$20,000 + \$30,000}{2} = \$25,000 && \text{(A9)} \\ \text{Accounts receivable turnover} &= \frac{\$100,000}{\$25,000} = 4 \text{ times} \end{aligned}$$

An accounts receivable turnover of four times per year may be low for Banyan Goods. Given this outcome, they may want to consider stricter credit lending practices to make sure credit customers are of a higher quality. They may also need to be more aggressive with collecting any outstanding accounts.

### Total Asset Turnover

Total asset turnover measures the ability of a company to use their assets to generate revenues. A company would like to use as few assets as possible to generate the most net sales. Therefore, a higher total asset turnover means the company is using their assets very efficiently to produce net sales. The formula for total asset turnover is:

$$\text{Total Asset Turnover} = \left( \frac{\text{Net Sales}}{\text{Average Total Assets}} \right)$$

$$\text{Average Total Assets} = \left( \frac{\text{Beginning Total Assets} + \text{Ending Total Assets}}{2} \right)$$

Average total assets are found by dividing the sum of beginning and ending total assets balances found on the balance sheet. The beginning total assets balance in the current year is taken from the ending total assets balance in the prior year.

Banyan Goods' total asset turnover is:

$$\begin{aligned} \text{Average total assets} &= \frac{\$200,000 + \$250,000}{2} = \$225,000 && \text{(A10)} \\ \text{Total assets turnover} &= \frac{\$120,000}{\$225,000} = 0.53 \text{ times (rounded)} \end{aligned}$$

The outcome of 0.53 means that for every \$1 of assets, \$0.53 of net sales are generated. Over time, Banyan Goods would like to see this turnover ratio increase.

### Inventory Turnover

Inventory turnover measures how many times during the year a company has sold and replaced inventory.

This can tell a company how well inventory is managed. A higher ratio is preferable; however, an extremely high turnover may mean that the company does not have enough inventory available to meet demand. A low turnover may mean the company has too much supply of inventory on hand. The formula for inventory turnover is:

$$\text{Inventory Turnover} = \left( \frac{\text{Cost of Goods Sold}}{\text{Average Inventory}} \right)$$

$$\text{Average Inventory} = \left( \frac{\text{Beginning Inventory} + \text{Ending Inventory}}{2} \right)$$

Cost of goods sold for the current year is found on the income statement. Average inventory is found by dividing the sum of beginning and ending inventory balances found on the balance sheet. The beginning inventory balance in the current year is taken from the ending inventory balance in the prior year.

Banyan Goods' inventory turnover is:

$$\begin{aligned} \text{Average inventory} &= \frac{\$35,000 + \$40,000}{2} = \$37,500 && (\text{A11}) \\ \text{Inventory turnover} &= \frac{\$60,000}{\$37,500} = 1.6 \text{ times} \end{aligned}$$

1.6 times is a very low turnover rate for Banyan Goods. This may mean the company is maintaining too high an inventory supply to meet a low demand from customers. They may want to decrease their on-hand inventory to free up more liquid assets to use in other ways.

### Days' Sales in Inventory

Days' sales in inventory expresses the number of days it takes a company to turn inventory into sales. This assumes that no new purchase of inventory occurred within that time period. The fewer the number of days, the more quickly the company can sell its inventory. The higher the number of days, the longer it takes to sell its inventory. The formula for days' sales in inventory is:

$$\text{Days' Sales in Inventory} = \left( \frac{\text{Ending Inventory}}{\text{Cost of Goods Sold}} \right) \times 365$$

Banyan Goods' days' sales in inventory is:

$$\text{Days' sales in inventory} = \left( \frac{\$40,000}{\$60,000} \right) \times 365 = 243 \text{ days (rounded)} \quad (\text{A12})$$

243 days is a long time to sell inventory. While industry dictates what is an acceptable number of days to sell inventory, 243 days is unsustainable long-term. Banyan Goods will need to better manage their inventory and sales strategies to move inventory more quickly.

The last category of financial measurement examines profitability ratios.

### Profitability Ratios

Profitability considers how well a company produces returns given their operational performance. The company needs to leverage its operations to increase profit. To assist with profit goal attainment, company revenues need to outweigh expenses. Let's consider three profitability measurements and ratios: profit margin, return on total assets, and return on equity.

## Profit Margin

Profit margin represents how much of sales revenue has translated into income. This ratio shows how much of each \$1 of sales is returned as profit. The larger the ratio figure (the closer it gets to 1), the more of each sales dollar is returned as profit. The portion of the sales dollar not returned as profit goes toward expenses. The formula for profit margin is:

$$\text{Profit Margin} = \left( \frac{\text{Net Income}}{\text{Net Sales}} \right)$$

For Banyan Goods, the profit margin in the current year is:

$$\text{Profit margin} = \left( \frac{\$35,000}{\$120,000} \right) = 0.29 \text{ (rounded) or } 29\% \quad (\text{A13})$$

This means that for every dollar of sales, \$0.29 returns as profit. If Banyan Goods thinks this is too low, the company would try and find ways to reduce expenses and increase sales.

## Return on Total Assets

The return on total assets measures the company's ability to use its assets successfully to generate a profit. The higher the return (ratio outcome), the more profit is created from asset use. Average total assets are found by dividing the sum of beginning and ending total assets balances found on the balance sheet. The beginning total assets balance in the current year is taken from the ending total assets balance in the prior year. The formula for return on total assets is:

$$\text{Return on Total Assets} = \left( \frac{\text{Net Income}}{\text{Average Total Assets}} \right)$$

$$\text{Average Total Assets} = \left( \frac{\text{Beginning Total Assets} + \text{Ending Total Assets}}{2} \right)$$

For Banyan Goods, the return on total assets for the current year is:

$$\begin{aligned} \text{Average total assets} &= \frac{\$200,000 + \$250,000}{2} = \$225,000 & (\text{A14}) \\ \text{Return on total assets} &= \frac{\$35,000}{\$225,000} = 0.16 \text{ (rounded) or } 16\% \end{aligned}$$

The higher the figure, the better the company is using its assets to create a profit. Industry standards can dictate what is an acceptable return.

## Return on Equity

Return on equity measures the company's ability to use its invested capital to generate income. The invested capital comes from stockholders investments in the company's stock and its retained earnings and is leveraged to create profit. The higher the return, the better the company is doing at using its investments to yield a profit. The formula for return on equity is:

$$\text{Return on Equity} = \left( \frac{\text{Net Income}}{\text{Average Stockholder Equity}} \right)$$

$$\text{Average Stockholder Equity} = \left( \frac{\text{Beginning Stockholder Equity} + \text{Ending Stockholder Equity}}{2} \right)$$

Average stockholders' equity is found by dividing the sum of beginning and ending stockholders' equity balances found on the balance sheet. The beginning stockholders' equity balance in the current year is taken from the ending stockholders' equity balance in the prior year. Keep in mind that the net income is calculated after preferred dividends have been paid.

For Banyan Goods, we will use the net income figure and assume no preferred dividends have been paid. The return on equity for the current year is:

$$\begin{aligned} \text{Average stockholder equity} &= \frac{\$90,000 + \$100,000}{2} = \$95,000 && \text{(A15)} \\ \text{Return on equity} &= \frac{\$35,000}{\$95,000} = 0.37 \text{ (rounded) or } 37\% \end{aligned}$$

The higher the figure, the better the company is using its investments to create a profit. Industry standards can dictate what is an acceptable return.

## Advantages and Disadvantages of Financial Statement Analysis

There are several advantages and disadvantages to financial statement analysis. Financial statement analysis can show trends over time, which can be helpful in making future business decisions. Converting information to percentages or ratios eliminates some of the disparity between competitor sizes and operating abilities, making it easier for stakeholders to make informed decisions. It can assist with understanding the makeup of current operations within the business, and which shifts need to occur internally to increase productivity.

A stakeholder needs to keep in mind that past performance does not always dictate future performance. Attention must be given to possible economic influences that could skew the numbers being analyzed, such as inflation or a recession. Additionally, the way a company reports information within accounts may change over time. For example, where and when certain transactions are recorded may shift, which may not be readily evident in the financial statements.

A company that wants to budget properly, control costs, increase revenues, and make long-term expenditure decisions may want to use financial statement analysis to guide future operations. As long as the company understands the limitations of the information provided, financial statement analysis is a good tool to predict growth and company financial strength.



## B Time Value of Money

### Present Value of \$1 Table

Present Value of \$1 Table									
Factor = $\frac{1}{(1+i)^n}$									
Rate (i)									
	1%	2%	3%	5%	8%	10%	12%	15%	20%
1	0.990	0.980	0.971	0.952	0.926	0.909	0.893	0.870	0.833
2	0.980	0.961	0.943	0.907	0.857	0.826	0.797	0.756	0.694
3	0.971	0.942	0.915	0.864	0.794	0.751	0.712	0.658	0.579
4	0.961	0.924	0.888	0.823	0.735	0.683	0.636	0.572	0.482
5	0.952	0.906	0.863	0.784	0.681	0.621	0.567	0.497	0.402
6	0.942	0.888	0.837	0.746	0.630	0.564	0.507	0.432	0.335
7	0.933	0.871	0.813	0.711	0.583	0.513	0.452	0.376	0.279
8	0.924	0.853	0.789	0.677	0.540	0.467	0.404	0.327	0.233
9	0.914	0.837	0.766	0.645	0.500	0.424	0.361	0.284	0.194
10	0.905	0.820	0.744	0.614	0.463	0.386	0.322	0.247	0.162
11	0.896	0.804	0.722	0.585	0.429	0.350	0.287	0.215	0.135
12	0.888	0.788	0.701	0.557	0.397	0.319	0.257	0.187	0.112
13	0.879	0.773	0.681	0.530	0.368	0.290	0.229	0.163	0.093
14	0.861	0.758	0.661	0.505	0.340	0.263	0.205	0.141	0.078
15	0.861	0.743	0.642	0.481	0.315	0.239	0.183	0.123	0.065
16	0.853	0.728	0.623	0.458	0.292	0.218	0.163	0.107	0.054
17	0.844	0.714	0.605	0.436	0.270	0.198	0.146	0.093	0.045
18	0.836	0.700	0.587	0.416	0.250	0.180	0.130	0.081	0.038
19	0.828	0.686	0.570	0.396	0.232	0.164	0.116	0.070	0.031
20	0.820	0.673	0.554	0.377	0.215	0.149	0.104	0.061	0.026

Figure B.1 Present Value of \$1 Table.

## Present Value of an Ordinary Annuity Table

Future Value of an Ordinary Annuity Table									
Factor = $\frac{[1 - 1 / (1 + i)^n]}{i}$									
Rate (i)									
Period (n)	1%	2%	3%	5%	8%	10%	12%	15%	20%
1	0.990	0.980	0.971	0.952	0.926	0.909	0.893	0.870	0.833
2	1.970	1.942	1.913	1.859	1.783	1.736	1.690	1.626	1.528
3	2.941	2.884	2.829	2.723	2.577	2.487	2.402	2.283	2.106
4	3.902	3.808	3.717	3.546	3.312	3.170	3.037	2.855	2.589
5	4.853	4.713	4.580	4.329	3.993	3.791	3.605	3.352	2.991
6	5.795	5.601	5.417	5.076	4.623	4.355	4.111	3.785	3.326
7	6.728	6.472	6.230	5.786	5.206	4.868	4.564	4.160	3.605
8	7.652	7.325	7.020	6.463	5.747	5.335	4.968	4.487	3.837
9	8.566	8.162	7.786	7.108	6.247	5.759	5.328	4.772	4.031
10	9.471	8.983	8.530	7.722	6.710	6.145	5.650	5.019	4.192
11	10.368	9.787	9.253	8.306	7.139	6.495	5.938	5.234	4.327
12	11.255	10.575	9.954	8.863	7.536	6.814	6.194	5.421	4.439
13	12.134	11.348	10.635	9.394	7.904	7.103	6.424	5.583	4.533
14	13.004	12.106	11.296	9.899	8.244	7.367	6.628	5.725	4.611
15	13.865	12.849	11.938	10.380	8.559	7.606	6.811	5.847	4.675
16	14.718	13.578	12.561	10.838	8.851	7.824	6.974	5.954	4.730
17	15.562	14.292	13.166	11.274	9.122	8.022	7.120	6.047	4.775
18	16.398	14.992	13.754	11.690	9.372	8.201	7.250	6.128	4.812
19	17.226	15.678	14.324	12.085	9.604	8.365	7.366	6.198	4.844
20	18.046	16.351	14.877	12.462	9.818	8.514	7.469	6.259	4.870

**Figure B.2** Present Value of an Ordinary Annuity Table.

## Future Value of \$1 Table

Future Value of \$1 Table									
Factor = $(1 + i)^n$									
Rate ( <i>i</i> )									
	1%	2%	3%	5%	8%	10%	12%	15%	20%
1	1.010	1.020	1.030	1.050	1.080	1.100	1.120	1.150	1.200
2	1.020	1.040	1.061	1.103	1.166	1.210	1.254	1.323	1.440
3	1.030	1.061	1.093	1.158	1.260	1.331	1.405	1.521	1.728
4	1.041	1.082	1.126	1.216	1.360	1.464	1.574	1.749	2.074
5	1.051	1.104	1.159	1.276	1.469	1.611	1.762	2.011	2.488
6	1.062	1.126	1.194	1.340	1.587	1.772	1.974	2.313	2.986
7	1.072	1.149	1.230	1.407	1.714	1.949	2.211	2.660	3.583
8	1.083	1.172	1.267	1.477	1.851	2.144	2.476	3.059	4.300
9	1.094	1.195	1.305	1.551	1.999	2.358	2.773	3.518	5.160
10	1.105	1.219	1.344	1.629	2.159	2.594	3.106	4.046	6.192
11	1.116	1.243	1.384	1.710	2.332	2.853	3.479	4.652	7.430
12	1.127	1.268	1.426	1.796	2.518	3.138	3.896	5.350	8.916
13	1.138	1.294	1.469	1.886	2.720	3.452	4.363	6.153	10.699
14	1.149	1.319	1.513	1.980	2.937	3.797	4.887	7.076	12.839
15	1.161	1.346	1.558	2.079	3.172	4.177	5.474	8.137	15.407
16	1.173	1.373	1.605	2.183	3.426	4.595	6.130	9.358	18.488
17	1.184	1.400	1.653	2.292	3.700	5.054	6.866	10.761	22.186
18	1.196	1.428	1.702	2.407	3.996	5.560	7.690	12.375	26.623
19	1.208	1.457	1.754	2.527	4.316	6.116	8.613	14.232	31.948
20	1.220	1.486	1.806	2.653	4.661	6.727	9.646	16.367	38.338

**Figure B.3** Future Value of \$1 Table.

## Future Value of an Ordinary Annuity Table

Future Value of an Ordinary Annuity Table										
Factor = $\frac{[(1 + i)^n - 1]}{i}$										
Rate (i)										
	1%	2%	3%	5%	8%	10%	12%	15%	20%	
1	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2	2.010	2.020	2.030	2.050	2.080	2.100	2.120	2.150	2.200	
3	3.030	3.060	3.091	3.153	3.246	3.310	3.374	3.473	3.640	
4	4.060	4.122	4.184	4.310	4.506	4.641	4.779	4.993	5.368	
5	5.101	5.204	5.309	5.526	5.867	6.105	6.353	6.742	7.442	
6	6.152	6.308	6.468	6.802	7.336	7.716	8.115	8.754	9.930	
7	7.214	7.434	7.662	8.142	8.923	9.487	10.089	11.067	12.916	
8	8.286	8.583	8.892	9.549	10.637	11.436	12.300	13.727	16.499	
9	9.369	9.755	10.159	11.027	12.488	13.579	14.776	16.786	20.799	
10	10.462	10.950	11.464	12.578	14.487	15.937	17.549	20.304	25.959	
11	11.567	12.169	12.808	14.207	16.645	18.531	20.655	24.349	32.150	
12	12.683	13.412	14.192	15.917	18.977	21.384	24.133	29.002	39.581	
13	13.809	14.680	15.618	17.713	21.495	24.523	28.029	34.352	48.497	
14	14.947	15.974	17.086	19.599	24.215	27.975	32.393	40.505	59.196	
15	16.097	17.293	18.599	21.579	27.152	31.772	37.280	47.580	72.035	
16	17.258	18.639	20.157	23.657	30.324	35.950	42.753	55.717	87.442	
17	18.430	20.012	21.762	25.840	33.750	40.545	48.884	65.075	105.930	
18	19.615	21.412	23.414	28.132	37.450	45.599	55.750	75.836	128.120	
19	20.811	22.841	25.117	30.539	41.446	51.159	63.440	88.212	154.740	
20	22.019	24.297	26.870	33.066	45.762	57.275	72.052	102.440	186.690	

**Figure B.4** Future Value of an Ordinary Annuity Table.

## C Suggested Resources

The resources listed provide further information on several topics: financial statements from real-world companies, accounting software and tools, personal finance, accounting organizations, and exams and professional certifications for accountants.

### Sample Financial Statements

The following income statements and balance sheets show the finances of companies representing the manufacturing, retail, and service industries.

#### Manufacturing Company: General Motors

- Income statement: <https://www.nasdaq.com/symbol/gm/financials?query=income-statement>
- Balance sheet: <https://www.nasdaq.com/symbol/gm/financials?query=balance-sheet>

#### Retail Company: Costco Wholesale

- Income statement: <https://www.nasdaq.com/symbol/cost/financials>
- Balance sheet: <https://www.nasdaq.com/symbol/cost/financials?query=balance-sheet>

#### Service Company: Prudential

- Income statement <https://www.marketwatch.com/investing/stock/pru/financials>
- Balance sheet: <https://www.marketwatch.com/investing/stock/pru/financials/balance-sheet>

### Accounting Software and Tools

The resources listed offer a variety of tutorials, training videos, and practice activities using software and tools common in accounting.

#### QuickBooks

- QuickBooks tutorials: <https://quickbooks.intuit.com/tutorials/>

#### Peachtree/Sage 50

- Peachtree 2011 guide: <https://www.perdisco.com/peachtreeLearning/quickReferenceGuide/2011.aspx>
- Sage 50 training course with videos: <https://www.freebookkeepingaccounting.com/single-post/Sage-50-Accounts-Training-Course-Part-1>

#### Microsoft Excel

- Excel tutorials, video guides, trainings, and worksheets: <https://chandoo.org/wp/welcome/>
- YouTube channel with accounting-specific video tutorials: <https://www.youtube.com/user/ExcelIsFun>

#### Financial Calculators

- HP10B setup video guide: <https://www.youtube.com/watch?v=ImMdRfKre44>
- HP10BII video introduction and examples: <https://www.youtube.com/watch?v=fTqkkeG1xlw>
- HP10B and HP12C time value of money calculations video guides: <https://www.youtube.com/user/mssuprof/videos>

### Personal Finance

These resources can assist you with personal financial planning.

## Earnings

- Current starting salaries for recent college graduates for various majors and degrees: <https://careers.kennesaw.edu/employers/docs/2018-nace-salary-survey-winter.pdf>
- Accounting-specific salaries and positions: <https://www.roberthalf.com/blog/salaries-and-skills/the-rise-of-the-accountant-salary-and-10-top-accounting-jobs>

## Take-Home Pay

- Salary calculator that determines your net pay—the amount you’ll take home in your paycheck that you need to plan your budget around. In addition to calculating state and federal taxes, this resource allows you to input other withholdings such as health insurance or 401K contributions: <https://www.paycheckcity.com/>

## Saving and Retirement Planning

Determining how much your savings will grow and how much you will have in retirement are very important components of personal financial planning. These links will help you better plan for those aspects of saving.

- This basic savings growth calculator includes graphs that provide helpful visuals of the impact of changing any assumptions such as the timing or amount of contributions or the interest rate earned: <https://smartasset.com/investing/investment-calculator>
- To estimate retirement savings growth, use this calculator that allows you to see the impact of saving now (enter your current age) versus saving later (enter a future age): <https://www.daveramsey.com/smartvestor/investment-calculator>
- This calculator lets you more accurately plan how your retirement savings will grow by allowing you to input any matching amounts contributed by employers: <https://nb.fidelity.com/public/nb/401k/tools/calculators/contributioncalculator>

## Budgeting

- A well-planned budget is the cornerstone of personal financial planning. Using the salary, pay and savings numbers obtained from the resources above, this calculator will help you create a detailed financial budget: <https://www.clearpoint.org/tools/budget-calculator/>

## Debt Reduction

- Whether it is student loans, credit cards, car loans or any other kind of debt, it is always beneficial to understand the impact of differing payments on paying off debt. This resource will help you see the impact of changing the amount paid on the payoff timing and interest paid on the debt: <https://www.money-zine.com/calculators/loan-calculators/debt-reduction-calculator/>

## Accounting-Related Organizations

A number of organizations are dedicated to regulating and supporting the variety of work undertaken in the discipline of accounting.

- Governmental Accounting Standards Board (GASB): <https://www.gasb.org>
- Financial Accounting Standards Board (FASB): <https://www.fasb.org>
- U.S. Securities and Exchange Commission (SEC): <https://www.sec.gov>
- Association of Chartered Certified Accountants (ACCA): <https://www.accaglobal.com>
- Institute of Management Accountants (IMA): <https://www.imanet.org>

## Accounting Exams and Certificates

These sites provide information on exams and professional certifications.

### **Certified Public Accountant (CPA)**

- American Institute of Certified Public Accountants (AICPA): <https://www.aicpa.org/content/aicpa/>
- National Association of State Boards of Accountancy (NASBA): <https://nasba.org/>
- This Way to the CPA: <https://thiswaytocpa.com/>

### **Certified Management Accountant (CMA)**

- Institute of Management Accountants (IMA): <https://www.imanet.org/cma-certification?ssopc=1>

### **Certified Internal Auditor (CIA)**

- Institute of Internal Auditors (IIA)-Global: <https://global.theiia.org/Pages/globaliiaHome.aspx>
- Institute of Internal Auditors (IIA)-North America: <https://na.theiia.org/Pages/IIAHome.aspx>

### **Certified Fraud Examiner (CFE)**

- Association of Certified Fraud Examiners (ACFE): <http://www.acfe.com/default.aspx>

### **Chartered Financial Analyst (CFA)**

- CFA Institute: <https://www.cfainstitute.org/Pages/index.aspx>

### **Certified Financial Planner (CFP)**

- Certified Financial Planners (CFP) Board: <https://www.cfp.net/home>



# Answer Key

## Chapter 1

### Multiple Choice

1. B
3. C
5. A
7. B
9. B
11. E
13. A
15. D
17. A
19. B

### Questions

1. Answers will vary but should include factors such as starting salaries, value of fringe benefits, cost of living, and other monetary factors.
3. Answers will vary but should include considerations such as price, convenience, features, ease of purchase, availability, and other decision-making factors.
5. Responses should comment on the growth Netflix has experienced. Although this may have been due to subscription price increases, the biggest driver of these increases is the number of subscriptions. While this is only a few data points, it does appear likely that Netflix will continue to grow sales in the next year or so. Factors influencing this prediction would be competition, changes in the streaming market, and economic considerations.
7. Answers will vary, but responses should state, in a sentence or two, the primary purpose of the entity. The goal of this exercise is to have students clearly communicate why the entity exists, the stakeholders served by the entity, and the role accounting plays in the organization.
9. Answers will vary but should highlight aspects of each model: *Brick-and-mortar*: higher investment in physical storefront, interior, etc., to attain visual appeal; insurance and regulatory requirements; space/storage considerations; lower delivery costs; no delivery time. *Online*: less overhead costs, higher delivery costs, higher website and technology costs, competition.
11. Manufacturer: movies; service: hotels, restaurants, waste removal, entertainment; retail: shopDisney, clothes and apparel.
13. Answers will vary but should include the key services of the SEC related to regulation and enforcement. You may be particularly interested to explore the SEC's whistle-blowing initiatives. Responses regarding required filings for publicly traded companies should include a discussion about the relationship between transparency and protecting the public interest. The significant amount of invested capital by the investing public is also relevant to the discussion.
15. Answers will vary but should include the increase in popularity of energy drinks and Monster's partnership with the **Coca-Cola Company** (which now owns close to a 17% stake in Monster). Considerations as to whether or not to purchase Monster shares today would include the estimated future performance of the company, the energy drink market, purchasing at a high point, etc.
17. Answers will vary but should include a discussion of the importance for accountants to provide information that is unbiased. Accountants have an obligation to protect the public interest by reporting information that is useful for decision-making but does not sway the user in a particular way. Accountants are in a unique position where they serve many stakeholders, including their employer, clients, and the public. The interests of all stakeholders must be considered while maintaining the highest level of integrity.
19. Answers will vary and may include certifications/licensing in nursing, information technology, engineering, human resources management, counseling, medicine, and many other occupations.

## Chapter 2

### Multiple Choice

1. D
3. A
5. B
7. A
9. B

- 11. D
- 13. B
- 15. C
- 17. C

### Questions

1. Income statement shows the financial performance of a business for a period of time; statement of owner's equity shows the change in net worth of a business for a period of time; balance sheet shows the financial position of a business on a specific date; statement of cash flows shows the cash inflows and outflows of the business for a period of time.
3. Both revenues and gains represent inflows to the business, making it more valuable. Revenues relate to the primary purpose of the business, while gains represent incidental or peripheral activities. This is important to stakeholders because revenues represent ongoing or permanent activities, while gains represent infrequent or transient activities. Stakeholders should focus on permanent earnings and put peripheral or incidental earnings into the proper context.
5. Equity is the net worth of the business. It can also be thought of as the net assets (assets minus liabilities) of the business. Activities that affect equity include revenues, expenses, gains, losses, and investment by and distributions to owners.
7. Both tangible and intangible assets have value to the company and can be bought, sold, or impaired; tangible assets have physical substance, while intangible assets do not.
9.  $\text{Assets} = \text{Liabilities} + \text{Owner's Equity}$ . Answers will vary and should include a combination of revenues/gains (increases), expenses/losses (decreases), investments (increases), and distributions (decreases). It is important to understand the following transactions/exchanges will not change equity: an asset for an asset, liability for liability, asset acquisitions by incurring liabilities, and asset reductions to reduce liabilities.
11. Revenues and investments increase equity, while expenses and distributions decrease equity.

## Chapter 3

### Multiple Choice

- 1. A
- 3. B
- 5. A
- 7. D
- 9. A
- 11. C
- 13. D
- 15. B
- 17. A
- 19. B
- 21. B
- 23. D
- 25. B
- 27. A
- 29. C
- 31. D
- 33. C
- 35. A
- 37. C
- 39. C
- 41. B

### Questions

1. Conservatism means that if there is uncertainty in a potential financial estimate, a company should err on the side of caution and report the most conservative amount. For the example, answers will vary. Sample answer: When I am budgeting for revenue in our household, I estimate what amount we will be paid, and I always round slightly down and with the expenses round up slightly so that there is a little leftover.
3.  $\text{Assets} = \text{Liabilities} + \text{Equity}$ ; Revenues increase equity, while expenses decrease equity.
5. The general journal.
7. Decreasing cash decreases assets; decreasing accounts payable decreases liabilities.  $\text{Assets (decrease)} = \text{Liabilities (decrease)} + \text{Equity (no change)}$ .
9. The combined total of liabilities and equity equals the total of assets because there is a claim against every asset that the company owns. Creditors have claims against some of the company's assets, in the amount of

the liabilities owed to them; owners (stockholders) have claims against all the rest of the company's assets. Equity is the total of assets minus liabilities, which is sometimes referred to as net assets.

**11.** The total in accounts receivable will increase with a debit. We know this because accounts receivable is an asset account, and asset balances increase with debit entries.

**13.** A journal is a chronological listing of all of the recordable transactions that have occurred in a company.

**15.** Recognize means to make a journal entry.

**17.** It is a comprehensive listing for all accounts a company has and their balances.

**19.** T-accounts represent the changes made to the general ledger. They are used as an illustrative tool when planning or discussing the effects a particular transaction will have on the accounting records. T-accounts are used in academic and business situations, as they are easier to sketch out than general journals.

**21.** A prepaid account is an account that shows the balance of money we have paid in advance of an expense being incurred. Prepaid accounts are assets.

**23.** A T-account is a visual depiction of the activity in an account. Entries made on the left side of the T-account represent debits, while entries on the right side represent credits. The ending account balance is the total net combined debits and credits for that account.

**25.** Asset accounts, dividend accounts, and expense accounts are increased with a debit. (Also, contra-liability accounts, contra-equity accounts, and contra-revenue accounts are increased with a debit.)

**27.** Normal balance refers to the expected ending balance for an account, based on the way that the account balance increases (either debit or credit.)

**29.** The purpose of the trial balance is to recap the account balances, to ensure that debits equal credits. The trial balance is used to prepare the financial statements, in this order: Income Statement, Retained Earnings Statement, and Balance Sheet.

## Chapter 4

### Multiple Choice

- 1. B
- 3. A
- 5. D
- 7. A
- 9. B
- 11. C
- 13. B
- 15. D
- 17. C
- 19. C
- 21. A and C

### Questions

**1.** The revenue recognition principle mandates that revenue be reported when earned, regardless of when the revenue is collected. For this reason, when revenue is earned but not yet collected, an accrual entry is required to accurately report revenue earned. For the same reason, when cash is collected, in advance of the earnings process, a deferral entry is required, to accurately report revenue earned.

**3.** Analyzing transactions (to enable journal entries) is the only analytical part of the accounting cycle. Analysis is required for both the original transaction entries and the adjusting entries. All of the other steps are just methodical posting of the entries, summarizing of the balances, regrouping of the accounts for financial reports, and closing of the accounts for year-end. Only the journal entries require decision-making processes.

**5.** Accruals—when cash has not moved, but it is time to record the transaction (examples: Accounts Payable or Accounts Receivable). Deferrals—when cash has moved, but it is not time to record the transaction (examples: Prepaid Insurance or Unearned Revenue).

**7.** Adjusting entries always include at least one income statement account and at least one balance sheet account, because the adjustment process is done to shift revenues and expenses between the Balance Sheet and the Income Statement, depending on whether it is the correct period to include that income or expense (report on the Income Statement) or not (report on the Balance Sheet).

**9.** An entry to adjust the supplies account to the \$400 balance is needed; Debit Supplies Expense for 800; Credit Supplies for 800.

**11.** An entry to adjust the Prepaid Insurance account to \$6,000 balance is needed; Debit Insurance Expense for 6,000; Credit Prepaid Insurance for 6,000.

**13.** The adjusted trial balance is the summary of account balances after the adjustments have been posted, so it reflects the corrected balances of all accounts.

**15.** (A) Income Statement; (B) Balance Sheet; (C) Balance Sheet; (D) Income Statement; (E) Retained Earnings Statement; (F) Balance Sheet

## Chapter 5

### Multiple Choice

1. A
3. C
5. A
7. B
9. D
11. C
13. C
15. C

### Questions

1. Real/permanent accounts are those that carry over from one period to the next, with a continuing balance in the account. Examples are asset accounts, liability accounts, and equity accounts. In contrast, revenue accounts, expense accounts, and dividend accounts are *not* real/permanent accounts.
3. Closing entries are used to transfer the contents of the temporary accounts into the permanent account, Retained Earnings, which resets the temporary balances to zero, enabling tracking of revenues, expenses, and dividends in the next period.
5. Expense accounts and dividend accounts are credited during closing. This is because closing requires that the account balances be cleared, to prepare for the next accounting period.
7. Income Summary is a super-temporary account that is only used for closing. The revenue accounts are closed by a debit to each account and a corresponding credit to Income Summary. Then the expense accounts are closed by a credit to each account and a corresponding debit to Income Summary. Finally, the balance in Income Summary is cleared by an entry that transfers its balance to Retained Earnings. Thus, it is used in three journal entries, as part of the closing process, and has no other purpose in the accounting records.
9. The fact that Income Summary has a credit balance (of any size) after the first two closing entries are made indicates that the company made a net profit for the period. In this case, a credit of \$125,500 reflects the fact that the company earned net income of \$125,500 for the period.
11. The post-closing trial balance will include only the permanent/real accounts, which are assets, liabilities, and equity. All of the other accounts (temporary/nominal accounts: revenue, expense, dividend) would have been cleared to zero by the closing entries.
13. Working capital is calculated by subtracting current liabilities from current assets. The result indicates how well the company can pay bills as they come due, which is sometimes referred to as the company's liquidity position.
15. (1) First is the Unadjusted Trial Balance, which summarizes the account balances of all accounts in the ledger, *before period-end adjustments*. (2) Next, the Adjusted Trial Balance summarizes the account balances of all accounts in the ledger, *after adjusting entries* have been posted. (3) Finally, the Post-Closing Trial Balance summarizes the account balances of all accounts in the ledger, *after closing entries* have been posted.

## Chapter 6

### Multiple Choice

1. C
3. A
5. D
7. D
9. C
11. A
13. C
15. A
17. C
19. D
21. B
23. D
25. B
27. B

### Questions

1. It helps solidify a long-term relationship with the customer, encourages the customer to purchase more, and decreases the time it takes for the company to see a liquid asset (cash). Cash can be used for other

purposes immediately, such as reinvesting the business, paying down loans quicker, and distributing dividends to shareholders.

**3.** A sales return occurs when a customer returns merchandise for a full refund. A sales allowance occurs when a customer keeps the merchandise and is issued a partial refund.

**5.** Advantages could include real-time data and more robust information. Disadvantages could include fewer inventory counts with opportunity for mismanagement of inventory. It is also costly, and time consuming.

**7.**

Oct 18	Accounts Receivable	130
	Sales	130
<i>To recognize sale under periodic inventory system</i>		
Note: No cost of sale entry is required currently, only at the end of the period under periodic.		

**9.** Cash would be remitted to a retainer if the retailer returns merchandise to a manufacturer after payment, or if the retailer receives an allowance for damaged merchandise after payment.

**11.** \$110;  $\$1,100 \times 50\% = \$550$ ,  $\$550 \times 20\% = \$110$

**13.** \$6.15;  $\$205 \times 3\%$

**15.** With FOB Destination, the seller is responsible for goods in transit, the seller pays for shipping, and the point of transfer is when the goods reach the buyer's place of business. With FOB Shipping Point, the buyer is responsible for goods in transit, the buyer pays for shipping, and the point of transfer is when the goods leave the seller's place of business.

**17.**

Accounts Receivable	800
Sales	800
<i>To recognize sale on credit, 2/10, n/30, FOB Destination</i>	
COGS	300
Merchandise Inventory	300
<i>To recognize cost of sale</i>	
Delivery Expense	100
Cash	100
<i>To recognize shipping charge, FOB Destination</i>	

**19.** 32% or \$.32;  $(\$176,750 - 120,470) / \$176,750$

**21.** The gross profit margin ratio shows the company's margin over costs of sales to cover operating expenses and profit. If margin continue to increase over time, an investor or lender might consider the financial contribution less risky. If the ratio decreases, the stakeholder may perceive an increased risk that the company may not have enough revenue to service debt.

**23.** \$14.70;  $\$490 \times 3\%$

**25.** Recognizing the return of merchandise to inventory occurs under the perpetual inventory system but not under the periodic inventory system.

## Chapter 7

### Multiple Choice

- 1. D
- 3. C
- 5. D
- 7. E
- 9. C
- 11. D

- 13. C
- 15. C
- 17. A
- 19. C
- 21. A
- 23. B
- 25. B
- 27. B
- 29. B
- 31. B

## Questions

1. A computerized accounting information system performs the same steps in the accounting cycle as a manual accounting system. Therefore, understanding how a manual system works helps us understand what a computerized system does. We cannot take a computer apart and show how the accounting information fits together, but we can show the different pieces in a paper-based system. We want an accounting information system to be more than just a black box.
3. Scanners can input data faster and typically would produce fewer input errors.
5. All of these areas need an accounting information system. Keeping up with all of the data for an entire year without it would be difficult. Some companies have their own accounting information to process all of their transactions except for payroll. They sometimes use a payroll processing company that specializes in processing payroll transactions for many companies. However, that payroll company also uses computers.
7. Any special journal can require an entry to the subsidiary ledger if the entry involves accounts receivable or accounts payable.
9. The cash column is not posted to the subsidiary ledger. Only the accounts receivable and accounts payable columns are posted to the subsidiary ledgers.
11. Any amounts posted to Accounts Receivable or Accounts Payable should be posted daily (to the subsidiary ledger), and the account totals should be posted monthly. We also post the accounts in the Other Accounts column individually and may post daily or at the end of the month. We post all other total column amounts monthly.
13. The four main special journals are sales journal, purchases journal, cash receipts journal, and cash disbursements journal.
15. We would record the purchase of equipment for cash in the cash disbursements journal.
17. We post entries from the sales journal daily to the accounts receivable subsidiary ledger but monthly to Sales and to the Accounts Receivable general ledger account.
19. We record purchases of inventory for cash in the cash disbursements journal.
21. Forensic accountants analyze a company's transactions to determine if a crime has been committed. If they find evidence, they can testify in court as to their findings.

## Chapter 8

### Multiple Choice

- 1. C
- 3. A
- 5. D
- 7. C
- 9. A
- 11. A
- 13. C
- 15. C
- 17. B
- 19. C

### Questions

1. Examples include weak internal controls, improper or nonexistent management oversight, and lack of an internal audit function or other opportunities that create the perception that the fraudster will be successful in committing a fraudulent act.
3. Examples include vices such as gambling, living beyond one's means, high debts, employer pressures to report fictitious accounting results, or alcohol/drug use.
5. Protect data from corruption or damage. Have their servers mirrored at various locations around the world. Ensure that no unauthorized parties have access to the data. Ensure that all transactions are entered into the accounting system properly and accurately. If fraud or illegal access to data occurs, a good internal control will

help identify the responsible party or parties.

**8.** To ensure that large companies are consistent with internal controls, properly documented, and tested.

**10.** One person should be responsible for the fund. If one person is in charge and the fund is short, then the petty cashier is the only one responsible for the shortage.

**11.** Records all sales and inventory reduction and ensures that correct prices are charged.

**13.** All differences must be researched, explained, and corrected. Differences pertaining to the bank must be reported. If fraud is suspected, a complete investigation must be performed.

## Chapter 9

### Multiple Choice

- 1. C
- 3. B
- 5. C
- 7. B
- 9. C
- 11. A
- 13. A
- 15. D
- 17. B
- 19. B
- 21. A
- 23. B

### Questions

**1.** The matching principle states that expenses must be matched to revenues in the period in which they were incurred.

**3.** Nothing will be recognized as revenue, since the flower shop will not provide flowers until June. Until then, all revenue is considered unearned.

**5.** Allowance for Doubtful Accounts

**7.** \$22,008.88;  $\$323,660 \times 6.8\%$

**9.** \$11,393.10;  $(\$22,480 \times 6\%) + (\$36,540 \times 17\%) + (\$15,330 \times 25\%)$

**11.** The receivables cycle takes a while to convert into cash, which means that cash is tied up and cannot be used for other business investments. This could also mean that the company has to borrow money from a lender to meet its cash flow demands, or that credit extensions are too tight, and good credit candidates are lost to competitors.

**13.** Accounts receivable turnover ratio and number of days' sales in receivables ratio; these ratios can tell a stakeholder how credit extension policies affect sales, and how quickly current debt is collected

**15.** A decrease to bad debt expense increases net income, which can show a higher income level and improve opportunities for borrowing.

**17.** A higher bad debt expense figure reduces net income, which could have a positive impact on reducing business income and other taxes.

**19.** The installment method takes into account risk associated with long-term periodic payments, and it distributes revenue based on a gross profit percentage over the life of the contract.

**21.** The completed contract method is used in contracts and delays reporting of both revenues and expenses until the entire contract is complete

**23.**

Accounts Receivable	215,465
Notes Receivable	215,000
Interest Revenue	465

**25.** The principal of a note is the initial borrowed amount, not including interest, requested by the customer.

**27.** Accounts receivable is an informal, short-term payment and usually no interest, whereas notes receivable is a legal contract, long-term payment, and usually has interest.

## Chapter 10

### Multiple Choice

- 1. D

- 3. A
- 5. A
- 7. A
- 9. B
- 11. A
- 13. C

### Questions

1. Gross margin refers to the net profit from sale of goods. It is calculated by subtracting cost of goods sold from sales revenue.
3. Consigned goods are owned by the consignor, but the goods are physically present in the business of the consignee. Care must be taken not to count goods held on consignment in the company's physical inventory tally.
5. Specific identification works best for highly differentiated goods, large ticket items, customization, and small lot sizes. In all these cases, it is reasonably easy to keep track of the actual cost of each item, to be used to offset the sales price, when the goods are sold.
7. LCM sets out to record a conservative value for inventory by ensuring that goods that have decreased in value since their purchase can be revalued to match their current replacement market value.
9. The FIFO method assumes the first units acquired are sold first. On a periodic basis, that means that ending inventory can be determined by calculating the number of units remaining, and assuming that the cost of those units is the amount paid for the latest purchase; cost of goods sold is all inventory cost that is not in the ending inventory. For perpetual, inventory held at the time of each sale is evaluated and units acquired earliest are costed out against that particular sale.
11. The weighted-average method requires that the average cost be computed for all units that are available for sale. For periodic weighted average, the total dollar amount of goods available for sale should be divided by the total number of units available for sale, to obtain the average cost for the entire period. For perpetual, the average cost would be recalculated each time the total number of units changes, using the same strategy as described for periodic, but using the cost and number of units that are available at the time of sale.
13. Causes of inventory errors might be related to consigned goods, goods delivered before or after the title transfers, sloppy inventory counts, lost records, calculation errors, and any other circumstance that causes inaccuracy in the counts.
15. The inventory turnover ratio reveals the liquidity of the inventory by highlighting how many times during the year the entire inventory cycle could be rotated, based on the cost of the inventory sold, compared to the average cost of the unsold inventory. Days' sales in inventory reveals how many days it typically takes to turn inventory around, from date of purchase to date of sale.

## Chapter 11

### Multiple Choice

- 1. C
- 3. C
- 5. A
- 7. B
- 9. D
- 11. D
- 13. D
- 15. A

### Questions

1. The main difference between tangible and intangible assets is that tangible assets have a physical substance to them. This means they can be touched and have some physical form.
3. A patent is a contract that provides a company with exclusive rights to produce and sell a unique product. It is granted by the federal government and provides exclusivity from competition for twenty years. A copyright provides the exclusive right to reproduce and sell artistic, literary, or musical compositions for a period of seventy years beyond the death of the original author.
5. A. capitalized. B. expense. C. capitalized. D. capitalized. E. expense. F. expense. G. capitalized.
7. In measuring and reporting long-term assets, the expense recognition ("matching") principle is applied. Under the expense recognition or "matching" principle, the acquisition cost of the asset must be allocated to the periods in which it is used to earn revenue. In this way, the cost of the asset is matched, as an expense, with the revenues that are earned from period to period through the use of the asset.
9. Depreciation is the process of allocating the cost of using a long-term asset over its anticipated economic (useful) life, whereas depletion is the process of expensing the cost of natural resources over the life of the

asset, typically using a unit-consumed method. Amortization is specifically for intangible assets and typically is calculated using straight-line with no salvage value.

**11.** Goodwill is internally generated, but it is not recorded as an asset unless (and only when) one company acquires another company at a price greater than the total value of the net assets being purchased. The purchaser will record goodwill for the difference between the fair value of net assets acquired and the purchase price. Goodwill is not amortized and will be tested annually for impairment.

**13.** Obsolescence refers to the reduction in value and/or use of an asset. It may refer to the actual physical deterioration of the asset, which is known as physical obsolescence, or to the loss of value from causes other than physical deterioration, which is functional obsolescence. Functional obsolescence is specific to the organization and the usefulness the asset has for the company going forward. This type of obsolescence could be the result of simply not needing the asset any longer.

## Chapter 12

### Multiple Choice

- 1. C
- 3. D
- 5. B
- 7. C
- 9. B
- 11. A
- 13. D
- 15. A
- 17. F
- 19. A

### Questions

**1.** Accounts Payable can be set up as a line of credit between a purchaser and a supplier. The terms of the invoice usually state that payment is due within a year, or a shorter time frame. Since accounts payable amounts are due within a company's operating cycle, this account type would be considered a current liability.

**3.** A noncurrent liability is due in more than one year or outside a standard company operating period. A current liability is payable within a company's operating period, or less than a year.

**5.** \$12,500

**7.** Accounts Payable and Equipment

**9.** The likelihood of occurrence and the measurement requirement are the FASB required conditions. A contingent liability must be recognized and disclosed if there is a probable liability determination before the preparation of financial statements has occurred, and the company can reasonably estimate the amount of loss.

**11.** They are probable and estimable, probable and inestimable, reasonably possible, and remote.

**13.** A short-term notes payable does not have any long-term characteristics and is meant to be paid in full within the company's operating period (less than a year). The current portion of a noncurrent note payable is based off of a long-term debt but is only recognized as a current liability when a portion of the long-term note payable is due. The remainder stays a long-term liability.

**15.** A business borrows money from a bank, and the bank makes the note payable within a year, with interest. For example, this could come from a capital expenditure need or when expenses exceed revenues.

**17.** Examples include FICA Social Security, FICA Medicare, Federal Unemployment Compensation Tax (FUTA), State Unemployment Compensation Tax (SUTA), federal income tax, state income tax, Additional Medicare Tax, and local income tax.

**19.** FUTA and SUTA are the acronyms for the Federal Unemployment Tax Act and the State Unemployment Tax Act. They are unemployment insurance systems that collect funds from employers to cover employees in case of job disruption beyond their control. The FUTA tax rate is 6% but can be reduced by paying on time to the state unemployment system. This rate can be reduced down to as low as 0.6%.

## Chapter 13

### Multiple Choice

- 1. A
- 3. D
- 5. B
- 7. A
- 9. A

- 11. A
- 13. B
- 15. C
- 17. B
- 19. B

### Questions

1. Callable bonds can be bought back by the issuing company whenever they want to, but putable bonds can be cashed in by the holder whenever the holder wants to.
3. A junk bond is typically titled as a high-yield bond; it sounds less unfavorable than junk. Its rating is below what is typically expected for investment-grade bonds. Investors and speculators might buy these bonds because if they don't default, the rate of return could be significantly higher than investment grade bonds. However, the possibility of the bonds defaulting and neither paying the interest nor principle at maturity is higher than with investment-grade bonds.
5. In bond pricing problems, if the interest compounds more than one a year, divide the interest rate by the number of compounding periods per year, and multiply the number of years by the number of compounding periods per year. If it is paid quarterly, divide the interest rate by 4 and multiply the number of years by 4.
7. It is the difference between the cash interest payment and the interest on the carrying value.
9. The Discount on Bonds Payable is a contra liability account and reduces the associated liability. The Premium on Bonds Payable is a liability account and increases the associated liability.
11. DR Interest Expense and CR Cash
13. Bondholders receive the stated rate times the principle, so they would receive \$6,000.
15. Amortizing a bond premium reduces interest expense.

## Chapter 14

### Multiple Choice

- 1. D
- 3. A
- 5. D
- 7. D
- 9. B
- 11. A
- 13. C
- 15. C
- 17. D
- 19. D
- 21. B
- 23. C

### Questions

1. Advantages of raising capital through stock include no repayment, no interest, and no mandatory dividends. Disadvantages include giving up ownership and marketability of stock. Debt requires repayment and an interest component. Interest is tax deductible whereas dividends are not.
3. The incorporation laws and which states have favorable laws for corporations.
5. To affect the market price, avoid takeover, and limit need for dividend payouts.
- 7.

Land	12,000	
Common Stock		6,000
Additional Paid-in Capital from Common Stock	-	6,000

9.

Equipment	10,000	
Common Stock		5,000
Additional Paid-in Capital from Common Stock		5,000

11.

Dividends Payable	25,000	
Cash		25,000

13. In total, there is no change to the total dollar value of the equity section, just a change in the number of shares outstanding and a change in the par or stated value of the stock.

15. Owners' equity is the value of assets in a company that remains after liabilities are fulfilled. It is also referred to as net worth or net assets.

17. An example would be the omission of a payroll accrual or a warranty estimate.

19. Comparative balance sheets and income statements.

21. Yes, as one analytical tool among others.

23. EPS is the only ratio required by GAAP to be reported on the face of the income statement. It must be reported in two ways: basic and diluted (if applicable).

## Chapter 15

### Multiple Choice

- 1. D
- 3. A
- 5. B
- 7. C
- 9. D
- 11. A
- 13. A
- 15. C
- 17. B

### Questions

1. No; it is a passthrough entity, meaning the taxation flows to the owners. The partners pay taxes on their distributive share of the partnership's income.

3. Yes, the partnership can assume liabilities as part of one partner's contributions. However, that should be agreed upon during the creation of the partnership agreement, where each partner lists assets and value. In addition, the assumption of liabilities by the partnership reduces the amount of assets the partner is contributing and thus the relevant capital account.

5. A strong response would include fixed ratios; a ratio based on beginning-of-year capital balances, end-of-year capital balances, or an average capital balance during the year; salaries to partners and the remainder on a fixed ratio; interest on the partners' capital balances and the remainder on a fixed ratio; and some combination of all or some of the above methods (salaries to partners, interest on capital balances, and the remainder on a fixed ratio).

7.

### JOURNAL

Date 2016	Account	Debit	Credit
Feb. 3	Cash	90,000	
	S. Singh, Capital		90,000

**Table 15.3.**

9. 1. sell noncash assets, 2. allocate any gain or loss, 3. fulfill liabilities, and 4. distribute remaining cash

11. Sell non-cash assets

13. The general partners would be expected to make the vendors whole.

## Chapter 16

### Multiple Choice

- 1. C
- 3. B
- 5. B
- 7. B
- 9. A
- 11. A
- 13. D
- 15. C

## Questions

**1.** The statement of cash flow serves as a bridge between the cash basis bank transactions and the accrual basis financial statements (balance sheet, income statement, and retained earnings statement). It reveals where the cash came from, and where it went.

**3.** Operating, Investing, Financing (always in this order).

**5.** Any transaction that is related to acquiring or disposing of long-term assets like land, buildings, equipment, stocks, bonds, or other investments. Can be cash spent for purchase of long-term assets, or cash collected from sale of long-term assets.

**7.** The indirect method begins with net income and adjusts for items that affect cash differently than they affect net income, whereas the direct method requires that each revenue and expense item be converted to reflect the cash impact from that item. The net cash flow result is the same, no matter which of the two methods is used.

**9.** Gains and losses must be removed from the operating section. To accomplish this, reverse the effect of gains or losses; if a gain has been added to net income, it should be subtracted in the operating section; if a loss has been deducted to arrive at net income, it should be added back in the operating section. Why? First, gains and losses relate to long-term assets, which fall under investing activities, not operating activities. Second, the gain/(loss) on the sale of long-term assets represents the excess/(deficiency) computed when the asset's cost basis is subtracted from sales proceeds, so the number does not accurately represent the cash flow relating to the transaction.

**11.** Not necessarily. Only the principal balance repayment should be included in the financing section; the interest component of the note payment is an operating activity.

**13.** Yes. Some investing and/or financing transactions do not have a cash impact initially. Examples include purchases of long-term assets that are paid for with long-term debt financing, acquisitions of long-term assets in exchange for corporate stock, and repayment of long-term debt using noncash assets. These noncash investing/financing activities would be reported in the notes to the financial statements, or as a notation on the bottom of the statement of cash flows, but not considered an integral part of the statement.

**15.** Using the direct method to prepare the operating section requires that revenue and expense items be converted to the cash basis of accounting, since these items are recorded in company records using the accrual basis of accounting. The balance sheet, income statement, and retained earnings statement use the accrual basis balances that are maintained in the company accounting records, and thus can be obtained directly from the adjusted trial balance, without modifications.

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