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FINANCIAL
ACCOUNTING
WITH INTERNATIONAL FINANCIAL
REPORTING STANDARDS
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CHAPTER 6
Inventories



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Chapter Preview

In the previous chapter, we discussed the accounting for merchandise inventory using a perpetual inventory system. In this chapter, we explain the methods used to calculate the cost of inventory on hand at the statement of financial position date and the cost of goods sold.

Feature Story

"Where Is That Spare Bulldozer Blade?"

Let's talk inventory—big, bulldozer-size inventory. **Komatsu Ltd.** (JPN) is one of the world's largest manufacturers of giant construction and mining equipment. The company's name is actually somewhat ironic, since *komatsu* is Japanese for "small pine tree." But, there is nothing small about what Komatsu does. It produces many types of earthmoving equipment: excavators, forestry equipment for hauling giant logs, forklifts, metal presses, and lots of other really big things. It is the second largest seller of heavy equipment in the world.

How does a company remain profitable if it sells so many different products, many of them giant, all over the world? To be profitable, the company needs to effectively manage its inventory. Imagine what it costs Komatsu to have too many D575 bulldozers (the largest bulldozers in the world) sitting around in inventory. That is something the company definitely wants to avoid. On the other hand, the company must make sure that it has enough inventory readily available to meet demand, or it will lose sales.

Komatsu's inventory management expertise has helped it meet many challenges, including Japan's recent tsunami. In fact, Komatsu is so good at managing its own inventory that it actually has a

division, **Komatsu Logistics**, that helps other companies address their inventory challenges. It offers a broad range of services such as disassembly, packing, storage, assembly, and international distribution. When you build equipment that is used to move mountains, everything else seems easy.

Sources: Company website; and Peter Marsh, "Komatsu Carries Strong Yen Load," *Financial Times* (October 25, 2010).

Chapter Outline

LEARNING OBJECTIVES	REVIEW	PRACTICE
LO 1 Discuss how to classify and determine inventory.	• Classifying inventory • Determining inventory quantities	DO IT! 1 Rules of Ownership
LO 2 Apply inventory cost flow methods and discuss their financial effects.	• Specific identification • Cost flow assumptions • Financial statement and tax effects • Using inventory cost flow methods consistently	DO IT! 2 Cost Flow Methods
LO 3 Indicate the effects of inventory errors on the financial statements.	• Income statement effects • Statement of financial position effects	DO IT! 3 Inventory Errors
LO 4 Explain the statement presentation and analysis of inventory.	• Presentation • Lower of cost or net realizable value • Financial analysis and data analytics	DO IT! 4 LCNRV and Inventory Turnover

Go to the Review and Practice section at the end of the chapter for a review of key concepts and practice applications with solutions.
Additional tutorials and practice opportunities are available in the Wiley online course.

6.1 Classifying and Determining Inventory

LEARNING OBJECTIVE 1

Discuss how to classify and determine inventory.

Two important steps in the reporting of inventory at the end of the accounting period are the classification of inventory based on its degree of completeness and the determination of inventory amounts.

Classifying Inventory

How a company classifies its inventory depends on whether the firm is a merchandiser or a manufacturer. In a **merchandising** company, such as those described in Chapter 5, inventory consists of many different items. For example, in a grocery store, canned goods, dairy products, meats, and produce are just a few of the inventory items on hand. These items have two common characteristics.

1. They are owned by the company.
2. They are in a form ready for sale to customers in the ordinary course of business.

Thus, merchandisers need only one inventory classification, **merchandise inventory**, to describe the many different items that make up the total inventory.

In a **manufacturing** company, some inventory may not yet be ready for sale. As a result, manufacturers usually classify inventory into three categories: finished goods, work in process, and raw materials (see Helpful Hint).

> **HELPFUL HINT**
>
> **Regardless of the classification, companies report all inventories under Current Assets on the statement of financial position.**

- Raw materials are the basic goods that will be used in production but have not yet been placed into production.
- Work in process is that portion of manufactured inventory that has been placed into the production process but is not yet complete.
- Finished goods inventory is manufactured items that are completed and ready for sale.

For example, **Komatsu** (JPN) classifies earth-moving tractors completed and ready for sale as **finished goods**. It classifies the tractors on the assembly line in various stages of production as **work in process**. The steel, glass, tires, and other components that are on hand waiting to be used in the production of tractors are identified as **raw materials**. Illustration 6.1 shows an adapted excerpt from Note 5 of Komatsu's annual report.

ILLUSTRATION 6.1 Composition of Komatsu's inventory

Real World

Komatsu
Notes to the Financial Statements
(yen in millions)

	March 31	
	2021	**2020**
Finished products, including finished parts held for sale	¥571,103	¥586,468
Work in process	159,515	153,082
Materials and supplies	63,234	65,759
Total	¥793,852	¥805,309

By observing the levels and changes in the levels of these three inventory types, financial statement users can gain insight into management's production plans.

- Low levels of raw materials and high levels of finished goods suggest that management believes it has enough inventory on hand and production will be slowing down—perhaps in anticipation of a recession.
- High levels of raw materials and low levels of finished goods probably signal that management is planning to step up production.

Many companies have significantly lowered inventory levels and costs using just-in-time inventory methods.

Under a just-in-time (JIT) inventory method, companies manufacture or purchase goods only when needed. **Dell** (USA) is famous for having developed a system for making computers in response to individual customer requests. Even though it makes each computer to meet each

customer's particular specifications, Dell is able to assemble the computer and put it on a truck in less than 48 hours. The success of the JIT system depends on reliable suppliers. By integrating its information systems with those of its suppliers, Dell reduced its inventories to nearly zero. This is a huge advantage in an industry where products become obsolete nearly overnight.

The accounting concepts discussed in this chapter apply to the inventory classifications of both merchandising and manufacturing companies. Our focus here is on merchandise inventory. Additional issues specific to manufacturing companies are discussed as part of managerial accounting.

Accounting Across the Organization

A Big Hiccup



forden/Shutterstock

JIT can save a company a lot of money, but it isn't without risk. An unexpected disruption in the supply chain can cost a company a lot of money. When facilities for **Taiwan Semiconductor Manufacturing** (TWN), the sole supplier of **Apple**'s (USA) A10 processor integral to a previous model of its iPhone7, were impacted by a 6.4-magnitude earthquake in southern Taiwan, the release of this cell phone model could have been delayed. Fortunately, both inventories of the fragile wafers used in the iPhone and the susceptible equipment used to produce them were not damaged.

Similarly, during the Covid-19 pandemic, a number of global automotive manufacturers, including **Renault** (FRA), **Volkswagen** (DEU), and **Daimler** (DEU), faced shortages of semiconductor chips used in digital automobiles. The impact on global car sales is estimated to be near 8 million cars, which is over 10% of the cars sold worldwide in the previous year's sales.

> **Sources:** Adapted from Jonathan Webb, "The Taiwanese Earthquake That Nearly Flattened the Apple iPhone 7," *Forbes* (February 19, 2016); and Chuin-Wei Yap, William Boston, and Alistair MacDonald, "Global Supply-Chain Problems Escalate, Threatening Economic Recovery," *Wall Street Journal* (October 8, 2021).

What steps might the companies take to avoid such a serious disruption in the future?

Answer

Determining Inventory Quantities

No matter whether they are using a periodic or perpetual inventory system, all companies need to determine inventory quantities at the end of the accounting period. If using a perpetual system, companies take a physical inventory for the following reasons.

1. To check the accuracy of their perpetual inventory records.
2. To determine the amount of inventory lost due to wasted raw materials, shoplifting, or employee theft.

Companies using a periodic inventory system take a physical inventory for **two different purposes**: to determine the inventory on hand at the statement of financial position date, and to determine the cost of goods sold for the period.

Determining inventory quantities involves two steps: (1) taking a physical inventory of goods on hand and (2) determining the ownership of goods.

Taking a Physical Inventory

Companies take a physical inventory at the end of the accounting period. Taking a physical inventory involves actually counting, weighing, or measuring each kind of inventory on hand (see Ethics Note). In many companies, taking an inventory is a formidable task. Retailers such as **Esprit Holdings** (HKG), **Indomarco Prismatama** (IDN), or **Eslite Bookstore** (TWN)have thousands of different inventory items.

- An inventory count is generally more accurate when goods are not being sold or received during the counting.
- Consequently, companies often "take inventory" when the business is closed or when business is slow.

> **ETHICS NOTE**
>
> **In a famous fraud, a salad oil company filled its storage tanks mostly with water. The oil rose to the top, so auditors thought the tanks were full of oil. The company also said it had more tanks than it really did: It repainted numbers on the tanks to confuse auditors.**

Many retailers close after the holiday sales and returns—when inventories are at their lowest level—to count inventory. Jewelry retailer **Gitanjali Group** (IND), for example, has a year-end of March 31.

Determining Ownership of Goods

One challenge in computing inventory quantities is determining what inventory a company owns. To determine ownership of goods, two questions must be answered:

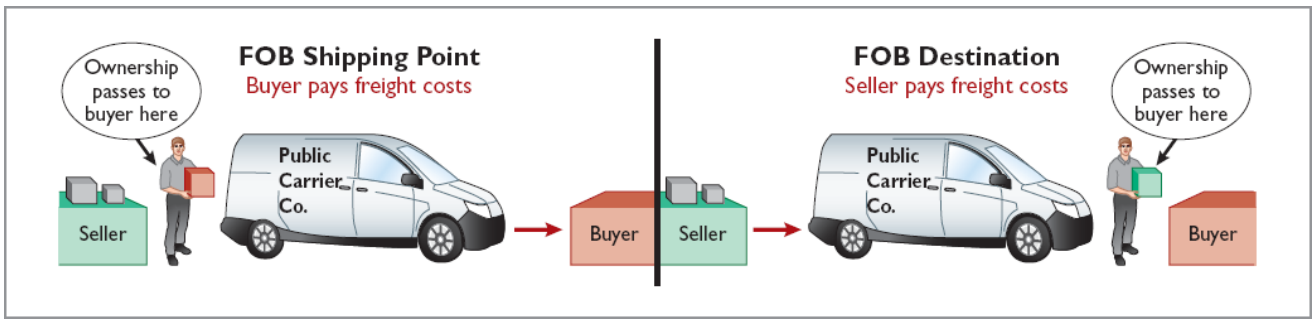
1. Do all of the goods included in the count belong to the company?
2. Does the company own any goods that were not included in the count?

Goods in Transit

A complication in determining ownership is **goods in transit** (on board a truck, train, ship, or plane) at the end of the period. The company may have purchased goods that have not yet been received, or it may have sold goods that have not yet been delivered. To arrive at an accurate count, the company must determine ownership of these goods.

Goods in transit should be included in the inventory of the company that has legal title to the goods. Legal title is determined by the terms of the sale, as shown in Illustration 6.2 and described below.

ILLUSTRATION 6.2 Terms of sale



1. When the terms are **FOB (free on board) shipping point**, ownership of the goods passes to the buyer when the public carrier accepts the goods from the seller.
2. When the terms are **FOB destination**, ownership of the goods remains with the seller until the goods reach the buyer.

If goods in transit at the statement date are ignored, inventory quantities may be seriously miscounted. Assume, for example, that Hargrove Stores has 20,000 units of inventory on hand on December 31. It also has the following goods in transit.

1. Sales of 1,500 units shipped December 31 FOB destination.
2. Purchases of 2,500 units shipped FOB shipping point by the seller on December 31.

Hargrove has legal title to both the 1,500 units sold and the 2,500 units purchased. If the company ignores the units in transit, it would understate inventory quantities by 4,000 units (1,500 + 2,500).

As we will see later in the chapter, inaccurate inventory counts affect not only the inventory amount shown on the statement of financial position but also the cost of goods sold calculation on the income statement.

Ethics Insight

Falsifying Inventory to Boost Income



luanateutzi/Getty Images

Managers at a women's apparel maker were convicted of falsifying inventory records to boost net income—and consequently to boost management bonuses. In another case, executives at an electronics manufacturer were accused of defrauding lenders by manipulating inventory records. The indictment said the company classified "defective goods as new or refurbished" and claimed that it owned certain shipments "from overseas suppliers" when, in fact, the company either did not own the shipments or the shipments did not exist.

What effect does an overstatement of inventory have on a company's financial statements?

Answer

Consigned Goods

In some lines of business, it is common to hold the goods of other parties and try to sell the goods for them for a fee, but without taking ownership of the goods. These are called **consigned goods**.

- For example, you might have a used car that you would like to sell. A used-car dealer might be willing to put the car on its lot and charge you a commission if it is sold.
- Under this agreement, the dealer **would not take ownership** of the car, which would still belong to you.
- Therefore, if an inventory count were taken, the car would not be included in the dealer's inventory because the dealer does not own it.

Many car, boat, and antique dealers sell goods on consignment to keep their inventory costs down and to avoid the risk of purchasing an item that they will not be able to sell. Today, even some manufacturers are making consignment agreements with their suppliers in order to keep their inventory levels low.

Anatomy of a Fraud

Ted Nickerson, CEO of clock manufacturer Dally Industries, had expensive tastes. To support this habit, Ted took out large loans, which he collateralized with his Dally Industries shares. If the price of Dally's shares fell, he was required to provide the bank with more shares. To achieve target net income figures and thus maintain the share price, Ted coerced employees in the company to alter inventory figures. Inventory quantities were manipulated by changing the amounts on inventory control tags after the year-end physical inventory count. For example, if a tag said there were 20 units of a particular item, the tag was changed to 220. Similarly, the unit costs that were used to determine the value of ending inventory were increased from, for example, $125 per unit to $1,250. Both of these fraudulent changes had the effect of increasing the amount of reported ending inventory. This reduced cost of goods sold and increased net income.

Total take: $245,000

The Missing Control

Independent internal verification. The company should have spot-checked its inventory records periodically, verifying that the number of units in the records agreed with the amount on hand and that the unit costs agreed with vendor price sheets.

Source: Adapted from Wells, Fraud Casebook (2007), pp. 502–509.

DO IT! 1

Rules of Ownership

Deng Imports completed its inventory count. It arrived at a total inventory value of ¥200,000 (amounts in thousands). As a new member of Deng's accounting department, you have been given the information listed below. Discuss how this information affects the reported cost of inventory.

1. Deng included in the inventory goods held on consignment for Falls Co., costing ¥15,000.
2. The company did not include in the count purchased goods of ¥10,000 which were in transit (terms: FOB shipping point).
3. The company did not include in the count sold inventory with a cost of ¥12,000 which was in transit (terms: FOB shipping point).

ACTION PLAN

- **Apply the rules of ownership to goods held on consignment.**
- **Apply the rules of ownership to goods in transit.**

Solution

Related exercise material: **BE6.1**, **BE6.2**, **DO IT! 6.1**, **E6.1**, **and** **E6.2**.

6.2 Inventory Methods and Financial Effects

LEARNING OBJECTIVE 2

Apply inventory cost flow methods and discuss their financial effects.

Inventory is accounted for at cost.

- Cost includes all expenditures necessary to acquire goods and place them in a condition ready for sale. For example, freight costs incurred to acquire inventory are added to the cost of inventory, but the cost of shipping goods to a customer is a selling expense.
- After a company has determined the quantity of units of inventory, it applies unit costs to the quantities to compute the total cost of the inventory and the cost of goods sold. This process can be complicated if a company has purchased inventory items at different times and at different prices.

For example, assume that Crivitz Home Entertainment purchases three identical 50-inch TVs on different dates at costs of £720, £750, and £800. During the year, Crivitz sold two TVs at £1,200 each. These facts are summarized in **Illustration 6.3**.

ILLUSTRATION 6.3 Data for inventory costing example

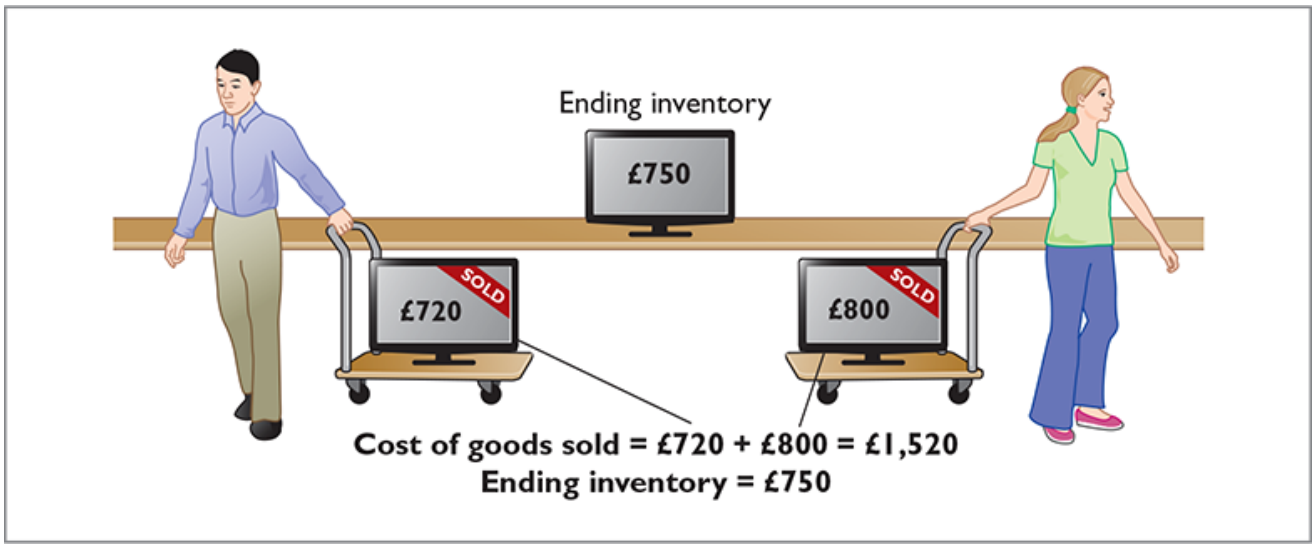
Purchases			
February 3	1 TV	at	£720
March 5	1 TV	at	£750
May 22	1 TV	at	£800
Sales			
June 1	2 TVs	for	£2,400 (£1,200 × 2)

Cost of goods sold will differ depending on which two TVs the company sold. For example, it might be £1,470 (£720 + £750), or £1,520 (£720 + £800), or £1,550 (£750 + £800). In this section, we discuss alternative costing methods available to Crivitz.

Specific Identification

If Crivitz can positively identify which particular units it sold and which are still in ending inventory, it can use the **specific identification method** of inventory costing. For example, if Crivitz sold the TVs it purchased on February 3 and May 22, then its cost of goods sold is £1,520 (£720 + £800), and its ending inventory is £750 (see **Illustration 6.4**). Using this method, companies can accurately determine ending inventory and cost of goods sold.

ILLUSTRATION 6.4 Specific identification method



Specific identification requires that companies keep records of the original cost of each individual inventory item.

- Historically, specific identification was possible only when a company sold a limited variety of high-unit-cost items that could be identified clearly from the time of purchase through the time of sale. Examples of such products are cars, pianos, or expensive antiques.
- Today, bar coding, electronic product codes, and radio frequency identification make it theoretically possible to do specific identification with nearly any type of product.

The reality is, however, that this practice is still relatively rare (see **Ethics Note**). Instead, rather than keep track of the cost of each particular item sold, most companies make assumptions, called **cost flow assumptions**, about which units were sold.

ETHICS NOTE

A major disadvantage of the specific identification method is that management may be able to manipulate net income. For example, it can boost net income by selling units purchased at a low cost, or reduce net income by selling units purchased at a high cost.

Cost Flow Assumptions

Because specific identification is often impractical, other cost flow methods are permitted. These differ from specific identification in that they **assume** flows of costs that may be unrelated to the physical flow of goods. There are two assumed cost flow methods:

1. First-in, first-out (FIFO).
2. Average-cost.

There is no accounting requirement that the cost flow assumption be consistent with the physical movement of the goods. Company management selects the appropriate cost flow method. However, once the cost flow assumption is chosen (or specific identification method is adopted), it must be applied to all inventories having a similar nature and use.

To demonstrate the two cost flow methods, we will use a **periodic** inventory system. We assume a periodic system because **very few companies use perpetual FIFO or average-cost** to cost their inventory and related cost of goods sold. Instead, companies that use perpetual systems often use an assumed cost (called a standard cost) to record cost of goods sold at the time of sale. Then, at the end of the period when they count their inventory, they **recalculate cost of goods sold using periodic FIFO or average-cost** as shown in this chapter and adjust cost of goods sold to this recalculated number. The cost of goods sold formula in a periodic system is as follows.

(Beginning Inventory + Purchases) − Ending Inventory = Cost of Goods Sold

To illustrate the two inventory cost flow methods, we will use the data for Lin Electronics' Astro condensers, shown in Illustration 6.5.

ILLUSTRATION 6.5 Data for Lin Electronics

Lin Electronics
Astro Condensers

Date	Explanation	Units	Unit Cost	Total Cost
Jan. 1	Beginning inventory	10	HK$100	HK$ 1,000
Apr. 15	Purchase	20	110	2,200
Aug. 24	Purchase	30	120	3,600
Nov. 27	Purchase	40	130	5,200
	Total units available for sale	100		HK$12,000
	Units in ending inventory	(45)		
	Units sold	55		

Lin Electronics had a total of 100 units available to sell during the period (beginning inventory plus purchases). The total cost of these 100 units is HK$12,000, referred to as **cost of goods available for sale**. A physical inventory taken at December 31 determined that there were 45 units in ending inventory. Therefore, Lin sold 55 units (100 − 45) during the period.

To determine the cost of the 55 units that were sold (the cost of goods sold), we assign a cost to the ending inventory and subtract that value from the cost of goods available for sale.

- The value assigned to the ending inventory **will depend on which cost flow method we use**.
- No matter which cost flow assumption we use, though, the sum of cost of goods sold plus the cost of the ending inventory must equal the cost of goods available for sale—in this case, HK$12,000.

First-In, First-Out (FIFO)

The **first-in, first-out (FIFO) method** assumes that the **earliest goods** purchased are the first to be sold.

- FIFO often parallels the actual physical flow of merchandise. That is, it generally is good business practice to sell the oldest units first.
- Under the FIFO method, the **costs** of the earliest goods purchased are the first to be recognized in determining cost of goods sold. This does not necessarily mean that the oldest units **are** sold first, but that the costs of the oldest units are **recognized** first. (In a bin of picture hangers at the hardware store, for example, no one really knows, nor would it matter, which hangers are sold first.)

Illustration 6.6 shows the allocation of the cost of goods available for sale at Lin Electronics under FIFO.

ILLUSTRATION 6.6 Allocation of costs—FIFO method

Cost of Goods Available for Sale

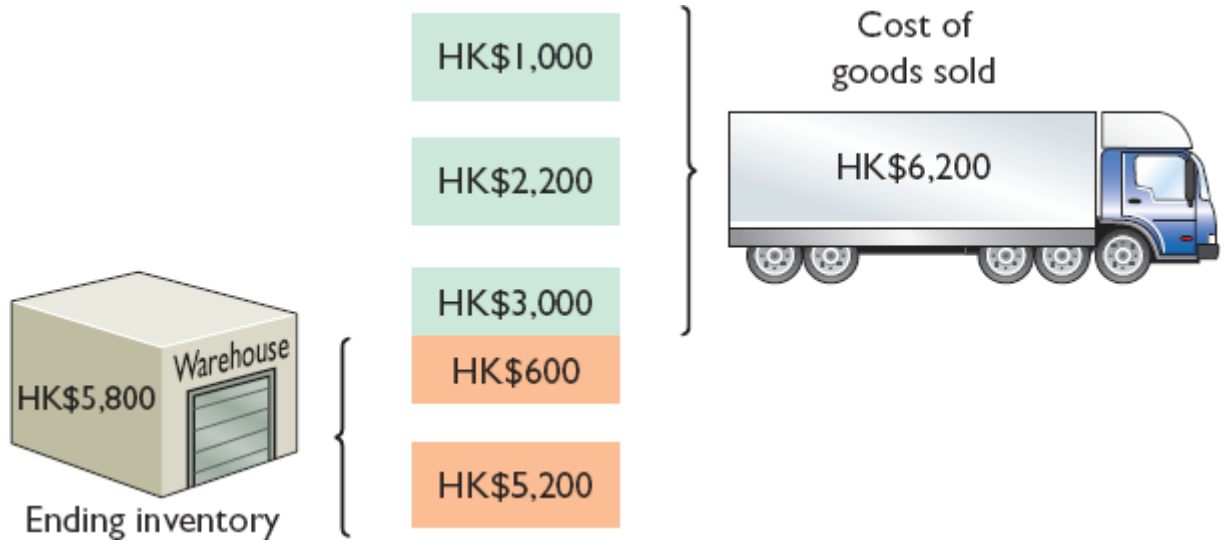
Date	Explanation	Units	Unit Cost	Total Cost
Jan. 1	Beginning inventory	10	HK$100	HK$ 1,000
Apr. 15	Purchase	20	110	2,200
Aug. 24	Purchase	30	120	3,600
Nov. 27	Purchase	40	130	5,200
	Total	100		HK$12,000

Step 1: Ending Inventory

Date	Units	Unit Cost	Total Cost
Nov. 27	40	HK$130	HK$5,200
Aug. 24	5	120	600
Total	45		HK$5,800

Step 2: Cost of Goods Sold

Cost of goods available for sale	HK$12,000
Less: Ending inventory	5,800
Cost of goods sold	HK$ 6,200



Under FIFO, since it is assumed that the first goods purchased were the first goods sold, ending inventory is based on the prices of the most recent units purchased (see Helpful Hint). That is, **under FIFO, companies obtain the cost of the ending inventory by taking the unit cost of the most recent purchase and working backward until all units of inventory have been costed.**

- In Step 1, Lin Electronics prices the 45 units of ending inventory using the **most recent** prices. The last purchase was 40 units at HK$130 on November 27. The remaining 5 units are priced using the unit cost of the second most recent purchase, HK$120, on August 24.
- In Step 2, Lin Electronics calculates cost of goods sold by subtracting the cost of the units **not sold** (ending inventory) from the cost of all goods available for sale.

HELPFUL HINT

Note the sequencing of the allocation: (1) compute ending inventory, and (2) determine cost of goods sold.

Illustration 6.7 demonstrates that companies also can calculate cost of goods sold by pricing the 55 units sold using the prices of the first 55 units acquired. Note that of the 30 units purchased on August 24, only 25 units are assumed sold. This agrees with our calculation of the cost of ending inventory, where 5 of these units were assumed unsold and thus included in ending inventory.

ILLUSTRATION 6.7 Proof of cost of goods sold

Date	Units	Unit Cost	Total Cost
Jan. 1	10	HK$100	HK$1,000
Apr. 15	20	110	2,200
Aug. 24	25	120	3,000
Total	55		**HK$6,200**

Average-Cost

The **average-cost method** allocates the cost of goods available for sale on the basis of the weighted-average unit cost incurred.

- The **weighted-average unit cost** is the average cost that is weighted by the number of units purchased at each unit cost.
- The average-cost method assumes that goods are similar in nature.

Illustration 6.8 presents the formula and a sample computation of the weighted-average unit cost.

ILLUSTRATION 6.8 Formula for weighted-average unit cost

Cost of Goods Available for Sale		Total Units Available for Sale		Weighted-Average Unit Cost
HK$12,000	÷	100	=	HK$120

The company then applies the weighted-average unit cost to the units on hand to determine the cost of the ending inventory. Illustration 6.9 shows the allocation of the cost of goods available for sale at Lin Electronics using average-cost.

ILLUSTRATION 6.9 Allocation of costs—average-cost method

Cost of Goods Available for Sale

Date	Explanation	Units	Unit Cost	Total Cost
Jan. 1	Beginning inventory	10	HK$100	HK$ 1,000
Apr. 15	Purchase	20	110	2,200
Aug. 24	Purchase	30	120	3,600
Nov. 27	Purchase	40	130	5,200
	Total	100		HK$12,000

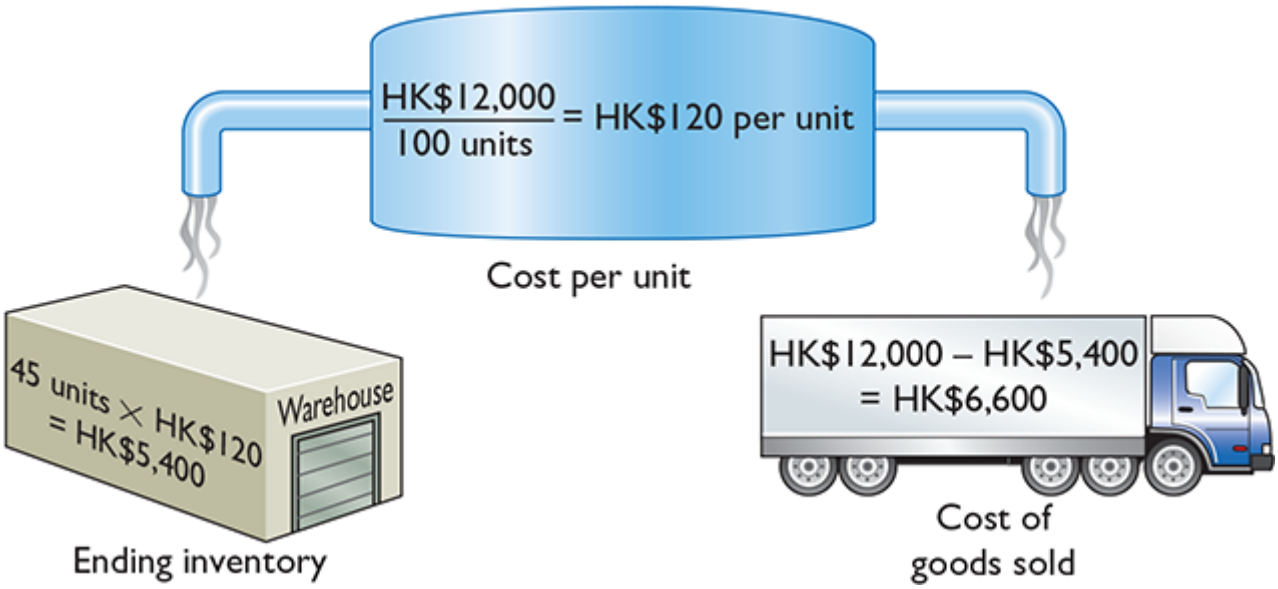
Step 1: Ending Inventory

HK$12,000 ÷ 100 = HK$120

Units	Unit Cost	Total Cost
45	HK$120	HK$5,400

Step 2: Cost of Goods Sold

Cost of goods available for sale	HK$12,000
Less: Ending inventory	5,400
Cost of goods sold	HK$ 6,600



We can verify the cost of goods sold under this method by multiplying the units sold times the weighted-average unit cost (55 × HK$120 = HK$6,600). Note that this method does not use the average of the unit costs. That average is HK$115 (HK$100 + HK$110 + HK$120 + HK$130 = HK$460; HK$460 ÷ 4). The average-cost method instead uses the average **weighted by** the quantities purchased at each unit cost.[1]

Financial Statement and Tax Effects of Cost Flow Methods

Either of the two cost flow assumptions is acceptable for use. For example, **Lenovo** (CHN) uses the average-cost method, whereas **Yingli Solar** (CHN) uses average-costing for key raw materials and FIFO for the remainder of its inventories.

- A recent survey of IFRS companies indicated that approximately 60% of these companies use the average-cost method, with 40% using FIFO.
- Approximately 23% use both average-cost and FIFO for different parts of their inventory.

The reasons companies adopt different inventory cost flow methods are varied, but they usually involve one of three factors: (1) income statement effects, (2) statement of financial position effects, or (3) tax effects.

Income Statement Effects

To understand why companies choose either FIFO or average-cost, let's examine the effects of these two cost flow assumptions on the financial statements of Lin Electronics. The condensed income statements in **Illustration 6.10** assume that Lin sold its 55 units for HK$11,500, had operating expenses of HK$2,000, and is subject to an income tax rate of 30%.

ILLUSTRATION 6.10 Comparative effects of cost flow methods

Lin Electronics
Condensed Income Statements

	FIFO	Average-Cost
Sales revenue	HK$11,500	HK$11,500
Beginning inventory	1,000	1,000
Purchases	11,000	11,000
Cost of goods available for sale	12,000	12,000
Ending inventory	**5,800**	**5,400**
Cost of goods sold	6,200	6,600
Gross profit	5,300	4,900
Operating expenses	2,000	2,000
Income before income taxes*	3,300	2,900
Income tax expense (30%)	990	870
Net income	**HK$ 2,310**	**HK$ 2,030**

*We are assuming that Lin Electronics is a corporation, and corporations are required to pay income taxes.

Note the cost of goods available for sale (HK$12,000) is the same under both FIFO and average-cost. However, the ending inventories and the costs of goods sold are different. This difference is due to the unit costs that the company allocated to cost of goods sold and to ending inventory. Each dollar of difference in ending inventory results in a corresponding dollar difference in income before income taxes. For Lin, a HK$400 difference exists between cost of goods sold using FIFO versus average-cost.

In periods of changing prices, the cost flow assumption can have a significant impact on income and on evaluations based on income, such as the following.

1. In a period of inflation, FIFO produces a higher net income because the lower unit costs of the first units purchased are matched against revenues.
2. In a period of rising prices (as is the case in the Lin example), FIFO reports a higher net income (HK$2,310) than average-cost (HK$2,030).
3. If prices are falling, the results from the use of FIFO and average-cost are reversed. FIFO will report the lower net income and average-cost the higher.

To management, higher net income is an advantage. It causes external users to view the company more favorably. In addition, management bonuses, if based on net income, will be higher. Therefore, when prices are rising (which is usually the case), companies tend to prefer FIFO because it results in higher net income.

Statement of Financial Position Effects

A major advantage of the FIFO method is that in a period of inflation, the costs allocated to ending inventory will approximate their current cost. For example, for Lin Electronics, 40 of the 45 units in the ending inventory are costed under FIFO at the higher November 27 unit cost of HK$130.

Conversely, a shortcoming of the average-cost method is that in a period of inflation, the costs allocated to ending inventory may be understated in terms of current cost. The understatement becomes greater over prolonged periods of inflation if the inventory includes goods purchased in one or more prior accounting periods.

Tax Effects

We have seen that both inventory on the statement of financial position and net income on the income statement are higher when companies use FIFO in a period of inflation. Yet, some companies use average-cost. Why? The reason is that average-cost results in lower income taxes (because of lower net income) during times of rising prices. For example, at Lin Electronics, income taxes are HK$870 under average-cost, compared to HK$990 under FIFO. The tax savings of HK$120 makes more cash available for use in the business.

Using Inventory Cost Flow Methods Consistently

Whatever cost flow method a company chooses, it should use that method consistently from one accounting period to another. This approach is often referred to as the **consistency concept**, which means that a company uses the same accounting principles and methods from year to year.

- Consistent application enhances the comparability of financial statements over successive time periods.
- In contrast, using the FIFO method one year and the average-cost method the next year would make it difficult to compare the net incomes of the two years.

Although consistent application is preferred, it does not mean that a company may never change its inventory costing method. When a company adopts a different method, it should disclose in the financial statements the change and its effects on net income.

Global Insight

Is LIFO Fair?



Mike Fuentes/
Bloomberg/Getty Images

Many U.S. companies use last-in, last-out (LIFO) to value their inventories for financial reporting and tax purposes. LIFO assumes the latest goods purchased are the first goods sold. One reason why U.S. companies use LIFO relates to tax benefits. In a period of rising prices, companies using LIFO report lower income taxes (due to lower taxable income) and therefore higher cash flows. Critics say that LIFO provides an unfair "tax dodge."

As the U.S. Congress looks for more sources of tax revenue, some lawmakers favor the elimination of LIFO. Supporters of LIFO argue that the method is conceptually sound because it matches current costs with current revenues. In addition, they point out that this matching provides protection against inflation.

International accounting standards do not allow the use of LIFO. Because of this, the net income of oil companies such as **Shaanxi Yanching Petroleum** (CHN) and **Royal Dutch Shell** (GBR) are not directly comparable to U.S. companies, which makes analysis difficult.

> **Source:** Adapted from David Reilly, "Big Oil's Accounting Methods Fuel Criticism," *Wall Street Journal* (August 8, 2006), p. C1.

What are the arguments for and against the use of LIFO?

Answer

DO IT! 2

Cost Flow Methods

The accounting records of Shumway Implements show the following data.

Beginning inventory	4,000 units at € 3
Purchases	6,000 units at € 4
Sales	7,000 units at €12

Determine the cost of goods sold during the period under a periodic inventory system using (a) the FIFO method and (b) the average-cost method.

ACTION PLAN

- **Understand the periodic inventory system.**
- **Allocate costs between goods sold and goods on hand (ending inventory) for each cost flow method.**
- **Compute cost of goods sold for each method.**

Solution

Related exercise material: BE6.3, BE6.4, DO IT! 6.2, E6.3, E6.4, E6.5, E6.6, E6.7, and E6.9.

6.3 Effects of Inventory Errors

LEARNING OBJECTIVE 3

Indicate the effects of inventory errors on the financial statements.

Unfortunately, errors occasionally occur in accounting for inventory.

- In some cases, errors are caused by failure to count or price the inventory correctly.
- In other cases, errors occur because companies do not properly recognize the transfer of legal title to goods that are in transit.

When errors occur, they affect both the income statement and the statement of financial position.

Income Statement Effects

The ending inventory of one period automatically becomes the beginning inventory of the next period. Thus, inventory errors affect the computation of cost of goods sold and net income in two periods.

The effects on cost of goods sold can be computed by first entering incorrect data in the formula in Illustration 6.11 and then substituting the correct data.

ILLUSTRATION 6.11 Formula for cost of goods sold

Beginning Inventory	+	Cost of Goods Purchased	−	Ending Inventory	=	Cost of Goods Sold

If **beginning** inventory is understated, cost of goods sold will be understated. If **ending** inventory is understated, cost of goods sold will be overstated. Illustration 6.12 shows the effects of inventory errors on the current year's income statement.

ILLUSTRATION 6.12 Effects of inventory errors on current year's income statement

When Inventory Error:	Cost of Goods Sold Is:	Net Income Is:
Understates beginning inventory	Understated	Overstated
Overstates beginning inventory	Overstated	Understated
Understates ending inventory	Overstated	Understated
Overstates ending inventory	Understated	Overstated

An error in the ending inventory of the current period will have a **reverse effect on net income of the next accounting period**. Illustration 6.13 shows this effect.

- Note that the understatement of ending inventory in 2024 results in an understatement of beginning inventory in 2025 and an overstatement of net income in 2025.
- Over the two years, though, total net income is correct because the errors **offset each other**.

Notice that total income using incorrect data is €35,000 (€22,000 + €13,000), which is the same as the total income of €35,000 (€25,000 + €10,000) using correct data. Also note in this example that an error in the beginning inventory does not result in a corresponding error in the ending inventory for that period. The correctness of the ending inventory depends entirely on the accuracy of taking and costing the inventory at the statement of financial position date under the periodic inventory system (see Ethics Note).

ETHICS NOTE

Inventory fraud increases during recessions. Such fraud includes pricing inventory at amounts in excess of its actual value, or claiming to have inventory when no inventory exists. Inventory fraud usually overstates ending inventory, thereby understating cost of goods sold and creating higher income.

ILLUSTRATION 6.13 Effects of inventory errors on two years' income statements

Sample Company
Condensed Income Statements

	2024				2025			
	Incorrect		Correct		Incorrect		Correct	
Sales revenue		€80,000		€80,000		€90,000		€90,000
Beginning inventory	€20,000		€20,000		€12,000		€15,000	
Cost of goods purchased	40,000		40,000		68,000		68,000	
Cost of goods available for sale	60,000		60,000		80,000		83,000	
Ending inventory	12,000		15,000		23,000		23,000	
Cost of goods sold		48,000		45,000		57,000		60,000
Gross profit		32,000		35,000		33,000		30,000
Operating expenses		10,000		10,000		20,000		20,000
Net income		€22,000		€25,000		€13,000		€10,000

€(3,000) Net income understated

€3,000 Net income overstated

The errors cancel. Thus, the combined total income for the 2-year period is correct.

Statement of Financial Position Effects

Companies can determine the effect of ending inventory errors on the statement of financial position by using the basic accounting equation: Assets = Liabilities + Equity. Errors in the ending inventory have the effects shown in **Illustration 6.14**.

ILLUSTRATION 6.14 Effects of ending inventory errors on statement of financial position

Ending Inventory Error	Assets	Liabilities	Equity
Overstated	Overstated	No effect	Overstated
Understated	Understated	No effect	Understated

The effect of an error in ending inventory on the subsequent period was shown in Illustration 6.13.

- Note that if the error is not corrected, the combined total net income for the two periods would be correct.
- Thus, total equity reported on the statement of financial position at the end of 2025 will also be correct.

DO IT! 3

Inventory Errors

Visual Designs overstated its 2024 ending inventory by NT$22,000. Determine the impact this error has on ending inventory, cost of goods sold, and equity in 2024 and 2025.

ACTION PLAN

- **An ending inventory error in one period will have an equal and opposite effect on cost of goods sold and net income in the next period.**
- **After two years, the errors have offset each other.**

Solution

Related exercise material: **BE6.5**, **DO IT! 6.3**, **E6.10**, **and E6.11**.

6.4 Inventory Statement Presentation and Analysis

LEARNING OBJECTIVE 4

Explain the statement presentation and analysis of inventory.

Presentation

As indicated in Chapter 5, inventory is classified in the statement of financial position as a current asset immediately above receivables. In a multiple-step income statement, cost of goods sold is subtracted from net sales. There also should be disclosure of:

1. The major inventory classifications.
2. The basis of accounting (cost, or lower of cost or net realizable value).

3. The cost method (FIFO or average-cost).

Lower of Cost or Net Realizable Value

The value of inventory for companies selling high-technology or fashion goods can drop very quickly due to continual changes in technology or fashions. These circumstances sometimes call for inventory valuation methods other than those presented so far.

For example, purchasing managers at **Ford** (USA) at one time decided to make a large purchase of palladium, a precious metal used in vehicle emission devices. They made this purchase because they feared a future shortage. The shortage did not materialize, and by the end of the year the price of palladium had plummeted. Ford's inventory was then worth $1 billion less than its original cost. Do you think Ford's inventory should have been stated at cost, in accordance with the historical cost basis, or at its lower net realizable value?

As you probably reasoned, this situation requires a departure from the cost basis of accounting. When the value of inventory is lower than its cost, companies must "write down" the inventory to its net realizable value. This is done by valuing the inventory at the **lower of cost or net realizable value (LCNRV)** in the period in which the price decline occurs.

- LCNRV is an example of the accounting concept of **prudence**, which means that the best choice among accounting alternatives is the method that is least likely to overstate assets and net income.
- Critics of accounting prudence argue that it introduces bias into accounting numbers. The can reduce the representational faithfulness as well as the relevance of financial reports.

Under the LCNRV basis, **net realizable value** refers to the net amount that a company excepts to realize (receive) from the sale of inventory. Specifically, net realizable value is the estimated selling price in the normal course of business, less estimated costs to complete and sell.

Companies apply LCNRV to the items in inventory after they have used one of the inventory costing methods (specific identification, FIFO, or average-cost) to determine cost. To illustrate the application of LCNRV, assume that Gao TVs has the following lines of merchandise with costs and net realizable values as indicated. LCNRV produces the results shown in **Illustration 6.15**. Note that the amounts shown in the final column are the lower of cost or net realizable value amounts for each item.

ILLUSTRATION 6.15 Computation of lower of cost or net realizable value

	Units	Cost per Unit	Net Realizable Value per Unit	Lower of Cost or Net Realizable Value	
Flat-screen TVs	100	NT$600	NT$550	NT$ 55,000	(NT$550 × 100)
Wireless speakers	500	90	104	45,000	(NT$90 × 500)
Bluetooth headphones	850	50	48	40,800	(NT$48 × 850)
Smart watch accessories	3,000	5	6	15,000	(NT$5 × 3,000)
Total inventory				NT$155,800	

If, after an inventory item has been written down but before the item is sold, the value of the item recovers, the amount of the write-down is reversed. The amount of the reversal is limited to the amount of the original write-down. So, for example, if the net realizable value of the flat-screen TVs

shown in Illustration 6.15 were to recover to NT$615 in the next period and the items were still held, a reversal would occur to write them back up to their cost of NT$600.

Financial Analysis and Data Analytics

The amount of inventory carried by a company has significant economic consequences. And inventory management is a double-edged sword that requires constant attention. On the one hand, management wants to have a great variety and quantity available so that customers have a wide selection and items are always in stock. But, such a policy may incur high carrying costs (e.g., investment, storage, insurance, obsolescence, and damage). On the other hand, low inventory levels lead to stock-outs and lost sales. Common ratios used to manage and evaluate inventory levels are inventory turnover and a related measure, days in inventory.

Inventory Turnover

Inventory turnover measures the number of times on average the inventory is sold during the period. Its purpose is to measure the liquidity of the inventory.

- The inventory turnover is computed by dividing cost of goods sold by the average inventory during the period.
- Unless seasonal factors are significant, average inventory can be computed from the beginning and ending inventory balances.

For example, **Esprit Holdings** (HKG) reported in a recent annual report a beginning inventory of HK$3,209 million, an ending inventory of HK$3,254 million, and cost of goods sold for the year ended of HK$12,071 million. **Illustration 6.16** shows the inventory turnover formula and computation for Esprit Holdings.

ILLUSTRATION 6.16 Inventory turnover formula and computation for Esprit Holdings (in millions)

Cost of Goods Sold	÷	Average Inventory	=	Inventory Turnover
HK$12,071	÷	$\frac{HK\$3,209 + HK\$3,254}{2}$	=	3.7 times

A variant of the inventory turnover is **days in inventory**.

- Days in inventory measures the average number of days inventory is held.
- It is calculated as 365 divided by the inventory turnover.

For example, Esprit Holdings' inventory turnover of 3.7 times divided into 365 is approximately 99 days. This is the approximate time that it takes a company to sell the inventory once it arrives at the store.

There are typical levels of inventory in every industry. Companies that are able to keep their inventory at lower levels and higher turnovers and still satisfy customer needs are the most successful.

Accounting Across the Organization

H&M

Too Many Dresses or Too Few?



Ryan McVay/DigitalVision/
Getty Images

Prior to the disruption of the global supply chain that occurred in 2019 and 2020, fashion retailers such as **H&M** (SWE) were experiencing a sales boom. However, the combination of closed stores, closed factories, and changing consumer preferences have left many companies in the fashion industry with large amounts of deadstock. Deadstock are items that cannot be sold at their normal prices.

Deadstock is not new to the industry, but the levels that have built up recently are substantially higher than usual. In the past, many fashion brands such as **LVHM** (FRA) and **Burberry** (GBR) would destroy excess inventory. Now, with much higher levels of excess inventory, companies are launching new methods to dispose of deadstock. For example, LVMH launched a deadstock site called Nona Source to help sell its excess inventory.

> **Source:** Adapted from Sophie Mellor, "Changing Fashions: Retailers Are Dealing with Deadstock More Openly," *Fortune* (April 29, 2021).

For fashion companies, what are the advantages and disadvantages of having excess inventory?

Answer

Data Analytics

Inventory management benefits greatly from data analytics. Companies such as **Walmart** (USA) collect massive amounts of data about every inventory item and every customer. They analyze customer habits, buying patterns, and sales trends. Using sophisticated models that incorporate economic variables, weather patterns, and many other factors, companies strive to optimize inventory levels to maximize sales while minimizing inventory holding costs.

For example, companies can use data analytics when determining if the net realizable value of certain products exceeds their costs. Furthermore, analytics can identify the last time a company sold a particular product, allowing the company to assess if that product is obsolete or damaged. By analyzing search histories on their websites and by examining sales order data, companies can track and anticipate changes in the demand for their products.

- This type of predictive analysis uses data to project expected sales.
- This, in turn, allows companies to plan future inventory purchasing decisions and to determine minimum and maximum desired quantities of inventory on hand at different times during the year.

Companies can also use other data analytics tools to ensure that the inventory on hand remains in optimal condition. For example, agribusiness companies are using data analytics to ensure that grain inventories are being stored in the best conditions possible. These systems use sensors to track the moisture and temperature of grain bins. Using weather data, these systems adjust the fan and air-circulation settings within the grain bins to ensure the grain is kept in optimal condition.

Data Analytics Insight

Dashboards: Seeing Is Believing

Dashboards are a commonly employed tool for data analytics. Dashboards represent a collection of a variety of views of key measures that managers desire to monitor. If you have ever seen one, you know that a dashboard often consists of a number of worksheets. And because each worksheet is "live," the manager can manipulate variables or views.

For example, consider the Tableau dashboard shown here. Using this dashboard, the manager can evaluate how well the company is meeting customer demand by evaluating the fill rate (which shows the frequency of stock-outs). The manager can also easily see how efficiently the company is managing its inventory by evaluating the inventory turnover and days in inventory. This information can be evaluated by region, over time, and by product line.

What benefits does a dashboard such as this one provide to a manager for making decisions regarding inventory?

Answer

DO IT! 4

LCNRV and Inventory Turnover

a. Poon Heaters sells three different types of home heating stoves (gas, wood, and pellet). The cost and net realizable value of its inventory of stoves are as follows (amounts in thousands).

	Cost	Net Realizable Value
Gas	NT$ 84,000	NT$ 79,000
Wood	250,000	280,000
Pellet	112,000	101,000

Determine the value of the company's inventory under the lower of cost or net realizable value approach.

ACTION PLAN

- **Determine whether cost or net realizable value is lower for each inventory type.**
- **Sum the lowest value of each inventory type to determine the total value of inventory.**

Solution

b. Early in 2025, Westmoreland Company switched to a just-in-time inventory system. Its sales revenue, cost of goods sold, and inventory amounts for 2024 and 2025 are shown below.

	2024	2025
Sales revenue	NT$2,000,000	NT$1,800,000
Cost of goods sold	1,000,000	910,000
Beginning inventory	290,000	210,000
Ending inventory	210,000	50,000

Determine the inventory turnover and days in inventory for 2024 and 2025. Discuss the changes in the amount of inventory, the inventory turnover and days in inventory, and the amount of sales across the two years.

ACTION PLAN

- **To find the inventory turnover, divide cost of goods sold by average inventory.**
- **To determine days in inventory, divide 365 days by the inventory turnover.**
- **Just-in-time inventory reduces the amount of inventory on hand, which reduces carrying costs. Reducing inventory levels by too much has potential negative implications for sales.**

Solution

Related exercise material: **BE6.7**, **DO IT! 6.4a**, **DO IT! 6.4b**, **E6.9**, **E6.12**, **and E6.13**.

Appendix 6A Inventory Cost Flow Methods in Perpetual Inventory Systems

LEARNING OBJECTIVE *5

Apply the inventory cost flow methods to perpetual inventory records.

What inventory cost flow methods can companies employ if they use a perpetual inventory system? Simple—they can use any of the inventory cost flow methods described in the chapter. To illustrate the application of the two assumed cost flow methods (FIFO and average-cost), we will use the data shown in **Illustration 6A.1** and in this chapter for Lin Electronics' Astro condensers.

ILLUSTRATION 6A.1 Inventoriable units and costs

Lin Electronics
Astro Condensers

Date	Explanation	Unit	Units Cost	Total Cost	Balance in Units
1/1	Beginning inventory	10	HK$100	HK$ 1,000	10
4/15	Purchases	20	110	2,200	30
8/24	Purchases	30	120	3,600	60
9/10	Sale	55			5
11/27	Purchases	40	130	5,200	45
				HK$12,000	

First-In, First-Out (FIFO)

Under perpetual FIFO, the company charges to cost of goods sold the cost of the earliest goods on hand **prior to each sale**. Therefore, the cost of goods sold on September 10 consists of the units on hand January 1 and the units purchased April 15 and August 24. **Illustration 6A.2** shows the inventory under a FIFO method perpetual system.

ILLUSTRATION 6A.2 Perpetual system—FIFO

The ending inventory in this situation is HK$5,800, and the cost of goods sold is HK$6,200 [(10 @ HK$100) + (20 @ HK$110) + (25 @ HK$120)].

Compare Illustrations 6.6 and 6A.2. You can see that the results under FIFO in a perpetual system are the **same as in a periodic system**. In both cases, the ending inventory is HK$5,800 and cost of goods sold is HK$6,200. Regardless of the system, the first costs in are the costs assigned to cost of goods sold.

Average-Cost

The average-cost method in a perpetual inventory system is called the **moving-average method**.

- Under this method, the company computes a new average **after each purchase** by dividing the cost of goods available for sale by the units on hand.
- The average cost is then applied to (1) the units sold, to determine the cost of goods sold, and (2) the remaining units on hand, to determine the ending inventory amount.

Illustration 6A.3 shows the application of the moving-average cost method by Lin Electronics (computations of the moving-average unit cost are shown after Illustration 6A.3).

ILLUSTRATION 6A.3 Perpetual system—average-cost method

As indicated, Lin Electronics computes **a new average each time it makes a purchase**.

1. On April 15, after it buys 20 units for HK$2,200, a total of 30 units costing HK$3,200 (HK$1,000 + HK$2,200) are on hand. The average unit cost is HK$106.667 (HK$3,200 ÷ 30).
2. On August 24, after Lin Electronics buys 30 units for HK$3,600, a total of 60 units costing HK$6,800 (HK$1,000 + HK$2,200 + HK$3,600) are on hand. The average cost per unit is HK$113.333 (HK$6,800 ÷ 60).
3. On September 10, to compute cost of goods sold, Lin Electronics uses this unit cost of HK$113.333 in costing sales until it makes another purchase, when the company computes a new unit cost. Accordingly, the unit cost of the 55 units sold (on September 10) is HK$113.333, and the total cost of goods sold is HK$6,233.
4. On November 27, following the purchase of 40 units for HK$5,200, there are 45 units on hand costing HK$5,767 (HK$567 + HK$5,200) with a new average cost of HK$128.156 (HK$5,767 ÷ 45).

Compare this moving-average cost under the perpetual inventory system to Illustration 6.9 on showing the average-cost method under a periodic inventory system. Unlike FIFO, which results in the same cost for ending inventory under the perpetual and periodic systems, the moving-average method produces different costs.

Appendix 6B Estimating Inventories

> **LEARNING OBJECTIVE *6**
>
> Describe the two methods of estimating inventories.

In the chapter, we assumed that a company would be able to physically count its inventory. What if it cannot? What if the inventory were destroyed by fire or flood, for example? In that case, the company would use an estimate.

Two circumstances explain why companies sometimes estimate inventories.

1. A casualty such as fire, flood, or earthquake may make it impossible to take a physical inventory.
2. Managers may want monthly or quarterly financial statements, but a physical inventory is taken only annually.

The need for estimating inventories occurs primarily with a periodic inventory system because of the absence of perpetual inventory records.

There are two widely used methods of estimating inventories: (1) the gross profit method, and (2) the retail inventory method.

Gross Profit Method

The **gross profit method** estimates the cost of ending inventory by applying a gross profit rate to net sales. This method is relatively simple but effective.

- Accountants, auditors, and managers frequently use the gross profit method to test the reasonableness of the ending inventory amount. It will detect large errors.
- To use this method, a company needs to know its net sales, cost of goods available for sale, and gross profit rate. The company then can estimate its gross profit for the period.

Illustration 6B.1 shows the formulas for using the gross profit method.

ILLUSTRATION 6B.1 Gross profit method formulas

To illustrate, assume that Kishwaukee Company wishes to prepare an income statement for the month of January. Its records show net sales of $200,000, beginning inventory $40,000, and cost of goods purchased $120,000. In the preceding year, the company realized a 30% gross profit rate. It expects to earn the same rate this year. Given these facts and assumptions, Kishwaukee can compute the estimated cost of the ending inventory at January 31 under the gross profit method as shown in **Illustration 6B.2**.

ILLUSTRATION 6B.2 Example of gross profit method

The gross profit method is based on the assumption that the gross profit rate will remain constant. But, it may not remain constant due to a change in merchandising policies or in market conditions.

- In such cases, the company should adjust the rate to reflect current operating conditions.
- In some cases, companies can obtain a more accurate estimate by applying this method on a department or product-line basis.

Note that companies should not use the gross profit method to prepare financial statements at the end of the year. These statements should be based on a physical inventory count.

Retail Inventory Method

A retail store, such as **President Chain Store** (TWN), **Marks and Spencer plc** (GBR), or **Walmart** (USA), has thousands of different types of merchandise at low unit costs. In such cases, it is difficult and time-consuming to apply unit costs to inventory quantities. An alternative is to use the **retail inventory method** to estimate the cost of inventory.

- Most retail companies can establish a relationship between cost and sales price. The company then applies the cost-to-retail percentage to the ending inventory at retail prices to determine inventory at cost.
- Under the retail inventory method, a company's records must show both the cost and retail value of the goods available for sale.

Illustration 6B.3 presents the formulas for using the retail inventory method.

ILLUSTRATION 6B.3 Retail inventory method formulas

Step 1:	**Goods Available for Sale at Retail**	**−**	**Net Sales**	**=**	**Ending Inventory at Retail**
Step 2:	**Goods Available for Sale at Cost**	**÷**	**Goods Available for Sale at Retail**	**=**	**Cost-to-Retail Ratio**
Step 3:	**Ending Inventory at Retail**	**×**	**Cost-to-Retail Ratio**	**=**	**Estimated Cost of Ending Inventory**

We can demonstrate the logic of the retail method by using unit-cost data. Assume that Ortiz Inc. has marked 10 units purchased at $7 to sell for $10 per unit. Thus, the cost-to-retail ratio is 70% ($70 ÷ $100). If four units remain unsold, their retail value is $40 (4 × $10), and their cost is $28 ($40 × 70%). This amount agrees with the total cost of goods on hand on a per unit basis (4 × $7).

Illustration 6B.4 shows application of the retail method for Valley West. Note that it is not necessary to take a physical inventory to determine the estimated cost of goods on hand at any given time.

ILLUSTRATION 6B.4 Application of retail inventory method

	At Cost	At Retail
Beginning inventory	$14,000	$ 21,500
Goods purchased	61,000	78,500
Goods available for sale	$75,000	100,000
Less: Net sales		70,000
Step (1) Ending inventory at retail =		**$ 30,000**

Step (2) Cost-to-retail ratio = $75,000 ÷ $100,000 = 75%

Step (3) Estimated cost of ending inventory = $30,000 × 75% = $22,500

The retail inventory method also facilitates taking a physical inventory at the end of the year. Valley West can value the goods on hand at the prices marked on the merchandise and then apply the cost-to-retail ratio to the goods on hand at retail to determine the ending inventory at cost (see Helpful Hint).

> **HELPFUL HINT**
>
> **In determining inventory at retail, companies use selling prices of the units.**

The major disadvantage of the retail method is that it is an averaging technique. Thus, it may produce an incorrect inventory valuation if the mix of the ending inventory is not representative of the mix in the goods available for sale. Assume, for example, that the cost-to-retail ratio of 75% for Valley West consists of equal proportions of inventory items that have cost-to-retail ratios of 70%, 75%, and 80%. If the ending inventory contains only items with a 70% ratio, an incorrect inventory cost will result. Companies can minimize this problem by applying the retail method on a department or product-line basis.

While the gross profit method mentioned in the previous section may not be used for financial statement purposes, the retail inventory method is permitted. Since the retail inventory method uses current-period costs and prices to determine the cost-to-retail ratio, it is viewed as sufficiently close to cost to be used.

Appendix 6C LIFO Inventory Method

> **LEARNING OBJECTIVE *7**
>
> Apply the LIFO inventory costing method.

As indicated in the chapter, under IFRS, LIFO is not permitted for financial reporting purposes. In prohibiting LIFO, the IASB noted that use of LIFO results in inventories being recognized in the statement of financial position at amounts that bear little relationship to recent cost levels of inventories. Nonetheless, LIFO is used for financial reporting in the United States, and it is permitted for tax purposes in some countries. Its use can result in significant tax savings in a period of rising prices.

- The last-in, first-out (LIFO) method assumes that the **latest goods** purchased are the first to be sold.
- LIFO seldom coincides with the actual physical flow of inventory. (Exceptions include goods stored in piles, such as coal or hay, where goods are removed from the top of the pile as they are sold.)
- Under the LIFO method, the **costs** of the latest goods purchased are the first to be recognized in determining cost of goods sold.

Illustration 6C.1 shows the allocation of the cost of goods available for sale at Lin Electronics under LIFO. The number of units sold during November are 55 and therefore ending inventory is comprised of 45 units.

ILLUSTRATION 6C.1 Allocation of costs—LIFO method

Cost of Goods Available for Sale

Date	Explanation	Units	Unit Cost	Total Cost
Jan. 1	Beginning inventory	10	HK$100	HK$ 1,000
Apr. 15	Purchase	20	110	2,200
Aug. 24	Purchase	30	120	3,600
Nov. 27	Purchase	40	130	5,200
	Total	100		HK$12,000

Step 1: Ending Inventory

Date	Units	Unit Cost	Total Cost
Jan. 1	10	HK$100	HK$1,000
Apr. 15	20	110	2,200
Aug. 24	15	120	1,800
Total	45		HK$5,000

Step 2: Cost of Goods Sold

Cost of goods available for sale	HK$12,000
Less: Ending inventory	5,000
Cost of goods sold	HK$ 7,000

Under LIFO, since it is assumed that the first goods sold were those that were most recently purchased, ending inventory is based on the prices of the oldest units purchased. That is, **under LIFO, companies obtain the cost of the ending inventory by taking the unit cost of the earliest goods available for sale and working forward until all units of inventory have been costed**.

- In this example, Lin Electronics prices the 45 units of ending inventory using the **earliest** prices.
- The first purchase was 10 units at HK$100 in the January 1 beginning inventory. Then, 20 units were purchased at HK$110. The remaining 15 units needed are priced at HK$120 per unit (August 24 purchase).

- Lin Electronics calculates cost of goods sold by subtracting the cost of the units **not sold** (ending inventory) from the cost of all goods available for sale.

Illustration 6C.2 demonstrates that companies also can calculate cost of goods sold by pricing the 55 units sold using the prices of the last 55 units acquired. Note that of the 30 units purchased on August 24, only 15 units are assumed sold. This agrees with our calculation of the cost of ending inventory, where 15 of these units were assumed unsold and thus included in ending inventory.

ILLUSTRATION 6C.2 Proof of cost of goods sold

Date	Units	Unit Cost	Total Cost
Nov. 27	40	HK$130	HK$ 5,200
Aug. 24	15	120	1,800
Total	55		HK$7,000

Under a periodic inventory system, which we are using here, **all goods purchased during the period are assumed to be available for the first sale, regardless of the date of purchase**.

A major disadvantage of the LIFO method is that in a period of rising prices, the costs allocated to ending inventory may be significantly understated in the statement of financial position. For example, **Caterpillar** (USA) has used LIFO for over 50 years. Its statement of financial position shows ending inventory of $8,781 million. But, the inventory's actual current cost if FIFO had been used is $11,964 million.

One reason why U.S. companies use LIFO relates to tax benefits. In a period of rising prices, companies using LIFO report lower income taxes (because of lower taxable income) and therefore higher cash flows.

Review and Practice

Learning Objectives Review

1 Discuss how to classify and determine inventory.

Manufacturers usually classify inventory into three categories: finished goods, work in process, and raw materials. The steps in determining inventory quantities are (1) take a physical inventory of goods on hand and (2) determine the ownership of goods in transit or on consignment.

2 Apply inventory cost flow methods and discuss their financial effects.

The primary basis of accounting for inventories is cost. Cost of goods available for sale includes (a) cost of beginning inventory and (b) cost of goods purchased. The inventory cost flow methods are specific identification and two assumed cost flow methods—FIFO and average-cost.

Companies may allocate the cost of goods available for sale to cost of goods sold and ending inventory by specific identification or by a method based on an assumed cost flow. When prices are rising, the first-in, first-out (FIFO) method results in lower cost of goods sold and higher net income than average-cost. The reverse is true when prices are falling. In the statement of financial position, FIFO results in an ending inventory that is closer to current value. Inventory under average-cost is further from current value. Average-cost results in lower income taxes.

3 Indicate the effects of inventory errors on the financial statements.

In the income statement of the current year: (a) If beginning inventory is understated, net income is overstated. The reverse occurs if beginning inventory is overstated. (b) If ending inventory is overstated, net income is overstated. If ending inventory is understated, net income is understated. In the following period, its effect on net income for that period is reversed, and total net income for the two years will be correct.

In the statement of financial position: Ending inventory errors will have the same effect on total assets and total equity and no effect on liabilities.

4 Explain the statement presentation and analysis of inventory.

Inventory is classified in the statement of financial position as a current asset and is shown immediately above receivables. There also should be disclosure of (1) the major inventory classifications, (2) the basis of accounting, and (3) the cost method.

Companies use the lower of cost or net realizable value (LCNRV) basis when the net realizable value is less than cost. Under LCNRV, companies recognize the loss in the period in which the price decline occurs.

The inventory turnover is cost of goods sold divided by average inventory. To convert it to average days in inventory, divide 365 days by the inventory turnover.

***5 Apply the inventory cost flow methods to perpetual inventory records.**

Under FIFO and a perpetual inventory system, companies charge to cost of goods sold the cost of the earliest goods on hand prior to each sale. Under the moving-average (average-cost) method and a perpetual system, companies compute a new average cost after each purchase.

***6 Describe the two methods of estimating inventories.**

The two methods of estimating inventories are the gross profit method and the retail inventory method. Under the gross profit method, companies apply a gross profit rate to net sales to determine estimated cost of goods sold. They then subtract estimated cost of goods sold from cost of goods available for sale to determine the estimated cost of the ending inventory.

Under the retail inventory method, companies compute a cost-to-retail ratio by dividing the cost of goods available for sale by the retail value of the goods available for sale. They then apply this ratio to the ending inventory at retail to determine the estimated cost of the ending inventory.

***7 Apply the LIFO inventory costing method.**

The LIFO (last-in, first-out) method, which is allowable under GAAP but not IFRS, assumes that the latest goods purchased are the first to be sold. LIFO seldom coincides with the actual physical flow of goods. This method matches costs of the most recently purchased items with revenues in the period. In periods of rising prices, use of the LIFO method results in lower income taxes and higher cash flows.

Glossary Review

Average-cost method
Inventory costing method that uses the weighted-average unit cost to allocate to ending inventory and cost of goods sold the cost of goods available for sale.

Consigned goods
Goods held for sale by one party although ownership of the goods is retained by another party.

Consistency concept
Dictates that a company use the same accounting principles and methods from year to year.

Days in inventory
Measure of the average number of days inventory is held; calculated as 365 divided by inventory turnover.

Finished goods inventory
Manufactured items that are completed and ready for sale.

First-in, first-out (FIFO) method
Inventory costing method that assumes that the costs of the earliest goods purchased are the first to be recognized as cost of goods sold.

FOB (free on board) destination
Freight terms indicating that ownership of the goods remains with the seller until the goods reach the buyer.

FOB (free on board) shipping point
Freight terms indicating that ownership of the goods passes to the buyer when the public carrier accepts the goods from the seller.

***Gross profit method**
A method for estimating the cost of the ending inventory by applying a gross profit rate to net sales and subtracting estimated cost of goods sold from cost of goods available for sale.

Inventory turnover
A ratio that measures the number of times on average the inventory sold during the period; computed by dividing cost of goods sold by the average inventory during the period.

Just-in-time (JIT) inventory
Inventory system in which companies manufacture or purchase goods just in time for use.

***Last-in, first-out (LIFO) method**
Inventory costing method that assumes the costs of the latest units purchased are the first to be allocated to cost of goods sold. This method is allowable under GAAP but not IFRS.

Lower of cost or net realizable value (LCNRV) basis
A basis whereby inventory is stated at the lower of either its cost or its net realizable value.

***Moving-average method**
A new average is computed after each purchase, computed by dividing the cost of goods available for sale by the units on hand.

Net realizable value
Net amount that a company expects to realize (receive) from the sale of inventory. Specifically, it is the estimated selling price in the normal course of business, less estimated costs to complete and sell.

Prudence
Concept that dictates that when in doubt, choose the method that will be least likely to overstate assets and net income.

Raw materials
Basic goods that will be used in production but have not yet been placed into production.

***Retail inventory method**
A method for estimating the cost of the ending inventory by applying a cost-to-retail ratio to the ending inventory at retail.

Specific identification method
An actual physical flow costing method in which items still in inventory are specifically costed to arrive at the total cost of the ending inventory.

Weighted-average unit cost
Average cost that is weighted by the number of units purchased at each unit cost.

Work in process
That portion of manufactured inventory that has been placed into the production process but is not yet complete.

Practice Multiple-Choice Questions

1. **(LO 1)** Which of the following should **not** be included in the physical inventory of a company?

   a. Goods held on consignment from another company.

   b. Goods shipped on consignment to another company.

   c. Goods in transit from another company shipped FOB shipping point.

   d. All of the answer choices are correct.

Solution

2. **(LO 1)** As a result of a thorough physical inventory, Railway Ltd. determined that it had inventory worth €180,000 at December 31, 2025. This count did not take into consideration the following facts. Rogers Consignment currently has goods that would cost €35,000 on its sales floor that belong to Railway but are being sold on consignment by Rogers. The selling price of these goods is €50,000. Railway purchased €13,000 of goods that were shipped on December 27, FOB destination, that will be received by Railway on January 3. Determine the correct amount of inventory that Railway should report.

   a. €230,000.

   b. €215,000.

   c. €228,000.

   d. €193,000.

Solution

3. **(LO 1)** Cost of goods available for sale consists of two elements: beginning inventory and:

   a. ending inventory.

   b. cost of goods purchased.

   c. cost of goods sold.

   d. All of the answer choices are correct.

Solution

4. **(LO 2)** Tinker Bell Magic Shop has the following:

	Units	Unit Cost
Inventory, Jan. 1	8,000	£11
Purchase, June 19	13,000	12
Purchase, Nov. 8	5,000	13

If Tinker Bell has 9,000 units on hand at December 31, the cost of the ending inventory under FIFO is:

   a. £99,000.

   b. £108,000.

   c. £113,000.

   d. £117,000.

Solution

5. **(LO 2)** Davidson Electronics has the following:

	Units	Unit Cost
Inventory, Jan. 1	5,000	£ 8
Purchase, April 2	15,000	£10
Purchase, Aug. 28	20,000	£12

If Davidson has 7,000 units on hand at December 31, the cost of ending inventory under the average-cost method is:

a. £84,000.

b. £70,000.

c. £56,000.

d. £75,250.

Solution

6. (LO 2) In periods of rising prices, average-cost will produce:

a. higher net income than FIFO.

b. the same net income as FIFO.

c. lower net income than FIFO.

d. net income equal to the specific identification method.

Solution

7. (LO 2) Factors that affect the selection of an inventory costing method do **not** include:

a. tax effects.

b. statement of financial position effects.

c. income statement effects.

d. perpetual vs. periodic inventory system.

Solution

8. (LO 3) Atlantis Aquarium's ending inventory is understated NT$122,000. The effects of this error on the current year's cost of goods sold and net income, respectively, are:

a. understated, overstated.

b. overstated, understated.

c. overstated, overstated.

d. understated, understated.

Solution

9. (LO 3) Lee Athletics overstated its inventory by NT$500,000 at December 31, 2024. It did not correct the error in 2024 or 2025. As a result, Lee's equity was:

a. overstated at December 31, 2024, and understated at December 31, 2025.

b. overstated at December 31, 2024, and properly stated at December 31, 2025.

c. understated at December 31, 2024, and understated at December 31, 2025.

d. overstated at December 31, 2024, and overstated at December 31, 2025.

Solution

10. (LO 4) Rickety Company purchased 1,000 widgets and has 200 widgets in its ending inventory at a cost of HK$91 each and a net realizable value of HK$80 each. The ending inventory under LCNRV is:

a. HK$91,000.

b. HK$80,000.

c. HK$18,200.

d. HK$16,000.

Solution

11. (LO 4) Which of these would cause the inventory turnover to increase the most?

a. Increasing the amount of inventory on hand.

b. Keeping the amount of inventory on hand constant but increasing sales.

c. Keeping the amount of inventory on hand constant but decreasing sales.

d. Decreasing the amount of inventory on hand and increasing sales.

Solution

12. (LO 4) Carlos Cookware had beginning inventory of €80,000, ending inventory of €110,000, cost of goods sold of €285,000, and sales of €475,000. Carlos' days in inventory is:

a. 73 days.

b. 121.7 days.

c. 102.5 days.

d. 84.5 days.

Solution

***13. (LO 5)** Songbird Records has sales of £150,000 and cost of goods available for sale of £135,000. If the gross profit rate is 30%, the estimated cost of the ending inventory under the gross profit method is:

a. £15,000.

b. £30,000.

c. £45,000.

d. £75,000.

Solution

***14. (LO 6)** In a perpetual inventory system:

a. specific identification is always used.

b. average costs are computed as a simple average of unit costs incurred.

c. a new average is computed under the average-cost method after each sale.

d. FIFO cost of goods sold will be the same as in a periodic inventory system.

Solution

***15. (LO 7)** Using the data in Question 4, the cost of the ending inventory under LIFO is:

a. £113,000.

b. £108,000.

c. £99,000.

d. £100,000.

Solution

Practice Brief Exercises

Compute ending inventory using FIFO and average-cost.

1. (LO 2) In its first month of operations, Moncada Stores made three purchases of merchandise in the following sequence: (1) 200 units at £7, (2) 300 units at £8, and (3) 150 units at £9. Assuming there are 220 units on hand, compute the cost of the ending inventory under the (a) FIFO method and (b) average-cost method. Moncada uses a periodic inventory system.

Solution

Determine correct income statement amounts.

2. (LO 3) Avisail Leisure reports net income of €80,000 in 2025. However, ending inventory was overstated €9,000. What is the correct net income for 2025? What effect, if any, will this error have on total assets as reported in the statement of financial position at December 31, 2025?

Solution

Compute inventory turnover and days in inventory.

3. (LO 4) At December 31, 2025, the following information was available for Seng Holdings (all amounts in thousands): ending inventory ¥30,000, beginning inventory ¥42,000, cost of goods sold ¥240,000, and sales revenue ¥400,000. Calculate inventory turnover and days in inventory for Seng Holdings.

Solution

Practice Exercises

Determine the correct inventory amount.

1. (LO 1) Mika Sorbino, an auditor with Martinez Chartered Accountants, is performing a review of Sergei Group's inventory account. Sergei's did not have a good year and top management is under pressure to boost reported income. According to its records, the inventory balance at year-end was €650,000. However, the following information was not considered when determining that amount.

1. Included in the company's count were goods with a cost of €200,000 that the company is holding on consignment. The goods belong to Bosnia Enterprises.
2. The physical count did not include goods purchased by Sergei with a cost of €40,000 that were shipped FOB shipping point on December 28 and did not arrive at Sergei's warehouse until January 3.

3. Included in the inventory account was €15,000 of office supplies that were stored in the warehouse and were to be used by the company's supervisors and managers during the coming year.
4. The company received an order on December 28 that was boxed and was sitting on the loading dock awaiting pick-up on December 31. The shipper picked up the goods on January 1 and delivered them on January 6. The shipping terms were FOB shipping point. The goods had a selling price of €40,000 and a cost of €30,000. The goods were not included in the count because they were sitting on the dock.
5. On December 29, Sergei shipped goods with a selling price of €80,000 and a cost of €60,000 to Oman Sales FOB shipping point. The goods arrived on January 3. Oman Sales had only ordered goods with a selling price of €10,000 and a cost of €8,000. However, a Sergei's sales manager had authorized the shipment and said that if Oman wanted to ship the goods back next week, it could.
6. Included in the count was €30,000 of goods that were parts for a machine that the company no longer made. Given the high-tech nature of Sergei's products, it was unlikely that these obsolete parts had any other use. However, management would prefer to keep them on the books at cost, "since that is what we paid for them, after all."

Instructions

Prepare a schedule to determine the correct inventory amount. Provide explanations for each item above, saying why you did or did not make an adjustment for each item.

Solution

Determine effects of inventory errors.

2. (LO 3) Tainan Hardware reported cost of goods sold as follows.

	2024	2025
Beginning inventory	NT$ 200,000	NT$ 300,000
Cost of goods purchased	1,500,000	1,750,000
Cost of goods available for sale	1,700,000	2,050,000
Ending inventory	(300,000)	(350,000)
Cost of goods sold	NT$1,400,000	NT$1,700,000

Tainan Hardware made two errors: (1) 2024 ending inventory was overstated NT$25,000, and (2) 2025 ending inventory was understated NT$55,000.

Instructions

Compute the correct cost of goods sold for each year.

Solution

Practice Problems

Compute inventory and cost of goods sold using two cost flow methods in a periodic inventory system.

1. (LO 2) Englehart Foods has the following inventory, purchases, and sales data for the month of March.

Inventory:	March 1	200 units @ €4.00	€ 800
Purchases:	March 10	500 units @ €4.50	2,250
	March 20	400 units @ €4.75	1,900
	March 30	300 units @ €5.00	1,500
Sales:	March 15	500 units	
	March 25	400 units	

The physical inventory count on March 31 shows 500 units on hand.

Instructions

Under a **periodic inventory system**, determine the cost of inventory on hand at March 31 and the cost of goods sold for March under (a) FIFO and (b) average-cost.

Solution

Compute inventory and cost of goods sold using two cost flow methods in a perpetual inventory system.

*2. (LO 5) **Practice Problem 1** showed cost of goods sold computations under a periodic inventory system. Now let's assume that Englehart Foods uses a perpetual inventory system. The company has the same inventory, purchases, and sales data for the month of March as shown earlier:

Inventory:	March 1	200 units @ €4.00	€ 800
Purchases:	March 10	500 units @ €4.50	2,250
	March 20	400 units @ €4.75	1,900
	March 30	300 units @ €5.00	1,500
Sales:	March 15	500 units	
	March 25	400 units	

The physical inventory count on March 31 shows 500 units on hand.

Instructions

Under a **perpetual inventory system**, determine the cost of inventory on hand at March 31 and the cost of goods sold for March under (a) FIFO and (b) average-cost.

Solution

Note: Asterisked Questions, Exercises, and Problems relate to material in the appendices to the chapter.

Questions

1. "The key to successful business operations is effective inventory management." Do you agree? Explain.

2. An item must possess two characteristics to be classified as inventory by a merchandiser. What are these two characteristics?

3. Your friend Art Mega has been hired to help take the physical inventory in Jaegar Hardware Store. Explain to Art Mega what this job will entail.

4.

a. Girard Company ships merchandise to Liu Company on December 30. The merchandise reaches the buyer on January 6. Indicate the terms of sale that will result in the goods being included in (1) Girard's December 31 inventory, and (2) Liu's December 31 inventory.

b. Under what circumstances should Girard Company include consigned goods in its inventory?

5. Topp Hat Shop received a shipment of hats for which it paid the wholesaler £2,970. The price of the hats was £3,000, but Topp was given a £30 cash discount and required to pay freight charges of £80. In addition, Topp paid £130 to cover the travel expenses of an employee who negotiated the purchase of the hats. What amount will Topp record for inventory? Why?

6. Explain the difference between the terms FOB shipping point and FOB destination.

7. Min-jun believes that the allocation of inventoriable costs should be based on the actual physical flow of the goods. Explain to Min-jun why this may be both impractical and inappropriate.

8. What is a major advantage and a major disadvantage of the specific identification method of inventory costing?

9. "The selection of an inventory cost flow method is a decision made by accountants." Do you agree? Explain. Once a method has been selected, what accounting requirement applies?

10. Which assumed inventory cost flow method:

a. usually parallels the actual physical flow of merchandise?

b. assumes that goods available for sale during an accounting period are identical?

c. assumes that the first units purchased are the first to be sold?

11. Beatriz Diaz is studying for the next accounting mid-term examination. What should Beatriz know about (a) departing from the cost basis of accounting for inventories and (b) the meaning of "net realizable value" in the lower of cost or net realizable value method?

12. Beethovan Music Center has 5 televisions on hand at the statement of financial position date. Each cost €100. The net realizable value is €90 per unit. Under the lower of cost or net realizable value basis of accounting for inventories, what value should be reported for the televisions on the statement of financial position? Why?

13. Maggie Stores has 20 toasters on hand at the statement of financial position date. Each cost £28. The net realizable value is £30 per unit. Under the lower of cost or net realizable value basis of accounting for inventories, what value should Maggie report for the toasters on the statement of financial position? Why?

14. Bakkar Kitchens discovers in 2025 that its ending inventory at December 31, 2024, was €7,600 understated. What effect will this error have on (a) 2024 net income, (b) 2025 net income, and (c) the combined net income for the 2 years?

15. Xu Fashions' statement of financial position shows Inventory HK$1,628,000. What additional disclosures should be made?

16. Under what circumstances might inventory turnover be too high? That is, what possible negative consequences might occur?

***17.** How does the average-cost method of inventory costing differ between a perpetual inventory system and a periodic inventory system?

***18.** When is it necessary to estimate inventories?

***19.** Both the gross profit method and the retail inventory method are based on averages. For each method, indicate the average used, how it is determined, and how it is applied.

***20.** Szabo Gourmet has net sales of €400,000 and cost of goods available for sale of €300,000. If the gross profit rate is 40%, what is the estimated cost of the ending inventory? Show computations.

*21. Park Shoe Shop had goods available for sale in 2025 with a retail price of €120,000. The cost of these goods was €84,000. If sales during the period were €90,000, what is the estimated cost of ending inventory using the retail inventory method?

*22. In a period of rising prices, the inventory reported in Kanth Company's statement of financial position is close to the current cost of the inventory. Phelan Company's inventory is considerably below its current cost. Identify the inventory cost flow method being used by each company. Which company has probably been reporting the higher gross profit?

*23. Why might the use of the LIFO method for costing inventories result in lower income taxes?

Brief Exercises

Identify items to be included in taking a physical inventory.

BE6.1 (LO 1) Lazio Antiques identifies the following items for possible inclusion in the taking of a physical inventory. Indicate whether each item should be included or excluded from the inventory taking.

a. Goods shipped on consignment by Lazio to another company.

b. Goods in transit from a supplier shipped FOB destination.

c. Goods sold but being held for customer pickup.

d. Goods held on consignment from another company.

Determine ending inventory amount.

BE6.2 (LO 1) Stallman Furniture took a physical inventory on December 31 and determined that goods costing €200,000 were on hand. Not included in the physical count were €25,000 of goods purchased from Pelzer Corporation, FOB shipping point, and €22,000 of goods sold to Alvarez Company for €30,000, FOB destination. Both the Pelzer purchase and the Alvarez sale were in transit at year-end. What amount should Stallman report as its December 31 inventory?

Compute ending inventory using FIFO and average-cost.

BE6.3 (LO 2) In its first month of operations, Tatung Electronics made three purchases of merchandise in the following sequence: (1) 300 units at NT$180, (2) 400 units at NT$210, and (3) 200 units at NT$240. Assuming there are 420 units on hand, compute the cost of the ending inventory under the (a) FIFO method and (b) average-cost method. Tatung uses a periodic inventory system. (Round average unit cost to two decimal places.)

Explain the financial statement effect of inventory cost flow assumptions.

BE6.4 (LO 2) The management of Muni Group is considering the effects of inventory-costing methods on its financial statements and its income tax expense. Assuming that the price the company pays for inventory is increasing, which method will:

a. Provide the higher net income?

b. Provide the higher ending inventory?

c. Result in the lower income tax expense?

d. Result in the more stable earnings over a number of years?

Determine correct income statement amounts.

BE6.5 (LO 3) Zammit Watches reports net income of €90,000 in 2025. However, ending inventory was understated €5,000. What is the correct net income for 2025? What effect, if any, will this error have on total assets as reported in the statement of financial position at December 31, 2025?

Determine the LCNRV valuation using inventory categories.

BE6.6 (LO 4) Blackburn Appliance Center accumulates the following cost and net realizable value data at December 31.

Inventory Categories	Cost Data	Net Realizable Value Data
Cameras	£12,000	£12,100
Camcorders	9,420	9,200
Blu-ray players	14,000	12,800

Compute the lower of cost or net realizable value valuation for the company's total inventory.

Compute inventory turnover and days in inventory.

BE6.7 (LO 4) At December 31, 2025, the following information was available for Tai Lin Goods: ending inventory HK$400,000, beginning inventory HK$580,000, cost of goods sold HK$2,842,000, and sales revenue HK$3,800,000. Calculate inventory turnover and days in inventory for Tai Lin.

Apply cost flow methods to perpetual inventory records.

***BE6.8 (LO 5)** Abbott's Department Store uses a perpetual inventory system. Data for product E2-D2 include the following purchases.

Date	Number of Units	Unit Price
May 7	50	£11
July 28	30	13

On June 1, Abbott's sold 30 units, and on August 27, 35 more units. Prepare the perpetual inventory schedule for the above transactions using (a) FIFO and (b) moving-average cost.

Apply the gross profit method.

***BE6.9 (LO 6)** At May 31, Chang Dancewear has net sales of ¥330,000 and cost of goods available for sale of ¥230,000. Compute the estimated cost of the ending inventory, assuming the gross profit rate is 45%.

Apply the retail inventory method.

***BE6.10 (LO 6)** On June 30, Lyon Fabrics has the following data pertaining to the retail inventory method: goods available for sale: at cost €35,000 and at retail €50,000, net sales €42,000, and ending inventory at retail €8,000. Compute the estimated cost of the ending inventory using the retail inventory method.

Compute the ending inventory using LIFO (periodic).

***BE6.11 (LO 7)** Data for Tatung Electronics are presented in BE6.3. Compute the cost of the ending inventory under the LIFO method, assuming there are 420 units on hand.

DO IT! Exercises

Apply rules of ownership to determine inventory cost.

DO IT! 6.1 (LO 1) Recife Apparel just took its physical inventory. The count of inventory items on hand at the company's business locations resulted in a total inventory cost of R$300,000. In reviewing the details of the count and related inventory transactions, you discover the following.

1. Recife sent inventory costing R$18,000 on consignment to Rio Company. All of this inventory is at Rio's showrooms on December 31.
2. The company did not include in the inventory count the goods (cost, R$20,000) that were purchased on December 28, terms FOB shipping point. The goods are in transit on December 31.
3. The company did not include in the inventory count the goods (cost, R$17,000) that were sold with terms of FOB shipping point. The goods are in transit on December 31.

Compute the correct December 31 inventory.

Compute cost of goods sold under different cost flow methods.

DO IT! 6.2 (LO 2) The accounting records of Connor Electronics show the following data.

Beginning inventory	3,000 units at £5
Purchases	8,000 units at £7
Sales	9,400 units at £10

Determine cost of goods sold during the period under a periodic inventory system using (a) the FIFO method and (b) the average-cost method. (Round unit cost to nearest tenth of a cent.)

Determine effect of inventory error.

DO IT! 6.3 (LO 3) Vanida Company understated its 2024 ending inventory by $27,000. Determine the impact this error has on ending inventory, cost of goods sold, and equity in 2024 and 2025.

Compute inventory value under LCNRV.

DO IT! 6.4a (LO 4) Guo Hardware sells three different categories of tools (small, medium, and large). The cost and net realizable value of its inventory of tools are as follows.

	Cost	Net Realizable Value
Small	HK$ 640,000	HK$ 730,000
Medium	2,900,000	2,600,000
Large	1,520,000	1,485,000

Determine the value of the company's inventory under the lower of cost or net realizable value approach.

Compute inventory turnover and assess inventory level.

DO IT! 6.4b (LO 4) Early in 2025, Lausanne Clocks switched to a just-in-time inventory system. Its sales, cost of goods sold, and inventory amounts for 2024 and 2025 are shown below.

	2024	2025
Sales	CHF3,120,000	CHF3,713,000
Cost of goods sold	1,200,000	1,425,000
Beginning inventory	180,000	220,000
Ending inventory	220,000	100,000

Determine the inventory turnover and days in inventory for 2024 and 2025. Discuss the changes in the amount of inventory, the inventory turnover and days in inventory, and the amount of sales across the two years.

Exercises

Determine the correct inventory amount.

E6.1 (LO 1) Premier Bank and Trust is considering giving Alou Company a loan. Before doing so, management decides that further discussions with Alou's accountant may be desirable. One area of particular concern is the inventory account, which has a year-end balance of £297,000. Discussions with the accountant reveal the following.

1. Alou sold goods costing £38,000 to Comerico Company, FOB shipping point, on December 28. The goods are not expected to arrive at Comerico until January 12. The goods were not included in the physical inventory because they were not in the warehouse.

2. The physical count of the inventory did not include goods costing £91,000 that were shipped to Alou FOB destination on December 27 and were still in transit at year-end.
3. Alou received goods costing £25,000 on January 2. The goods were shipped FOB shipping point on December 26 by Grant Co. The goods were not included in the physical count.
4. Alou sold goods costing £35,000 to Emerick Co., FOB destination, on December 30. The goods were received at Emerick on January 8. They were not included in Alou's physical inventory.
5. Alou received goods costing £44,000 on January 2 that were shipped FOB shipping point on December 29. The shipment was a rush order that was supposed to arrive December 31. This purchase was included in the ending inventory of £297,000.

Instructions

Determine the correct inventory amount on December 31.

Determine the correct inventory amount.

E6.2 (LO 1) Kale Wilson, an auditor with Sneed Chartered Accountants, is performing a review of Platinum Stereos' inventory account. Platinum did not have a good year, and top management is under pressure to boost reported income. According to its records, the inventory balance at year-end was £740,000. However, the following information was not considered when determining that amount.

1. Included in the company's count were goods with a cost of £250,000 that the company is holding on consignment. The goods belong to Superior Ltd.
2. The physical count did not include goods purchased by Platinum with a cost of £40,000 that were shipped FOB destination on December 28 and did not arrive at Platinum's warehouse until January 3.
3. Included in the inventory account was £17,000 of office supplies that were stored in the warehouse and were to be used by the company's supervisors and managers during the coming year.
4. The company received an order on December 29 that was boxed and sitting on the loading dock awaiting pick-up on December 31. The shipper picked up the goods on January 1 and delivered them on January 6. The shipping terms were FOB shipping point. The goods had a selling price of £49,000 and a cost of £33,000. The goods were not included in the count because they were sitting on the dock.
5. Included in the count was £48,000 of goods that were parts for a machine that the company no longer made. Given the high-tech nature of Platinum's products, it was unlikely that these obsolete parts had any other use. However, management would prefer to keep them on the books at cost, "since that is what we paid for them, after all."

Instructions

Prepare a schedule to determine the correct inventory amount. Provide explanations for each item above, saying why you did or did not make an adjustment for each item.

Calculate cost of goods sold using specific identification and FIFO.

E6.3 (LO 2) On December 1, Discount Electronics has three DVD players left in stock. All are identical, all are priced to sell at NT$4,500. One of the three DVD players left in stock, with serial #1012, was purchased on June 1 at a cost of NT$3,000. Another, with serial #1045, was purchased on November 1 for NT$2,760. The last player, serial #1056, was purchased on November 30 for NT$2,520.

Instructions

a. Calculate the cost of goods sold using the FIFO periodic inventory method assuming that two of the three players were sold by the end of December, Discount Electronics' year-end.

b. If Discount Electronics used the specific identification method instead of the FIFO method, how might it alter its earnings by "selectively choosing" which particular players to sell to the two customers? What would Discount's cost of goods sold be if the company wished to minimize earnings? Maximize earnings?

c. Which of the two inventory methods do you recommend that Discount use? Explain why.

Compute inventory and cost of goods sold using FIFO and average-cost.

E6.4 (LO 2) Zhu Boards sells a snowboard, Xpert, that is popular with snowboard enthusiasts. The following information relates to Zhu's purchases of Xpert snowboards during September. During the same month, 121 Xpert snowboards were sold. Zhu's uses a periodic inventory system.

Date	Explanation	Units	Unit Cost	Total Cost
Sept. 1	Inventory	23	HK$ 970	HK$ 22,310
Sept. 12	Purchases	45	1,020	45,900
Sept. 19	Purchases	20	1,040	20,800
Sept. 26	Purchases	44	1,050	46,200
	Totals	132		HK$135,210

Instructions

a. Compute the ending inventory at September 30 and cost of goods sold using the FIFO and average-cost methods. Prove the amount allocated to cost of goods sold under each method. (Round all unit cost calculations for the average-cost method to the nearest cent and total cost to the nearest dollar.)

b. For both FIFO and average-cost, calculate the sum of ending inventory and cost of goods sold. What do you notice about the answers you found for each method?

Compute inventory and cost of goods sold using FIFO and average-cost.

E6.5 (LO 2) Zambian Co. uses a periodic inventory system. Its records show the following for the month of May, in which 68 units were sold.

			Units	Unit Cost	Total Cost
May	1	Inventory	30	€ 9	€270
	15	Purchases	22	11	242
	24	Purchases	38	12	456
		Totals	90		€968

Instructions

Compute the ending inventory at May 31 and cost of goods sold using the FIFO and average-cost methods. Prove the amount allocated to cost of goods sold under each method. (Round all unit cost calculations for the average-cost method to the nearest cent and total cost to the nearest euro.)

Compute inventory and cost of goods sold using FIFO and average-cost.

E6.6 (LO 2) Howsham Interiors reports the following for the month of June.

			Units	Unit Cost	Total Cost
June	1	Inventory	200	£5	£1,000
	12	Purchase	300	6	1,800
	23	Purchase	500	7	3,500
	30	Inventory	160		

Instructions

a. Compute the cost of the ending inventory and the cost of goods sold under (1) FIFO and (2) average-cost.

b. Which costing method gives the higher ending inventory? Why?

c. Which method results in the higher cost of goods sold? Why?

Compute inventory under FIFO and average-cost.

E6.7 (LO 2) Thaam Appliances had 100 units in beginning inventory at a total cost of NT$300,000. The company purchased 200 units at a total cost of NT$680,000. At the end of the year, Thaam had 75 units in ending inventory.

Instructions

a. Compute the cost of the ending inventory and the cost of goods sold under (1) FIFO and (2) average-cost.

b. Which cost flow method would result in the higher net income?

c. Which cost flow method would result in inventories approximating current cost in the statement of financial position?

d. Which cost flow method would result in Thaam paying less taxes in the first year?

Determine ending inventory under LCNRV.

E6.8 (LO 4) Kinshasa Camera Shop uses the lower of cost or net realizable value basis for its inventory. The following data are available at December 31.

Item	Units	Unit Cost	Net Realizable Value
Cameras:			
Minolta	8	₩170,000	₩156,000
Canon	6	150,000	152,000
Light meters:			
Vivitar	12	125,000	115,000
Kodak	14	115,000	135,000

Instructions

Determine the amount of the ending inventory by applying the lower of cost or net realizable value basis.

Compute lower of cost or net realizable value.

E6.9 (LO 4) Banovic Footwear applied FIFO to its inventory and got the following results for its ending inventory.

Tennis shoes	100 units at a cost per unit of €68
Running shoes	150 units at a cost per unit of €75
Basketball shoes	125 units at a cost per unit of €80

The net realizable value per unit at year-end was tennis shoes €70, running shoes €71, and basketball shoes €74.

Instructions

Determine the amount of ending inventory at lower of cost or net realizable value.

Determine effects of inventory errors.

E6.10 (LO 3) Bamburgh Hardware reported cost of goods sold as follows.

	2024	2025
Beginning inventory	€ 20,000	€ 30,000
Cost of goods purchased	150,000	175,000
Cost of goods available for sale	170,000	205,000
Ending inventory	30,000	35,000
Cost of goods sold	€140,000	€170,000

Bamburgh made two errors: (1) 2024 ending inventory was overstated €2,000, and (2) 2025 ending inventory was understated €6,000.

Instructions

Compute the correct cost of goods sold for each year.

Prepare correct income statements.

E6.11 (LO 3) **Writing** Wu Jewelry reported the following income statement data for a 2-year period.

	2024	2025
Sales revenue	HK$2,100,000	HK$2,500,000
Cost of goods sold		
Beginning inventory	320,000	440,000
Cost of goods purchased	1,730,000	2,040,000
Cost of goods available for sale	2,050,000	2,480,000
Ending inventory	440,000	520,000
Cost of goods sold	1,610,000	1,960,000
Gross profit	HK$ 490,000	HK$ 540,000

Wu uses a periodic inventory system. The inventories at January 1, 2024, and December 31, 2025, are correct. However, the ending inventory at December 31, 2024, was understated HK$60,000.

Instructions

a. Prepare correct income statement data for the 2 years.

b. What is the cumulative effect of the inventory error on total gross profit for the 2 years?

c. Explain in an email to the president of Wu what has happened, i.e., the nature of the error and its effect on the financial statements.

Compute inventory turnover, days in inventory, and gross profit rate.

E6.12 (LO 4) **Writing** This information is available for Sepia Photos for 2023, 2024, and 2025.

	2023	2024	2025
Beginning inventory	£ 100,000	£ 330,000	£ 400,000
Ending inventory	330,000	400,000	480,000
Cost of goods sold	900,000	1,120,000	1,300,000
Sales revenue	1,200,000	1,600,000	1,900,000

Instructions

Calculate inventory turnover, days in inventory, and gross profit rate for Sepia Photos for 2023, 2024, and 2025. Comment on any trends. (Round inventory turnover to two decimal places and days in inventory to the nearest whole day.)

Compute inventory turnover and days in inventory.

E6.13 (LO 4) The cost of goods sold computations for Gouda Company and Edam Company are shown below.

	Gouda company	Edam company
Beginning inventory	€ 47,000	€ 71,000
Cost of goods purchased	200,000	290,000
Cost of goods available for sale	247,000	361,000
Ending inventory	58,000	69,000
Cost of goods sold	€189,000	€292,000

Instructions

a. Compute inventory turnover and days in inventory for each company. (Round inventory turnover to two decimal places and days in inventory to the nearest whole day.)

b. Which company moves its inventory more quickly?

Apply cost flow methods to perpetual records.

***E6.14 (LO 5)** Roselle TVs uses a perpetual inventory system. For its flat-screen television sets, the January 1 inventory was 3 sets at €600 each. On January 10, Roselle purchased 6 units at €648 each. The company sold 2 units on January 8 and 4 units on January 15.

Instructions

Compute the ending inventory under (1) FIFO and (2) moving-average cost. (Round the unit cost to the nearest cent.)

Calculate inventory and cost of goods sold using two cost flow methods in a perpetual inventory system.

***E6.15 (LO 5)** Howsham Ltd. reports the following for the month of June.

Date	Explanation	Units	Unit Cost	Total Cost
June 1	Inventory	200	£5	£1,000
12	Purchase	300	6	1,800
23	Purchase	500	7	3,500
30	Inventory	160		

Instructions

a. Calculate the cost of the ending inventory and the cost of goods sold for (1) FIFO and (2) moving-average cost, using a perpetual inventory system. Assume a sale of 400 units occurred on June 15 for a selling price of £8 and a sale of 440 units on June 27 for £9.

b. How do the results differ from E6.6?

c. Why is the average unit cost not £6 [(£5 + £6 + £7) ÷ 3 = £6]?

Apply cost flow methods to perpetual records.

***E6.16 (LO 5)** Information about Zhu Boards is presented in E6.4. Additional data regarding Zhu's sales of Xpert snowboards are provided below. Assume that Zhu uses a perpetual inventory system.

Date	Explanation	Units	Unit Price	Total Revenue
Sept. 5	Sale	12	HK$1,990	HK$ 23,880
Sept. 16	Sale	50	2,030	101,500
Sept. 29	Sale	59	2,090	123,310
	Totals	121		HK$248,690

Instructions

a. Compute ending inventory at September 30 using FIFO and moving-average cost.

b. Compare ending inventory using a perpetual inventory system to ending inventory using a periodic inventory system (from E6.4).

c. Which inventory cost flow method (FIFO, moving-average cost) gives the same ending inventory value under both periodic and perpetual? Which method gives different ending inventory values?

Use the gross profit method to estimate inventory.

***E6.17 (LO 6)** Punjab Artisans reported the following information for November and December 2025.

	November	December
Cost of goods purchased	Rs5,000,000	Rs 6,000,000
Inventory, beginning-of-month	1,000,000	1,200,000
Inventory, end-of-month	1,200,000	?
Sales revenue	7,500,000	10,000,000

Punjab's ending inventory at December 31 was destroyed in a fire.

Instructions

a. Compute the gross profit rate for November.

b. Using the gross profit rate for November, determine the estimated cost of inventory lost in the fire.

Determine merchandise lost using the gross profit method of estimating inventory.

***E6.18 (LO 6)** The inventory of Ipswich Books was destroyed by fire on March 1. From an examination of the accounting records, the following data for the first 2 months of the year are obtained: Sales Revenue £51,000, Sales Returns and Allowances £1,000, Purchases £31,200, Freight-In £1,200, and Purchase Returns and Allowances £1,800.

Instructions

Determine the merchandise lost by fire, assuming:

a. A beginning inventory of £20,000 and a gross profit rate of 40% on net sales.

b. A beginning inventory of £30,000 and a gross profit rate of 32% on net sales.

Determine ending inventory at cost using retail method.

***E6.19 (LO 6)** Zapatos Stores uses the retail inventory method for its two departments, Women's Shoes and Men's Shoes. The following information for each department is obtained.

Item	Women's Shoes	Men's Shoes
Beginning inventory at cost	€ 36,500	€ 45,000
Cost of goods purchased at cost	150,000	136,300
Net sales	178,000	185,000
Beginning inventory at retail	46,000	60,000
Cost of goods purchased at retail	187,000	185,000

Instructions

Compute the estimated cost of the ending inventory for each department under the retail inventory method.

Apply the LIFO cost method (periodic).

***E6.20 (LO 7)** Using the data in E6.6, compute the cost of the ending inventory and the cost of goods sold using LIFO periodic.

Apply the LIFO cost method (periodic).

***E6.21 (LO 7)** (a) Using the data in E6.7, compute the cost of the ending inventory and cost of goods sold using LIFO periodic. In addition, answer instructions (b), (c), and (d) from E6.7 as it relates to the three cost flow methods.

Problems

Determine items and amounts to be recorded in inventory.

P6.1 (LO 1) Anatolia Designs is trying to determine the value of its ending inventory at February 28, 2025, the company's year-end. The accountant counted everything that was in the warehouse as of February 28, which resulted in an ending inventory valuation of 48,000. However, she didn't know how to treat the following transactions so she didn't record them.

a. On February 26, Anatolia shipped to a customer goods costing 800. The goods were shipped FOB shipping point, and the receiving report indicates that the customer received the goods on March 2.

b. On February 26, Shira Inc. shipped goods to Anatolia FOB destination. The invoice price was 350. The receiving report indicates that the goods were received by Anatolia on March 2.

c. Anatolia had 620 of inventory at a customer's warehouse "on approval." The customer was going to let Anatolia know whether it wanted the merchandise by the end of the week, March 4.

d. Anatolia also had 400 of inventory on consignment at a Palletine craft shop.

e. On February 26, Anatolia ordered goods costing 780. The goods were shipped FOB shipping point on February 27. Anatolia received the goods on March 1.

f. On February 28, Anatolia packaged goods and had them ready for shipping to a customer FOB destination. The invoice price was 350; the cost of the items was 220. The receiving report indicates that the goods were received by the customer on March 2.

g. Anatolia had damaged goods set aside in the warehouse because they are no longer saleable. These goods cost 400 and Anatolia originally expected to sell these items for 600.

Instructions

For each of the preceding transactions, specify whether the item in question should be included in ending inventory and, if so, at what amount. For each item that is not included in ending inventory, indicate who owns it and what account, if any, it should have been recorded in.

Determine cost of goods sold and ending inventory using FIFO and average-cost with analysis.

P6.2 (LO 2) Dyna Distribution markets CDs of the performing artist King James. At the beginning of March, Dyna had in beginning inventory 1,500 King James CDs with a unit cost of €7. During March, Dyna made the following purchases of King James CDs.

March 5	3,500 @ €8	March 21	2,000 @ €10
March 13	4,000 @ €9	March 26	2,000 @ €11

During March, 10,000 units were sold. Dyna uses a periodic inventory system.

Instructions

a. Determine the cost of goods available for sale.

b. Determine (1) the ending inventory and (2) the cost of goods sold under the two assumed cost flow methods (FIFO and average-cost). Prove the accuracy of the cost of goods sold under the FIFO and average-cost methods. (Round the unit cost calculation to four decimal places.)

b. (2) Cost of goods sold:

FIFO	€84,500
Average	€89,615

c. Which cost flow method results in (1) the higher inventory amount for the statement of financial position and (2) the higher cost of goods sold for the income statement?

Determine cost of goods sold and ending inventory using FIFO and average-cost with analysis.

P6.3 (LO 2) Marlow Bed and Bath had a beginning inventory of 400 units of Product Kimbo at a cost of £8 per unit. During the year, purchases were:

Feb. 20	200 units at £9	Aug. 12	600 units at £11
May 5	500 units at £10	Dec. 8	300 units at £12

Marlow uses a periodic inventory system. Sales totaled 1,500 units.

Instructions

a. Determine the cost of goods available for sale.

b. Determine (1) the ending inventory and (2) the cost of goods sold under the two assumed cost flow methods (FIFO and average-cost). Prove the accuracy of the cost of goods sold under the FIFO and average-cost methods. (Round the unit cost calculation for average-cost to two decimal places.)

b. Cost of goods sold:

FIFO	£14,400
Average	£15,150

c. Which cost flow method results in (1) the lower ending inventory amount for the statement of financial position, and (2) the lower cost of goods sold for the income statement?

Compute ending inventory, prepare income statements, and answer questions using FIFO and average-cost.

P6.4 (LO 2) Writing The management of Gisel Group is reevaluating the appropriateness of using its present inventory cost flow method. They request your help in determining the results of operations for 2025 if either the FIFO method or the average-cost method had been used. For 2025, the accounting records show the following data.

Inventories		Purchases and Sales	
Beginning (10,000 units)	€22,800	Total net sales (225,000 units)	€865,000
Ending (15,000 units)		Total cost of goods purchased (230,000 units)	578,500

Purchases were made quarterly as follows.

Quarter	Units	Unit Cost	Total Cost
1	60,000	€2.30	€138,000
2	50,000	2.50	125,000
3	50,000	2.60	130,000
4	70,000	2.65	185,500
	230,000		€578,500

Operating expenses were €147,000, and the company's income tax rate is 32%.

Instructions

a. Prepare comparative condensed income statements for 2025 under FIFO and average-cost. Show computations of ending inventory. (Round the unit cost calculations to three decimal places.)

a. Net income:

FIFO €106,386

Average €104,907

b. Answer the following questions for management.

1. Which cost flow method (FIFO or average-cost) produces the more meaningful inventory amount for the statement of financial position? Why?
2. Which cost flow method (FIFO or average-cost) is more likely to approximate actual physical flow of the goods? Why?
3. How much additional cash will be available for management under average-cost than under FIFO? Why?

b. 3. €696

Calculate ending inventory, cost of goods sold, gross profit, and gross profit rate under periodic method; compare results.

P6.5 (LO 2) You are provided with the following information for Senta Ltd. for the month ended October 31, 2025. Senta uses a periodic method for inventory.

Date	Description	Units	Unit Cost or Selling Price
October 1	Beginning inventory	60	€24
October 9	Purchase	120	26
October 11	Sale	100	35
October 17	Purchase	70	27
October 22	Sale	65	40
October 25	Purchase	80	28
October 29	Sale	120	40

Instructions

a. Calculate (i) ending inventory, (ii) cost of goods sold, (iii) gross profit, and (iv) gross profit rate under each of the following methods.

1. FIFO.
2. Average-cost. (Round the unit cost calculations to three decimal places.)

a. (iii) Gross profit:

FIFO	€3,470
Average	€3,395

b. Compare results for the two cost flow assumptions.

Compare specific identification, FIFO and average-cost under periodic method; use cost flow assumption to influence earnings.

P6.6 (LO 2) You have the following information for Greco Diamonds. Greco Diamonds uses the periodic method of accounting for its inventory transactions. Greco only carries one brand and size of diamonds—all are identical. Each batch of diamonds purchased is carefully coded and marked with its purchase cost.

March 1	Beginning inventory 150 diamonds at a cost of €310 per diamond.
March 3	Purchased 200 diamonds at a cost of €350 each.
March 5	Sold 180 diamonds for €600 each.
March 10	Purchased 350 diamonds at a cost of €380 each.
March 25	Sold 400 diamonds for €650 each.

Instructions

a. Assume that Greco Diamonds uses the specific identification method.

1. Demonstrate how Greco Diamonds could maximize its gross profit for the month by specifically selecting which diamonds to sell on March 5 and March 25.
2. Demonstrate how Greco Diamonds could minimize its gross profit for the month by selecting which diamonds to sell on March 5 and March 25.

a. Gross profit:

1. Maximum €164,100
2. Minimum €155,700

b. Assume that Greco Diamonds uses the FIFO cost flow assumption. Calculate cost of goods sold. How much gross profit would Greco Diamonds report under this cost flow assumption?

c. Assume that Greco Diamonds uses the average-cost cost flow assumption. Calculate cost of goods sold. How much gross profit would the company report under this cost flow assumption? (Round the unit cost calculations to three decimal places.)

d. Which method should Greco Diamonds select? Explain.

Compute ending inventory, prepare income statements, and answer questions using FIFO and average-cost.

P6.7 (LO 2) Writing The management of Tudor Living asks your help in determining the comparative effects of the FIFO and average-cost inventory cost flow methods. For 2025, the accounting records provide the data shown below.

Inventory, January 1 (10,000 units)	£ 35,000
Cost of 120,000 units purchased	501,000
Selling price of 105,000 units sold	695,000
Operating expenses	130,000

Units purchased consisted of 40,000 units at £4.00 on May 10; 60,000 units at £4.20 on August 15; and 20,000 units at £4.45 on November 20. Income taxes are 28%.

Instructions

a. Prepare comparative condensed income statements for 2025 under FIFO and average-cost. (Show computations of ending inventory.)

a. Gross profit:

FIFO £269,000

Average £262,075

b. Answer the following questions for management in the form of a business email.

1. Which inventory cost flow method produces the more meaningful inventory amount for the statement of financial position? Why?
2. Which inventory cost flow method is more likely to approximate the actual physical flow of the goods? Why?
3. How much more cash will be available for management under average-cost than under FIFO? Why?

Calculate cost of goods sold and ending inventory for FIFO and moving-average cost under the perpetual system; compare gross profit under each assumption.

***P6.8 (LO 5)** Tempo Ltd. is a retailer operating in Dartmouth, Nova Scotia. Tempo uses the perpetual inventory method. All sales returns from customers result in the goods being returned to inventory; the inventory is not damaged. Assume that there are no credit transactions; all amounts are settled in cash. You are provided with the following information for Tempo Ltd. for the month of January 2025.

Date	Description	Quantity	Unit Cost or Selling Price
December 31	Ending inventory	150	£19
January 2	Purchase	100	21
January 6	Sale	150	40
January 9	Sale return	10	40
January 9	Purchase	75	24
January 10	Purchase return	15	24
January 10	Sale	50	45
January 23	Purchase	100	26
January 30	Sale	160	50

Instructions

a. For each of the following cost flow assumptions, calculate (i) cost of goods sold, (ii) ending inventory, and (iii) gross profit.

1. FIFO.
2. Moving-average cost. (Round the unit cost calculations to three decimal places.)

a. (iii) Gross profit:

FIFO £8,420

Average £8,266

b. Compare results for the two cost flow assumptions.

Determine ending inventory under a perpetual inventory system.

***P6.9 (LO 5)** Dominican Appliance Mart began operations on May 1. It uses a perpetual inventory system. During May, the company had the following purchases and sales for its Model 25 Sureshot camera.

Date	Purchases		Sales Units
	Units	Unit Cost	
May 1	7	NT$4,600	
4			4
8	8	NT$5,100	
12			5
15	6	NT$5,520	
20			3
25			5

Instructions

a. Determine the ending inventory under a perpetual inventory system using (1) FIFO and (2) moving-average cost. (Round the unit cost calculations to two decimal places.)

a. FIFO NT$22,080

Average NT$20,968

b. Which costing method produces (1) the higher ending inventory valuation and (2) the lower ending inventory valuation?

Estimate inventory loss using gross profit method.

***P6.10 (LO 6)** Lisbon Pottery lost 70% of its inventory in a fire on March 25, 2025. The accounting records showed the following gross profit data for February and March.

	February	March (to 3/25)
Net sales	€300,000	€260,000
Net purchases	197,800	191,000
Freight-in	2,900	4,000
Beginning inventory	4,500	25,200
Ending inventory	25,200	?

Lisbon is fully insured for fire losses but must prepare a report for the insurance company.

Instructions

a. Compute the gross profit rate for the month of February.

a. Gross profit rate 40%

b. Using the gross profit rate for February, determine both the estimated total inventory and inventory lost in the fire in March.

Compute ending inventory using retail method.

***P6.11 (LO 6)** Terzi Department Store uses the retail inventory method to estimate its monthly ending inventories. The following information is available for two of its departments at August 31, 2025.

	Sporting Goods		Jewelry and Cosmetics	
	Cost	Retail	Cost	Retail
Net sales		€1,010,000		€1,150,000
Purchases	€675,000	1,066,000	€639,000	1,158,000
Purchase returns	(26,000)	(40,000)	(10,000)	(20,000)
Purchase discounts	(12,360)	—	(8,860)	—
Freight-in	9,000	—	7,000	—
Beginning inventory	47,360	74,000	32,860	62,000

At December 31, Terzi Department Store takes a physical inventory at retail. The actual retail values of the inventories in each department are Sporting Goods €85,000, and Jewelry and Cosmetics €52,000.

Instructions

a. Determine the estimated cost of the ending inventory for each department on August 31, 2025, using the retail inventory method.

a. Sporting Goods €56,700

b. Using the actual retail values given, compute the ending inventory at cost for each department at December 31, assuming the cost-to-retail ratios are 60% for Sporting Goods and 54% for Jewelry and Cosmetics.

Apply the LIFO cost method (periodic).

***P6.12 (LO 7)** Using the data in P6.5, compute the cost of the ending inventory using the LIFO cost flow assumption. Assume that Senta Ltd. uses the periodic inventory system.

Comprehensive Accounting Cycle Review

ACR6 On December 1, 2025, Cambridge Printers had the account balances shown below.

	Debit		Credit
Cash	£ 4,650	Accumulated Depreciation—Equipment	£ 1,500
Accounts Receivable	3,900	Accounts Payable	3,000
Inventory	1,950*	Share Capital—Ordinary	20,000
Equipment	21,000	Retained Earnings	7,000
	£31,500		£31,500

*(3,000 × £0.65)

The following transactions occurred during December.

Dec.	3	Purchased 4,000 units of inventory on account at a cost of £0.72 per unit.
	5	Sold 4,400 units of inventory on account for £0.92 per unit. (It sold 3,000 of the £0.65 units and 1,400 of the £0.72 units.)
	7	Granted the December 5 customer £184 credit for 200 units of inventory returned costing £144. These units were returned to inventory.
	17	Purchased 2,200 units of inventory for cash at £0.78 each.
	22	Sold 2,000 units of inventory on account for £0.95 per unit. (It sold 2,000 of the £0.72 units.)

Adjustment data:

1. Accrued salaries payable £400.

2. Depreciation £200 per month.

Instructions

a. Journalize the December transactions and adjusting entries, assuming Cambridge uses the perpetual inventory method.

b. Enter the December 1 balances in the ledger T-accounts and post the December transactions. In addition to the accounts mentioned above, use the following additional accounts: Cost of Goods Sold, Depreciation Expense, Salaries and Wages Expense, Salaries and Wages Payable, Sales Revenue, and Sales Returns and Allowances.

c. Prepare an adjusted trial balance as of December 31, 2025.

d. Prepare an income statement for December 2025 and a classified statement of financial position at December 31, 2025.

e. Compute ending inventory and cost of goods sold under FIFO, assuming Cambridge uses the periodic inventory system.

f. Compute ending inventory and cost of goods sold under average-cost, assuming Cambridge uses the periodic inventory system.

Data Analytics in Action

Using Data Visualization to Analyze Changes over Time



DA6.1 Data visualization can be used to analyze company changes over time.

Example: Recall the Feature Story "Where Is That Spare Bulldozer Blade?" presented in the chapter. One competitor to **Komatsu Ltd.** (JPN) is **Caterpillar** (USA), which continues to enhance its inventory management by improving its product sustainability in two ways. First, it is rebuilding used parts to like-new condition. Second, the company is remanufacturing usable inventory parts when customers trade-in or dispose of their used equipment. These actions not only reduce inventory costs but also enable Caterpillar to participate in the circular economy, where manufacturers take responsibility for their products at the end of the product lives. As noted in its 2019 sustainability report, Caterpillar has a goal of 20% growth in both rebuilding and remanufacturing.

Has Caterpillar reached this goal? A line chart can help you visualize the company's progress over time. What information can you obtain by examining the following chart?

The chart indicates that while Caterpillar's goal has remained at 20%, the remanufacturing and rebuilding businesses are growing. The biggest increase in the growth of rebuilding occurred from 2016 to 2017. There was a decline from 2018 to 2019 in these initiatives as Caterpillar may have reached a peak that is leveling off due to new production that is more sustainable.

For this case, you will look more closely at specific Caterpillar data regarding its end-of-life returned materials and the percentage usable for recycling. You will create and analyze a combination column and line chart to determine how Caterpillar can increase its gross profit as it relates to these end-of-life materials.

Go to the Wiley online course for complete case details and instructions.

Using Data Analytics to Compare Companies' Inventory Turnover



DA6.2 Inventory turnover shows the number of times during the period a firm sells the entire financial value of its inventory. It is advantageous to turn over inventory more quickly to reduce the risk of obsolescence and spoilage. As such, companies often have a goal of increasing inventory turnover. For this case, you will use inventory turnover data for U.S. companies **Costco**, **Walmart**, **Target**, and **Amazon** to create and analyze scatter plots, as well as to calculate days' sales in inventory, to determine which company is managing its inventory levels most effectively.

Go to the Wiley online course for complete case details and instructions.

Expand Your Critical Thinking

Financial Reporting Problem: TSMC, Ltd. (TWN)

CT6.1 The notes that accompany a company's financial statements provide informative details that would clutter the amounts and descriptions presented in the statements. Refer to the financial statements of **TSMC** in Appendix A and the 2020 annual report's Notes to the Consolidated Financial Statements, available at the company's website.

Instructions

Answer the following questions. Complete the requirements in millions of new Taiwan dollars, as shown in TSMC's annual report.

a. What did TSMC report for the amount of inventories in its consolidated statement of financial position at December 31, 2020? At December 31, 2019?

b. Compute the new Taiwan dollar amount of change and the percentage change in inventories between 2019 and 2020. Compute inventory as a percentage of current assets at December 31, 2020.

c. How does TSMC value its inventories? Which inventory cost flow method does TSMC use? (See Notes to the Consolidated Financial Statements.)

d. What is the cost of sales (cost of goods sold) reported by TSMC for 2020 and 2019? Compute the percentage of cost of sales to net sales in 2020.

Comparative Analysis Problem: Nestlé SA (CHE) vs. Delfi Limited (SGP)

CT6.2 **Nestlé**'s financial statements are presented in Appendix B. Financial statements of **Delfi Limited** are presented in Appendix C.

Instructions

a. Based on the information contained in these financial statements, compute the following ratios for each company for the most recent year shown.

   1. Inventory turnover. (Round to one decimal.)

   2. Days in inventory. (Round to nearest day.)

b. What conclusions concerning the management of the inventory can you draw from these data?

Real-World Focus

CT6.3 A company's annual report usually will identify the inventory method used. Knowing that, you can analyze the effects of the inventory method on the income statement and statement of financial position.

Instructions

Answer the following questions based on the July 31, 2021, annual report of **Cisco** (USA), available online. Some questions will require you to consider information included in the notes to the financial statements.

a. At Cisco's fiscal year-end, what was the inventory on the balance sheet (statement of financial position)?

b. How has this changed from the previous fiscal year-end?

c. How much of the inventory was finished goods?

d. What inventory method does Cisco use?

CT6.4 All companies should take steps to prevent inventory theft. This exercise reviews ways that companies can reduce inventory-related frauds.

Instructions

Search online for the article entitled "6 Ways to Prevent Inventory Fraud in Your Business" by Darin Styles. Read the article and then answer the following questions.

a. What are the six steps outlined in the article?

b. What does the author describe as "segregation of duties"? What was the example given in the article?

c. What examples were given for "incorporating the element of surprise"?

d. Describe the method employing data analytics discussed in the article.

e. The article mentions "bill and hold arrangements." What legitimate reason might a customer have for requesting to purchase something using a bill-and-hold arrangement? What are the related fraud risks to the selling company?

Decision-Making Across the Organization

CT6.5 On April 10, 2025, fire damaged the office and warehouse of Ehlert Lighting. Most of the accounting records were destroyed, but the following account balances were determined as of March 31, 2025: Inventory (January 1, 2025), £80,000; Sales Revenue (January 1–March 31, 2025), £180,000; Purchases (January 1–March 31, 2025), £94,000.

The company's fiscal year ends on December 31. It uses a periodic inventory system.

From an analysis of the April bank statement, you discover cancelled checks of £4,200 for cash purchases during the period April 1–10. Deposits during the same period totaled £20,500. Of that amount, 60% were collections on accounts receivable, and the balance was cash sales.

Correspondence with the company's principal suppliers revealed £12,400 of purchases on account from April 1 to April 10. Of that amount, £1,900 was for merchandise in transit on April 10 that was shipped FOB destination.

Correspondence with the company's principal customers produced acknowledgments of credit sales totaling £37,000 from April 1 to April 10. It was estimated that £5,600 of credit sales will never be acknowledged or recovered from customers.

Ehlert Lighting reached an agreement with the insurance company that its fire-loss claim should be based on the average of the gross profit rates for the preceding 2 years. The financial statements for 2023 and 2024 showed the following data.

	2024	2023
Net sales	£600,000	£480,000
Cost of goods purchased	404,000	346,400
Beginning inventory	60,000	40,000
Ending inventory	80,000	60,000

Inventory with a cost of £17,000 was salvaged from the fire.

Instructions

With the class divided into groups, answer the following.

a. Determine the balances in (1) Sales Revenue and (2) Purchases at April 10.

*b. Determine the average gross profit rate for the years 2023 and 2024. (*Hint:* Find the gross profit rate for each year and divide the sum by 2.)

*c. Determine the inventory loss as a result of the fire, using the gross profit method.

Communication Activity

CT6.6 You are the controller of Classic Toys Ltd. Kathy McDonnell, the president, recently mentioned to you that she found an error in the 2024 financial statements, which she believes has corrected itself. She determined, in discussions with the Purchasing Department, that 2024 ending inventory was overstated by €1 million. Kathy says that the 2025 ending inventory is correct. Thus, she assumes that 2025 income is correct. Kathy says to you, "What happened has happened—there's no point in worrying about it anymore."

Instructions

You conclude that Kathy is incorrect. Write a brief, tactful email to Kathy, clarifying the situation.

A Look at U.S. GAAP

LEARNING OBJECTIVE 8

Compare the accounting for inventories under IFRS and U.S. GAAP.

The major GAAP requirements related to accounting and reporting for inventories are the same as IFRS. The major difference is that GAAP permits the use of the LIFO cost flow assumption.

Key Points

- The requirements for accounting for and reporting inventories are more principles-based under IFRS. That is, GAAP provides more detailed guidelines in inventory accounting.
- IFRS requires companies to use the same cost flow assumption for all goods of a similar nature. GAAP has no specific requirement in this area.

Similarities

- The definitions for inventory are essentially similar under GAAP and IFRS. Both define inventory as assets held-for-sale in the ordinary course of business, in the process of production for sale (work in process), or to be consumed in the production of goods or services (e.g., raw materials).
- Who owns the goods—goods in transit or consigned goods—as well as the costs to include in inventory, are accounted for the same under GAAP and IFRS.
- Except for LIFO under GAAP, both IFRS and GAAP use the lower of cost or net realizable value for inventory valuation. Under GAAP, LIFO uses the market value instead of the net realizable value.

Differences

- Both GAAP and IFRS permit specific identification where appropriate. IFRS actually requires that the specific identification method be used where the inventory items are not interchangeable (i.e., can be specifically identified). If the inventory items are not specifically identifiable, a cost flow assumption is used. GAAP does not specify situations in which specific identification must be used.
- A major difference between GAAP and IFRS relates to the LIFO cost flow assumption. GAAP permits the use of LIFO for inventory valuation. IFRS prohibits its use. FIFO and average-cost are the only two acceptable cost flow assumptions permitted under IFRS.
- IFRS generally requires pre-harvest inventories of agricultural products (e.g., growing crops and farm animals) to be reported at the current value less cost of disposal. GAAP generally

requires these items to be recorded at cost.

GAAP Practice

GAAP Self-Test Questions

1. Which of the following should **not** be included in the inventory of a company using GAAP?

a. Goods held on consignment from another company.

b. Goods shipped on consignment to another company.

c. Goods in transit from another company shipped FOB shipping point.

d. None of the answer choices is correct.

Answer

2. Which method of inventory costing is prohibited under IFRS?

a. Specific identification.

b. LIFO.

c. FIFO.

d. Average-cost.

Answer

GAAP Exercises

GAAP6.1 Briefly describe some of the similarities and differences between GAAP and IFRS with respect to the accounting for inventories.

GAAP6.2 LaTour Perfumes is based in France and prepares its financial statements in accordance with IFRS. In 2025, it reported cost of goods sold of €578 million and average inventory of €154 million. Briefly discuss how analysis of LaTour's inventory turnover (and comparisons to a company using GAAP) might be affected by differences in inventory accounting between IFRS and GAAP.

GAAP6.3 Franklin Company has the following four items in its ending inventory as of December 31, 2025. The company uses the lower of cost or market approach for its LIFO inventory valuation.

Item No.	Cost	Market
AB	$1,700	$1,400
TRX	2,200	2,300
NWA	7,800	7,100
SGH	3,000	3,700

Compute the lower of cost or market.

GAAP Financial Reporting Problem: Apple Inc. (USA)

GAAP6.4 The financial statements of **Apple** are presented in Appendix D. The complete annual report, including the notes to its financial statements, is available at the company's website.

Instructions

Answer the following questions. (Give the amounts in thousands of dollars, as shown in Apple's annual report.)

a. What did Apple report for the amount of inventories in its consolidated balance sheet at September 26, 2020? At September 28, 2019?

b. Compute the dollar amount of change and the percentage change in inventories between 2019 and 2020. Compute inventory as a percentage of current assets for 2020.

c. How does Apple value its inventory, and what cost flow assumption does it use?

d. What are the (product) cost of goods sold reported by Apple for 2020, 2019, and 2018? Compute the ratio of (product) cost of goods sold to net (product) sales in 2020.

Note

1 A cost flow method that is used extensively in the United States is the last-in, first-out (LIFO) method. Under IFRS, LIFO is not permitted for financial reporting purposes because the IASB states that LIFO does not provide a reliable representation of recent cost levels of inventory. Appendix 6C discusses the basics of the LIFO method.

CHAPTER 9
Plant Assets, Natural Resources, and Intangible Assets



David Trood/Getty Images

Chapter Preview

The accounting for non-current assets has important implications for a company's reported results. In this chapter, we explain the application of the historical cost basis of accounting to property, plant, and equipment, such as **Rent-A-Wreck** (USA) or **Europcar** (FRA) vehicles, as well as to natural resources and intangible assets, such as the "Europcar" trademark. We also describe the methods that companies may use to allocate an asset's cost over its useful life. In addition, we discuss the accounting for expenditures incurred during the useful life of assets, such as the cost of replacing tires and brake pads on rental cars.

Feature Story

How Much for a Ride to the Beach?

It's summer vacation. Your plane has landed, you've finally found your bags, and you're dying to hit the Tylösand beach in Halmstad, Sweden—but first you need a "vehicular unit" to get you there. As you turn away from baggage claim, you see a long row of rental agency booths. First, you see booths for **Hertz** (USA) and **Europcar** (FRA). Then, a booth at the far end catches your eye—**Rent-A-Wreck** (USA). Now there's a company making a clear statement!

Any company that relies on equipment to generate revenues must make decisions about what kind of equipment to buy, how long to keep it, and how vigorously to maintain it. Rent-A-Wreck has decided to rent used rather than new cars and trucks. While Europcar emphasizes that all its vehicles are new, Rent-A-Wreck competes on price.

Rent-A-Wreck's message is simple: Rent a used car and save some cash. It's not a message that appeals to everyone. If you're a marketing executive wanting to impress a big client, you might choose Europcar instead of Rent-A-Wreck. But if you want to get from point A to point B for the minimum cash per mile, then Rent-A-Wreck is playing your tune. The company's message seems to be getting across to the right clientele. Revenues have increased significantly.

When you rent a car from Rent-A-Wreck or from Europcar, you are renting from an independent businessperson. This owner has paid a "franchise fee" for the right to use the Rent-A-Wreck or Europcar name. In order to gain a franchise, he or she must meet financial and other criteria, and must agree to run the rental agency according to prescribed rules. Some of these rules require that each franchise maintain its cars in a reasonable fashion. This ensures that, though you won't be cruising up to the Hotel Tylösand in a Mercedes convertible, you can be reasonably assured that you won't be calling a towtruck.

Chapter Outline

LEARNING OBJECTIVES	REVIEW	PRACTICE
LO 1 Explain the accounting for plant asset expenditures.	• Determining the cost of plant assets • Expenditures during useful life	DO IT! 1 Cost of Plant Assets
LO 2 Apply depreciation methods to plant assets.	• Factors in computing depreciation • Depreciation methods • Component depreciation • Depreciation and income taxes • Revaluation of plant assets • Revising periodic depreciation	DO IT! 2a Straight-Line Depreciation 2b Revised Depreciation
LO 3 Explain how to account for the disposal of plant assets.	• Retirement of plant assets • Sale of plant assets	DO IT! 3 Plant Asset Disposal
LO 4 Describe how to account for natural resources and intangible assets.	• Natural resources and depletion • Intangible assets	DO IT! 4 Classification Concepts
LO 5 Discuss how plant assets, natural resources, and intangible assets are reported and analyzed.	• Presentation • Analysis	DO IT! 5 Asset Turnover

Go to the Review and Practice section at the end of the chapter for a review of key concepts and practice applications with solutions.
Additional tutorials and practice opportunities are available in the Wiley online course.

9.1 Plant Asset Expenditures

LEARNING OBJECTIVE 1

Explain the accounting for plant asset expenditures.

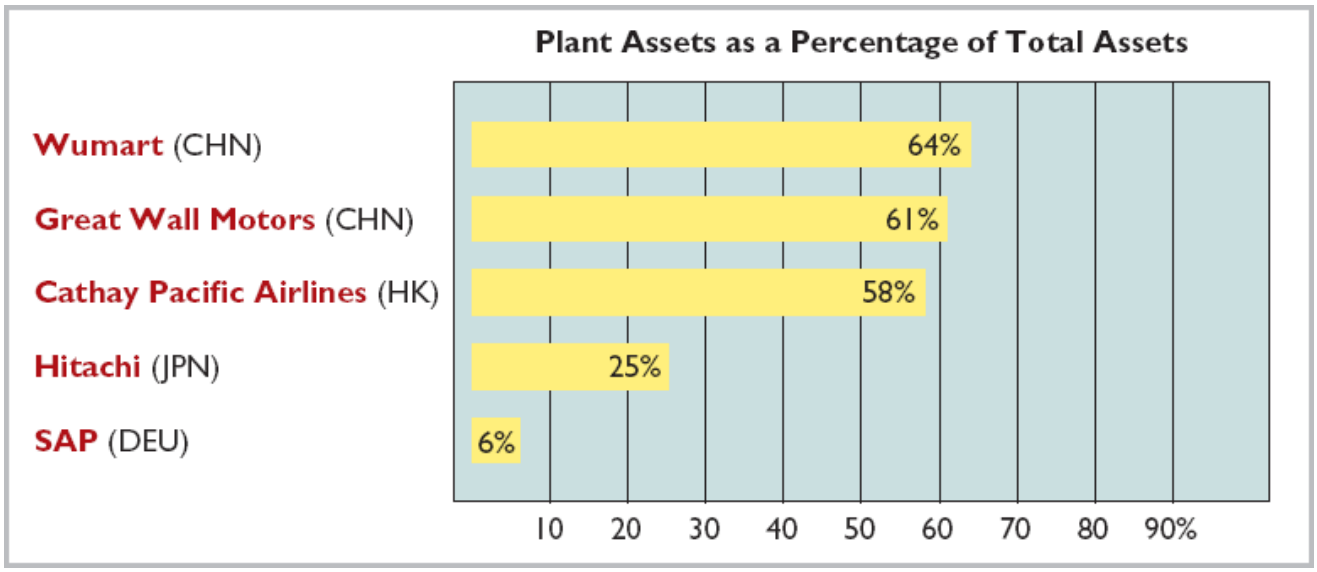
Plant assets are resources that have three characteristics.

1. They have a physical substance (a definite size and shape).
2. They are used in the operations of a business.
3. They are not intended for sale to customers.

Plant assets are also called **property, plant, and equipment**; **plant and equipment**; and **fixed assets**. These assets are expected to be of use to the company for a number of years. Except for land, plant assets decline in service potential over their useful lives.

Because plant assets play a key role in ongoing operations, companies keep plant assets in good operating condition. They also replace worn-out or outdated plant assets, and expand productive resources as needed. Many companies have substantial investments in plant assets. Illustration 9.1 shows the percentages of plant assets in relation to total assets of companies in a number of industries during a recent year.

ILLUSTRATION 9.1 Percentages of plant assets in relation to total assets



Determining the Cost of Plant Assets

The historical cost basis requires that companies record plant assets at cost. Thus, **Europcar** (FRA) records its vehicles at cost. **Cost consists of all expenditures necessary to acquire the asset and make it ready for its intended use.** For example, the cost of factory machinery includes the purchase price, freight costs paid by the purchaser, and installation costs. Once cost is established, the company generally uses that amount as the basis of accounting for the plant asset over its useful life.

In the following sections, we explain the application of the historical cost basis to each of the major classes of plant assets.

Land

Companies often use **land** as a site for a manufacturing plant or office building. The cost of land includes:

1. The cash purchase price.
2. Closing costs such as title and attorney's fees.
3. Real estate brokers' commissions.
4. Accrued property taxes and other liens assumed by the purchaser.

For example, if the cash price is NT$50,000 and the purchaser agrees to pay accrued taxes of NT$5,000, the cost of the land is NT$55,000.

Companies record as debits (increases) to the Land account all necessary costs incurred to make land **ready for its intended use** (see Helpful Hint). When a company acquires vacant land, these costs include expenditures for clearing, draining, filling, and grading. Sometimes, the land has a building on it that must be removed before construction of a new building. In this case, the company debits to the Land account all demolition and removal costs, less any proceeds from salvaged materials.

> **HELPFUL HINT**
>
> **Management's intended use is important in applying the historical cost basis to plant assets.**

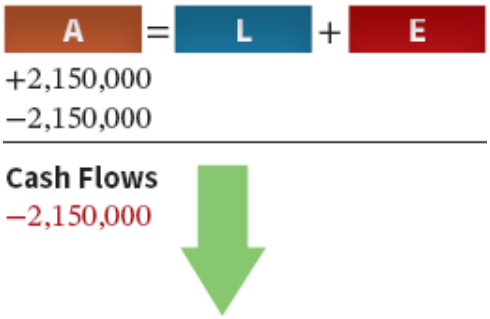
To illustrate, assume that Lew Ltd. acquires real estate at a cash cost of HK$2,000,000. The property contains an old warehouse that is razed at a net cost of HK$60,000 (HK$75,000 in costs less HK$15,000 in proceeds from salvaged materials). Additional expenditures are the attorney's fee, HK$10,000, and the real estate broker's commission, HK$80,000. The cost of the land is HK$2,150,000, as computed in Illustration 9.2.

ILLUSTRATION 9.2 Computation of cost of land

Land	
Cash price of property	HK$2,000,000
Net removal cost of warehouse (HK$75,000 − HK$15,000)	60,000
Attorney's fee	10,000
Real estate broker's commission	80,000
Cost of land	**HK$2,150,000**

Lew makes the following entry to record the acquisition of the land.

Land	2,150,000	
Cash		2,150,000
(To record purchase of land)		



Land Improvements

Land improvements are structural additions with limited lives that are made to land.

- Examples of land improvements are driveways, parking lots, fences, landscaping, and underground sprinklers.
- The cost of land improvements includes all expenditures necessary to make the improvements ready for their intended use.

For example, the cost of a new parking lot for a **Hero Supermarket** (IDN) includes the amount paid for paving, fencing, and lighting. Thus, Hero Supermarket debits to Land Improvements the total of all of these costs.

Land improvements have limited useful lives. Even when well-maintained, they will eventually be replaced. As a result, companies expense (depreciate) the cost of land improvements over their useful lives.

Buildings

Buildings are facilities used in operations, such as stores, offices, factories, warehouses, and airplane hangars. Companies debit to the Buildings account all necessary expenditures related to the purchase or construction of a building.

- When a building is **purchased**, such costs include the purchase price, closing costs (attorney's fees, title insurance, etc.), and the real estate broker's commission. Costs to make the building ready for its intended use include expenditures for remodeling and replacing or repairing the roof, floors, electrical wiring, and plumbing.
- When a new building is **constructed**, its costs consist of the contract price plus payments for architects' fees, building permits, and excavation costs.

In addition, companies charge certain interest costs to the Buildings account. Interest costs incurred to finance the project are included in the cost of the building when a significant period of time is required to get the building ready for use. In these circumstances, interest costs are considered as necessary as materials and labor.

However, the inclusion of interest costs in the cost of a constructed building is **limited to interest costs incurred during the construction period**. When construction has been completed, the company records subsequent interest payments on funds borrowed to finance the construction as debits (increases) to Interest Expense.

Equipment

Equipment includes assets used in operations, such as store check-out counters, factory machinery, delivery trucks, and airplanes.

- The cost of equipment, such as **Europcar** vehicles, consists of the cash purchase price, sales taxes, freight charges, and insurance during transit paid by the purchaser.
- It also includes expenditures required in assembling, installing, and testing the unit.

However, Europcar does not include motor vehicle licenses and accident insurance on company vehicles in the cost of equipment. These costs represent **annual recurring expenditures and do not benefit future periods**. Thus, they are treated as **expenses** as they are incurred.

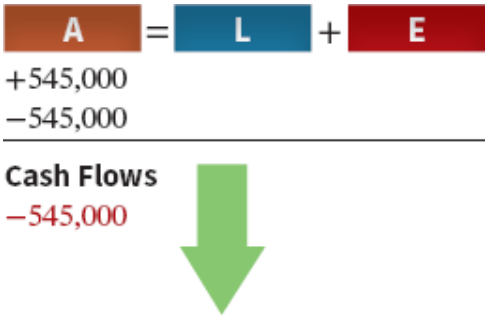
To illustrate, assume Zhang Ltd. purchases factory machinery at a cash price of HK$500,000. Related expenditures are for sales taxes HK$30,000, insurance during shipping HK$5,000, and installation and testing HK$10,000. The cost of the factory machinery is HK$545,000, computed in Illustration 9.3.

ILLUSTRATION 9.3 Computation of cost of factory machinery

	Factory Machinery
Cash price	HK$500,000
Sales taxes	30,000
Insurance during shipping	5,000
Installation and testing	10,000
Cost of factory machinery	**HK$545,000**

Zhang makes the following summary entry to record the purchase and related expenditures.

Equipment	545,000	
Cash		545,000
(To record purchase of factory machinery)		



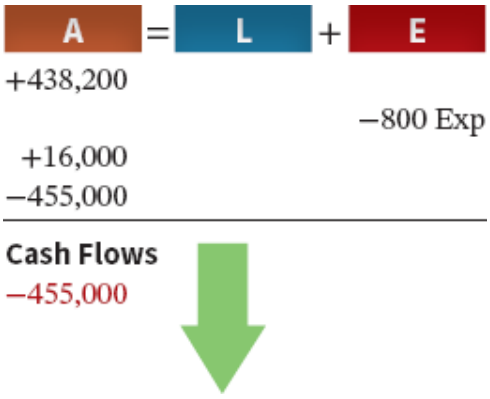
For another example, assume that Huang Group purchases a delivery truck at a cash price of HK$420,000. Related expenditures consist of sales taxes HK$13,200, painting and lettering HK$5,000, motor vehicle license HK$800, and a three-year accident insurance policy HK$16,000. The cost of the delivery truck is HK$438,200, computed as shown in Illustration 9.4.

ILLUSTRATION 9.4 Computation of cost of delivery truck

	Delivery Truck
Cash price	HK$420,000
Sales taxes	13,200
Painting and lettering	5,000
Cost of delivery truck	**HK$438,200**

Huang treats the cost of the motor vehicle license as an expense and the cost of the insurance policy as a prepaid asset. Thus, Huang makes the following entry to record the purchase of the truck and related expenditures:

Equipment	438,200	
License Expense	800	
Prepaid Insurance	16,000	
Cash		455,000
(To record purchase of delivery truck and related expenditures)		



Expenditures During Useful Life

During the useful life of a plant asset, a company may incur costs for ordinary repairs, additions, or improvements.

- Ordinary repairs are expenditures to **maintain** the operating efficiency and productive life of the unit.
- They usually are fairly small amounts that occur frequently. Examples are motor tune-ups and oil changes, the painting of buildings, and the replacing of worn-out gears on machinery.

Companies record such repairs as debits to Maintenance and Repairs Expense as they are incurred. Because they are immediately charged as an expense against revenues, these costs are often referred to as revenue expenditures.

In contrast, additions and improvements are costs incurred to **increase** the operating efficiency, productive capacity, or useful life of a plant asset.

- They are usually material in amount and occur infrequently.
- Additions and improvements increase the company's investment in productive facilities.

Companies generally debit these amounts to the plant asset affected. They are often referred to as capital expenditures.

Companies must use good judgment in deciding between a revenue expenditure and capital expenditure. For example, assume that Rodriguez Co. purchases a number of wastepaper baskets. Although the proper accounting would appear to be to capitalize and then depreciate these wastepaper baskets over their useful lives, it would be more usual for Rodriguez to expense them immediately. This practice is justified on the basis of **materiality**. Materiality refers to the impact of an item's size on a company's financial operations. The **materiality concept** states that if an item would not make a difference in decision-making, the company does not have to follow IFRS in reporting that item.

Anatomy of a Fraud

Bernie Ebbers was the founder and CEO of the phone company **WorldCom** (USA). The company engaged in a series of increasingly large, debt-financed acquisitions of other companies. These acquisitions made the company grow quickly, which made the share price increase dramatically. However, because the acquired companies all had different accounting systems, WorldCom's financial records were a mess.

When WorldCom's performance started to flatten out, Bernie coerced WorldCom's accountants to engage in a number of fraudulent activities to make net income look better than it really was and thus prop up the share price. One of these frauds involved treating $7 billion of line costs as capital expenditures. The line costs, which were rental fees paid to other phone companies to use their phone lines, had always been properly expensed in previous years. Capitalization delayed expense recognition to future periods and thus boosted current-period profits.

Total take: $7 billion

The Missing Controls

Documentation procedures. The company's accounting system was a disorganized collection of non-integrated systems, which resulted from a series of business acquisitions. Top management took advantage of this disorganization to conceal its fraudulent activities.

Independent internal verification. A fraud of this size should have been detected by a routine comparison of the actual physical assets with the list of physical assets shown in the accounting records.

Accounting Across the Organization

Many Firms Use Leases



Brian Raisbeck/
iStock.com

Leasing is big business. Who does the most leasing? **AWAS** (IRL), **J.P. Morgan Leasing** (USA), and **ICBC** (CHN) are major lessors. Also, many companies have established separate leasing companies, such as **Boeing Capital Corporation** (USA), and **Mitsubishi Heavy Industries** (JPN).

As an excellent example of the magnitude of leasing, leased planes account for a high percentage of commercial airlines. Leasing is also becoming common in the hotel industry. **Marriott** (USA) and **InterContinental** (GBR) are choosing to lease hotels that are owned by someone else.

Why might airline managers choose to lease rather than purchase their planes?

Answer

DO IT! 1

Cost of Plant Assets

Assume that Jing Feng Heating and Cooling purchases a delivery truck for ¥150,000 cash, plus sales taxes of ¥9,000 and delivery costs of ¥5,000. The buyer also pays ¥2,000 for painting and lettering, ¥6,000 for an annual insurance policy, and ¥800 for a motor vehicle license. Explain how each of these costs would be accounted for.

ACTION PLAN

- **Identify expenditures made in order to get delivery equipment ready for its intended use.**
- **Treat operating costs as expenses.**

Solution

Related exercise material: **BE9.1**, **BE9.2**, **BE9.3**, **DO IT! 9.1**, **E9.1**, **E9.2**, **and E9.3**.

9.2 Depreciation Methods

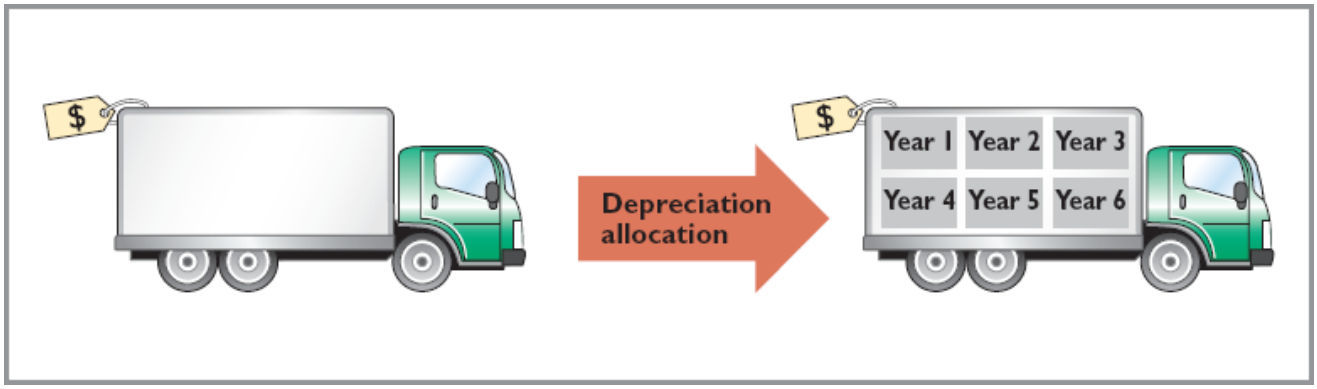
LEARNING OBJECTIVE 2

Apply depreciation methods to plant assets.

As explained in Chapter 3, **depreciation** is the **systematic allocation of the depreciable amount of an asset over its useful life**. Cost allocation enables companies to properly match expenses with revenues in

accordance with the expense recognition principle, as shown in Illustration 9.5.

ILLUSTRATION 9.5 Depreciation as a cost allocation concept



It is important to understand that **depreciation is a process of cost allocation. It is not a process of asset valuation.** No attempt is made to measure the change in an asset's fair value during ownership.

- The **book value** (cost less accumulated depreciation) of a plant asset may be quite different from its **fair value**.
- If an asset is fully depreciated, it can have a zero book value but still have a positive fair value.

Depreciation applies to three classes of plant assets: land improvements, buildings, and equipment (see Ethics Note). Each asset in these classes is considered to be a **depreciable asset**. Why? Because the usefulness to the company and revenue-producing ability of each asset will decline over the asset's useful life. Depreciation **does not apply to land** because its usefulness and revenue-producing ability generally remain intact over time. In fact, in many cases, the usefulness of land is greater over time because of the scarcity of good land sites. Thus, **land is not a depreciable asset**.

> **ETHICS NOTE**
>
> **When a business is acquired, proper allocation of the purchase price to various asset classes is important since different depreciation treatments can materially affect income. For example, buildings are depreciated, but land is not.**

- During a depreciable asset's useful life, its revenue-producing ability declines because of **wear and tear**. A delivery truck that has been driven 100,000 miles will be less useful to a company than one driven only 800 miles.
- A decline in revenue-producing ability may also occur because of obsolescence. **Obsolescence** is the process of becoming out of date before the asset physically wears out.

For example, major airlines moved from Chicago's Midway Airport to Chicago-O'Hare International Airport in the United States because Midway's runways were too short for jumbo jets. Similarly, many companies replace their computers long before they originally planned to do so because technological improvements make the old computers obsolete.

Recognizing depreciation on an asset does not result in an accumulation of cash for replacement of the asset. The balance in Accumulated Depreciation represents the total amount of the asset's cost that the company has charged to expense. **It is not a cash fund.**

Note that the concept of depreciation is consistent with the going concern assumption.

- The going concern assumption states that the company will continue in operation for the foreseeable future.
- If a company does not use a going concern assumption, then plant assets should be stated at their fair value. In that case, depreciation of these assets is not needed.

Factors in Computing Depreciation

Three factors affect the computation of depreciation, as shown in Illustration 9.6.

ILLUSTRATION 9.6 Three factors in computing depreciation

1. **Cost.** Earlier, we explained the issues affecting the cost of a depreciable asset. Recall that companies record plant assets at cost, in accordance with the historical cost basis.
2. **Useful life.** Useful life is an estimate of the expected productive life, also called service life, of the asset for its owner. Useful life may be expressed in terms of time, units of activity (such as machine hours), or units of output. Useful life is an estimate. In making the estimate, management considers such factors as the intended use of the asset, its expected repair and maintenance, and its vulnerability to obsolescence. Past experience with similar assets is often helpful in deciding on expected useful life. We might reasonably expect **Rent-A-Wreck** and **Europcar** to use different estimated useful lives for their vehicles.
3. **Residual value.** Residual value is an estimate of the asset's value at the end of its useful life (see Alternative Terminology). This value may be based on the asset's worth as scrap or on its expected trade-in value. Like useful life, residual value is an estimate. In making the estimate, management considers how it plans to dispose of the asset and its experience with similar assets.

> **ALTERNATIVE TERMINOLOGY**
>
> **Another term sometimes used for residual value is *salvage value.***

Depreciation Methods

Depreciation is generally computed using one of the following methods:

1. Straight-line
2. Units-of-activity
3. Declining-balance

Each method is acceptable under IFRS.

Management selects the method(s) it believes to be appropriate. The objective is to select the method that best measures an asset's contribution to revenue over its useful life. Once a company chooses a method, it should apply it consistently over the useful life of the asset. Consistency enhances the comparability of financial statements. Depreciation affects the statement of financial position through accumulated depreciation and the income statement through depreciation expense (see Helpful Hint).

> **HELPFUL HINT**
>
> **Depreciation expense is reported on the income statement. Accumulated depreciation is reported on the statement of financial position as a deduction from plant assets.**

We will compare the three depreciation methods using the following data for a small delivery truck purchased by Barb's Florists on January 1, 2025 (see Illustration 9.7).

ILLUSTRATION 9.7 Delivery truck data

Cost	€13,000
Expected residual value	€1,000
Estimated useful life in years	5
Estimated useful life in miles	100,000

No matter which method is used, the total amount depreciated over the useful life of the asset is its depreciable cost. Depreciable cost is equal to the cost of the asset less its residual value.

Straight-Line Method

Under the straight-line method, companies expense the same amount of depreciation for each year of the asset's useful life. It is measured solely by the passage of time.

To compute depreciation expense under the straight-line method, companies need to determine depreciable cost.

- As indicated above, **depreciable cost** is the cost of the asset less its residual value. It represents the total amount subject to depreciation.
- Under the straight-line method, to determine annual depreciation expense, we divide depreciable cost by the asset's useful life.

Illustration 9.8 shows the computation of the first year's depreciation expense for Barb's Florists.

ILLUSTRATION 9.8 Formula for straight-line method

Alternatively, we also can compute an annual **rate** of depreciation. In this case, the rate is 20% (100% ÷ 5 years). When a company uses an annual straight-line rate, it applies the percentage rate to the depreciable cost of the asset. Illustration 9.9 shows a **depreciation schedule** using an annual rate.

ILLUSTRATION 9.9 Straight-line depreciation schedule

Barb's Florists

	Computation				End of Year	
Year	Depreciable Cost	× Depreciation Rate	=	Annual Depreciation Expense	Accumulated Depreciation	Book Value
2025	€12,000	20%		**€2,400**	€ 2,400	€10,600*
2026	12,000	20		**2,400**	4,800	8,200
2027	12,000	20		**2,400**	7,200	5,800
2028	12,000	20		**2,400**	9,600	3,400
2029	12,000	20		**2,400**	12,000	**1,000**

*Book value = Cost − Accumulated depreciation = (€13,000 − €2,400).

Note that the depreciation expense of €2,400 is the same each year. The book value (computed as cost minus accumulated depreciation) at the end of the useful life is equal to the expected €1,000 residual value.

What happens to these computations for an asset purchased **during** the year, rather than on January 1? In that case, it is necessary to **prorate the annual depreciation** on a time basis. If Barb's Florists had purchased the delivery truck on April 1, 2025, the company would own the truck for nine months of the first year (April–December). Thus, depreciation for 2025 would be €1,800 (€12,000 × 20% × 9/12 of a year).

The straight-line method predominates in practice. Large companies such as **Daimler** (DEU), **Anheuser-Busch InBev** (BEL), and **Great Wall Motors** (CHN) use the straight-line method. It is simple to apply, and it matches expenses with revenues when the use of the asset is reasonably uniform throughout the service life.

DO IT! 2a

Straight-Line Depreciation

On January 1, 2025, Iron Mountain Ski purchased a new snow-grooming machine for €50,000. The machine is estimated to have a 10-year life with a €2,000 residual value. What journal entry would Iron Mountain Ski make at December 31, 2025, if it uses the straight-line method of depreciation?

ACTION PLAN

- **Calculate depreciable cost (Cost – Residual value).**
- **Divide the depreciable cost by the asset's estimated useful life.**

Solution

Related exercise material: **BE9.4**, **BE9.5**, **DO IT! 9.2a**, **E9.4**, **E9.6**, **E9.7**, **and E9.10**.

Units-of-Activity Method

Under the **units-of-activity method**, useful life is expressed in terms of the total units of production or use expected from the asset, rather than as a time period (see **Alternative Terminology**). The units-of-activity method is ideally suited to factory machinery. Manufacturing companies can measure production in units of output or in machine hours. This method can also be used for such assets as delivery equipment (miles driven) and airplanes (hours in use). The units-of-activity method is generally not suitable for buildings or furniture because depreciation for these assets is more a function of time than of use.

> **ALTERNATIVE TERMINOLOGY**
>
> **Another term often used is the *units-of-production method*.**

- To use this method, companies estimate the total units of activity for the entire useful life and then divide these units into depreciable cost. The resulting number represents the depreciable cost per unit.
- The depreciable cost per unit is then applied to the units of activity during the year to determine the annual depreciation expense (see **Helpful Hint**).

> **HELPFUL HINT**
>
> **Under any method, depreciation stops when the asset's book value equals expected residual value.**

To illustrate, assume that Barb's Florists drives its delivery truck 15,000 miles in the first year. **Illustration 9.10** shows the units-of-activity formula and the computation of the first year's depreciation expense.

ILLUSTRATION 9.10 Formula for units-of-activity method

Illustration 9.11 shows the units-of-activity depreciation schedule, using assumed mileage.

ILLUSTRATION 9.11 Units-of-activity depreciation schedule

Barb's Florists

	Computation					End of Year	
Year	Units of Activity	×	Depreciation Cost/Unit	=	Annual Depreciation Expense	Accumulated Depreciation	Book Value
2025	15,000		€0.12		**€1,800**	€ 1,800	€11,200*
2026	30,000		0.12		**3,600**	5,400	7,600
2027	20,000		0.12		**2,400**	7,800	5,200
2028	25,000		0.12		**3,000**	10,800	2,200
2029	10,000		0.12		**1,200**	12,000	**1,000**

*(€13,000 – €1,800).

This method is easy to apply for assets purchased mid-year. In such a case, the company computes the depreciation using the productivity of the asset for the partial year.

The units-of-activity method is not nearly as popular as the straight-line method primarily because it is often difficult for companies to reasonably estimate total activity. However, some very large companies, such as **China Petroleum and Chemical Corporation** (CHN) and **British Petroleum** (GBR), do use this method. When the productivity of an asset varies significantly from one period to another, the units-of-activity method results in the best matching of expenses with revenues.

Declining-Balance Method

The **declining-balance method** produces a decreasing annual depreciation expense over the asset's useful life. The method is so named because the periodic depreciation is based on a **declining book value** (cost less accumulated depreciation) of the asset.

- With this method, companies compute annual depreciation expense by multiplying the book value at the beginning of the year by the declining-balance depreciation rate.
- **The depreciation rate remains constant from year to year, but the book value to which the rate is applied declines each year.**

At the beginning of the first year, book value is the cost of the asset. This is because the balance in accumulated depreciation at the beginning of the asset's useful life is zero. In subsequent years, book value is the difference between cost and accumulated depreciation to date.

- Unlike the other depreciation methods, the declining-balance method **ignores residual value in determining the amount to which the declining-balance rate is applied**.
- Residual value, however, does limit the total depreciation that can be taken. Depreciation stops when the asset's book value equals expected residual value.

A common declining-balance rate is double the straight-line rate. The method is often called the **double-declining-balance method**. If Barb's Florists uses the double-declining-balance method, it uses a depreciation rate of 40% (2 × the straight-line rate of 20%). Illustration 9.12 shows the declining-balance formula and the computation of the first year's depreciation on the delivery truck.[1]

ILLUSTRATION 9.12 Formula for declining-balance method

Book Value at Beginning of Year	×	Declining-Balance Rate	=	Annual Depreciation Expense
€13,000	×	40%	=	€5,200

Illustration 9.13 shows the depreciation schedule under this method.

ILLUSTRATION 9.13 Double-declining-balance depreciation schedule

Barb's Florists

Year	Computation				End of Year	
	Book Value Beginning of Year	× Depreciation Rate	=	Annual Depreciation Expense	Accumulated Depreciation	Book Value
2025	€13,000	40%		**€5,200**	€ 5,200	€7,800
2026	7,800	40		**3,120**	8,320	4,680
2027	4,680	40		**1,872**	10,192	2,808
2028	2,808	40		**1,123**	11,315	1,685
2029	1,685	40		**685***	12,000	**1,000**

*Computation of €674 (€1,685 × 40%) is adjusted to €685 in order for book value to equal residual value

The delivery equipment is 69% depreciated (€8,320 ÷ €12,000) at the end of the second year. Under the straight-line method, the truck would be depreciated 40% (€4,800 ÷ €12,000) at that time.

- Because the declining-balance method produces higher depreciation expense in the early years than in the later years, it is considered an **accelerated-depreciation method**.
- The declining-balance method is compatible with the expense recognition principle. It matches the higher depreciation expense in early years with the higher benefits received in these years. It also recognizes lower depreciation expense in later years, when the asset's contribution to revenue is less.
- Some assets lose usefulness rapidly because of obsolescence. In these cases, the declining-balance method provides the most appropriate depreciation amount (see Helpful Hint).

HELPFUL HINT

The method recommended for an asset that is expected to be significantly more productive in the first half of its useful life is the declining-balance method.

When a company purchases an asset during the year, it must prorate the first year's declining-balance depreciation on a time basis. For example, if Barb's Florists had purchased the truck on April 1, 2025, depreciation for 2025 would become €3,900 (€13,000 × 40% × 9/12). The book value at the beginning of 2026 is then €9,100 (€13,000 − €3,900), and the 2026 depreciation is €3,640 (€9,100 × 40%). Subsequent computations would follow from those amounts.

Comparison of Methods

Illustration 9.14 compares annual and total depreciation expense under each of the three methods for Barb's Florists.

ILLUSTRATION 9.14 Comparison of depreciation methods

Year	Straight-Line	Units-of-Activity	Declining-Balance
2025	€ 2,400	€ 1,800	€ 5,200
2026	2,400	3,600	3,120
2027	2,400	2,400	1,872
2028	2,400	3,000	1,123
2029	2,400	1,200	685
	€12,000	**€12,000**	**€12,000**

Annual depreciation varies considerably among the methods, but **total depreciation expense is the same (€12,000) for the five-year period** under all three methods. Each method is acceptable in accounting because each recognizes in a systematic manner the decline in service potential of the asset. Illustration 9.15 graphs the depreciation expense pattern under each method.

ILLUSTRATION 9.15 Patterns of depreciation

Component Depreciation

Thus far, we have assumed that plant assets use a single depreciation rate. However, IFRS requires component depreciation for plant assets. **Component depreciation** requires that any significant parts of a plant asset that have significantly different estimated useful lives should be separately depreciated.

To illustrate component depreciation, assume that Lexure Construction builds an office building for HK$4,000,000, not including the cost of the land. If the HK$4,000,000 is allocated over the 40-year useful life of the building, Lexure reports HK$100,000 (HK$4,000,000 ÷ 40) of depreciation per year, assuming straight-line depreciation and no residual value.

However, now assume that HK$320,000 of the cost of the building relates to a heating, ventilation, and air conditioning (HVAC) system and HK$600,000 relates to flooring. Because the HVAC system has a depreciable life of five years and the flooring has a depreciable life of 10 years, Lexure must use component depreciation. It must reclassify HK$320,000 of the cost of the building to the HVAC system and HK$600,000 to the cost of flooring. Assuming that Lexure uses straight-line depreciation, Illustration 9.16 shows the computation of component depreciation for the first year of the office building.

ILLUSTRATION 9.16 Component depreciation computation

Building cost adjusted (HK$4,000,000 − HK$320,000 − HK$600,000)	HK$3,080,000
Building cost depreciation per year (HK$3,080,000 ÷ 40)	HK$ 77,000
HVAC system depreciation (HK$320,000 ÷ 5)	64,000
Flooring depreciation (HK$600,000 ÷ 10)	60,000
Total component depreciation in first year	**HK$ 201,000**

Depreciation and Income Taxes

Tax laws allow company taxpayers to deduct depreciation expense when they compute taxable income. However, tax laws often do not require taxpayers to use the same depreciation method on the tax return that is used in preparing financial statements.

- Many companies use straight-line in their financial statements to maximize net income.
- At the same time, they use an accelerated-depreciation method on their tax returns to minimize their income taxes.

Revaluation of Plant Assets

IFRS allows companies to revalue plant assets to fair value at the reporting date. Companies that choose to use the revaluation framework must follow revaluation procedures.

- If revaluation is used, it must be applied to all assets in a class of assets.
- Assets that are experiencing rapid price changes must be revalued on an annual basis. Otherwise, less frequent revaluation is acceptable.

Gain Situation

To illustrate asset revaluation accounting, assume that Pernice Ltd. applies revaluation to equipment purchased on January 1, 2025, for HK$1,000,000. The equipment has a useful life of five years and no residual value. On December 31, 2025, Pernice makes the following journal entry to record depreciation expense, assuming straight-line depreciation.

Dec. 31	Depreciation Expense	200,000	
	Accumulated Depreciation—Equipment		200,000
	(To record depreciation expense in 2025)		

After this entry, Pernice's equipment has a carrying amount of HK$800,000 (HK$1,000,000 − HK$200,000). At the end of 2025, independent appraisers determine that the asset has a fair value of HK$850,000. To report the equipment at its fair value of HK$850,000 on December 31, 2025, Pernice eliminates the Accumulated Depreciation—Equipment account, reduces Equipment to its fair value of HK$850,000, and records Revaluation Surplus of HK$50,000. The entry to record the revaluation is as follows.

Dec. 31	Accumulated Depreciation—Equipment	200,000	
	Equipment		150,000
	Revaluation Surplus		50,000
	(To adjust the equipment to its fair value)		

Thus, Pernice follows a two-step process.

1. Pernice records depreciation based on the cost basis of HK$1,000,000. As a result, it reports depreciation expense of HK$200,000 on the income statement.
2. Pernice records the revaluation. It does this by eliminating any accumulated depreciation, adjusting the recorded value of the equipment to its fair value, and crediting the revaluation surplus account.

In this example, the revaluation surplus is HK$50,000, which is the difference between the fair value of HK$850,000 and the book value of HK$800,000. Revaluation surplus is an example of an item reported as other comprehensive income, as discussed in Chapter 5. Pernice now reports the following information in its statement of financial position at the end of 2025 as shown in **Illustration 9.17**.

ILLUSTRATION 9.17 Statement presentation of plant assets (equipment) and revaluation surplus

Equipment (HK$1,000,000 – HK$150,000)	HK$850,000
Accumulated depreciation—equipment	0
	HK$850,000
Revaluation surplus (equity)	HK$ 50,000

Pernice reports depreciation expense of HK$200,000 in the income statement and HK$50,000 in other comprehensive income. As indicated, HK$850,000 is the new basis of the asset. Assuming no change in the total useful life, depreciation in 2026 will be HK$212,500 (HK$850,000 ÷ 4).

Loss Situation

Assume again that Pernice's equipment has a carrying amount of HK$800,000 (HK$1,000,000 – HK$200,000). However, at the end of 2025, independent appraisers determine that the asset has a fair value of HK$775,000, which results in an impairment loss of HK$25,000 (HK$800,000 – HK$775,000).

1. To record the equipment at fair value and to record this loss, Pernice first eliminates the balance in the Accumulated Depreciation—Equipment account of HK$200,000.
2. It reduces the Equipment account by HK$225,000 to report the equipment at HK$775,000 (HK$1,000,000 – HK$225,000).

The entry to record the equipment and report the impairment loss is as follows

Dec. 31	Accumulated Depreciation—Equipment	200,000	
	Impairment Loss	25,000	
	Equipment		225,000
	(To record impairment loss of equipment)		

The impairment loss of HK$25,000 reduces net income.

Comparison of this loss situation with the previous gain situation illustrates an important point. Losses are reported in net income, whereas gains are reported in other comprehensive income. The accounting for gains and losses continues this practice in subsequent periods with additional complications. As a result, the treatment of accounting for revaluation gains and losses in subsequent periods is addressed in advanced accounting classes.

Revising Periodic Depreciation

Depreciation is one example of the use of estimation in the accounting process. Management should periodically review annual depreciation expense. If wear and tear or obsolescence indicate that annual depreciation estimates are inadequate or excessive, the company should change the amount of depreciation expense.

When a change in an estimate is required, the company makes the change in **current and future years**. **It does not change depreciation in prior periods.** The rationale is that continual restatement of prior periods would adversely affect confidence in financial statements.

- To determine the new annual depreciation expense, the company first computes the asset's depreciable cost at the time of the revision.
- It then allocates the revised depreciable cost to the remaining useful life (see **Helpful Hint**).

HELPFUL HINT

Use a step-by-step approach: (1) determine new depreciable cost; (2) divide by remaining useful life.

To illustrate, assume that Barb's Florists decides on January 1, 2028, to extend the useful life of the truck by one year (a total life of six years) and increase its residual value to €2,200. The company has used the straight-line method to depreciate the asset to date. Depreciation per year was €2,400 [(€13,000 – €1,000) ÷ 5]. Accumulated depreciation after three years (2025–2027) is €7,200 (€2,400 × 3), and book value is €5,800 (€13,000 – €7,200). The new annual depreciation is €1,200, as shown in **Illustration 9.18**.

ILLUSTRATION 9.18 Revised depreciation computation

Book value, 1/1/28 (€13,000 – €7,200)	€5,800	
Less: New residual value	2,200	
Depreciable cost	€3,600	
Remaining useful life	3 years	(2028–2030)
Revised annual depreciation (€3,600 ÷ 3)	**€1,200**	

Barb's Florists makes no entry for the change in estimate. On December 31, 2028, during the preparation of adjusting entries, it records depreciation expense of €1,200. Companies must describe in the financial statements significant changes in estimates.

DO IT! 2b

Revised Depreciation

Chambers Landscaping purchased a piece of equipment for £36,000. It estimated a 6-year life and £6,000 residual value. Thus, straight-line depreciation was £5,000 per year [(£36,000 – £6,000) ÷ 6]. At the end of year three (before the depreciation adjustment), it estimated the new total life to be 10 years and the new residual value to be £2,000. Compute the revised depreciation.

ACTION PLAN

- **Calculate depreciable cost.**
- **Divide depreciable cost by new remaining life.**

Solution

Related exercise material: **BE9.9**, **DO IT! 9.2b**, **and E9.9**.

9.3 Plant Asset Disposals

LEARNING OBJECTIVE 3

Explain how to account for the disposal of plant assets.

Companies dispose of plant assets that are no longer useful to them. **Illustration 9.19** shows the three ways in which companies make plant asset disposals.

ILLUSTRATION 9.19 Methods of plant asset disposal

Whatever the disposal method, the company must determine the book value of the plant asset at the disposal date to determine the gain or loss. Recall that the book value is the difference between the cost of

the plant asset and the accumulated depreciation to date.

- If the disposal does not occur on the first day of the year, the company must record depreciation for the fraction of the year to the date of disposal.
- The company then eliminates the book value by reducing (debiting) Accumulated Depreciation for the total depreciation associated with that asset to the date of disposal and reducing (crediting) the asset account for the cost of the asset (see **Helpful Hint**).

> **HELPFUL HINT**
>
> **When disposing of a plant asset, the company removes all amounts related to the asset. This includes the original cost and the total depreciation to date in the accumulated depreciation account.**

In this chapter, we examine the accounting for the retirement and sale of plant assets. In the appendix to the chapter, we discuss and illustrate the accounting for exchanges of plant assets.

Retirement of Plant Assets

To illustrate the retirement of plant assets, assume that Hobart Publishing retires its computer printers, which cost €32,000. The accumulated depreciation on these printers is €32,000. The equipment, therefore, is fully depreciated (zero book value). The entry to record this retirement is as follows.

Accumulated Depreciation—Equipment	32,000	
Equipment		32,000
(To record retirement of fully depreciated equipment)		

What happens if a fully depreciated plant asset is still useful to the company?

- In this case, the asset and its accumulated depreciation continue to be reported on the statement of financial position, without further depreciation adjustment, until the company retires the asset.
- Reporting the asset and related accumulated depreciation on the statement of financial position informs the financial statement reader that the asset is still in use.
- Once fully depreciated, no additional depreciation should be taken, even if an asset is still being used. In no situation can the accumulated depreciation on a plant asset exceed its cost.

If a company retires a plant asset before it is fully depreciated, and no cash is received for scrap or residual value, a loss on disposal occurs. For example, assume that Sunset Shipping discards delivery equipment that cost €18,000 and has accumulated depreciation of €14,000. The entry is as follows.

Accumulated Depreciation—Equipment	14,000	
Loss on Disposal of Plant Assets	4,000	
Equipment		18,000
(To record retirement of delivery equipment at a loss)		

Companies report a loss on disposal of plant assets in the "Other income and expense" section of the income statement.

Sale of Plant Assets

In a disposal by sale, the company compares the book value of the asset with the proceeds received from the sale.

- If the proceeds of the sale **exceed** the book value of the plant asset, **a gain on disposal occurs**.
- If the proceeds of the sale **are less than** the book value of the plant asset sold, **a loss on disposal occurs**.

Only by coincidence will the book value and the fair value of the asset be the same when the asset is sold. Gains and losses on sales of plant assets are therefore quite common. For example, **Delta Airlines** (USA) reported a $94 million gain on the sale of 10 aircraft.

Gain on Sale

To illustrate a gain on sale of plant assets, assume that on July 1, 2025, Wright Interiors sells office furniture for €16,000 cash. The office furniture originally cost €60,000. As of January 1, 2025, it had accumulated depreciation of €41,000. Depreciation for the first six months of 2025 is €8,000. Wright records depreciation expense and updates accumulated depreciation to July 1 with the following entry.

July 1	Depreciation Expense	8,000	
	Accumulated Depreciation—Equipment		8,000
	(To record depreciation expense for the first 6 months of 2025)		

After the accumulated depreciation balance is updated, the company computes the gain or loss. The gain or loss is the difference between the proceeds from the sale and the book value at the date of disposal. Illustration 9.20 shows this computation for Wright, which has a gain on disposal of €5,000.

ILLUSTRATION 9.20 Computation of gain on disposal

Cost of office furniture	€60,000
Less: Accumulated depreciation (€41,000 + €8,000)	49,000
Book value at date of disposal	11,000
Proceeds from sale	16,000
Gain on disposal of plant asset	**€ 5,000**

Wright records the sale and the gain on disposal of the plant asset as follows.

July 1	Cash	16,000	
	Accumulated Depreciation—Equipment	49,000	
	Equipment		60,000
	Gain on Disposal of Plant Assets		5,000
	(To record sale of office furniture at a gain)		

Companies report a gain on disposal of plant assets in the "Other income and expense" section of the income statement.

Loss on Sale

Assume that instead of selling the office furniture for €16,000, Wright sells it for €9,000. In this case, Wright computes a loss of €2,000 as shown in Illustration 9.21.

ILLUSTRATION 9.21 Computation of loss on disposal

Cost of office furniture	€60,000
Less: Accumulated depreciation	49,000
Book value at date of disposal	11,000
Proceeds from sale	9,000
Loss on disposal of plant asset	**€ 2,000**

Wright records the sale and the loss on disposal of the plant asset as follows.

July 1	Cash	9,000	
	Accumulated Depreciation—Equipment	49,000	

Loss on Disposal of Plant Assets		2,000	
Equipment			60,000
(To record sale of office furniture at a loss)			

Companies report a loss on disposal of plant assets in the "Other income and expense" section of the income statement.

DO IT! 3

Plant Asset Disposal

Overland Trucking decided to sell an old truck that cost £30,000 and has accumulated depreciation of £16,000. (a) What entry would Overland Trucking make to record the sale of the truck for £17,000 cash? (b) What entry would Overland Trucking make to record the sale of the truck for £10,000 cash?

ACTION PLAN

- **At the time of disposal, determine the book value of the asset.**
- **Compare the asset's book value with the proceeds received to determine whether a gain or loss has occurred.**

Solution

Related exercise material: **BE9.11**, **BE9.12**, **DO IT! 9.3**, **E9.12**, **and E9.13**.

9.4 Natural Resources and Intangible Assets

LEARNING OBJECTIVE 4

Describe how to account for natural resources and intangible assets.

Natural Resources and Depletion

Common **natural resources** consist of standing timber and resources extracted from the ground, such as oil, gas, and minerals (see **Helpful Hint**). Standing timber is considered a biological asset under IFRS. In the years before they are harvested, the recorded value of biological assets is adjusted to fair value each period. The additional details of accounting for biological assets are beyond the scope of this text.

HELPFUL HINT

On a statement of financial position, natural resources may be described more specifically as *timberlands, mineral deposits, oil reserves*, and so on.

IFRS defines extractive industries as those businesses involved in finding and removing natural resources located in or near the earth's crust. The acquisition cost of an extractable natural resource is the price needed to acquire the resource **and** prepare it for its intended use. For an already-discovered resource, such as an existing coal mine, cost is the price paid for the property.

- The allocation of the cost of natural resources in a systematic manner over the resource's useful life is called **depletion**. (That is, depletion is to natural resources what depreciation is to plant assets.)
- **Companies generally use the units-of-activity method** (discussed earlier in the chapter) **to compute depletion.** The reason is that **depletion generally is a function of the units extracted during the year**.
- Under the units-of-activity method, companies divide the total cost of the natural resource minus residual value by the number of units estimated to be in the resource. The result is a **depletion cost per unit**. To compute depletion, the cost per unit is then multiplied by the number of units extracted.

To illustrate, assume that Lane Coal invests HK$50 million in a mine estimated to have 10 million tons of coal and no residual value. **Illustration 9.22** shows the computation of the depletion cost per unit.

ILLUSTRATION 9.22 Computation of depletion cost per unit

$$\frac{\text{Total Cost} - \text{Residual Value}}{\text{Total Estimated Units Available}} = \textbf{Depletion Cost per Unit}$$

$$\frac{\text{HK\$50,000,000}}{\text{10,000,000}} = \text{HK\$5.00 per ton}$$

If Lane extracts 250,000 tons in the first year, then the depletion for the year is HK$1,250,000 (250,000 tons × HK$5). It records the depletion as follows.

Inventory (coal)	1,250,000	
Accumulated Depletion		1,250,000
(To record depletion of a coal mine)		

Lane debits Inventory for the total depletion for the year and credits Accumulated Depletion to reduce the carrying value of the natural resource. Accumulated Depletion is a contra asset similar to Accumulated Depreciation. Lane credits Inventory when it sells the inventory and debits Cost of Goods Sold. The amount not sold remains in inventory and is reported in the current assets section of the statement of financial position (see **Ethics Note**).

ETHICS NOTE

Investors were stunned at news that Royal Dutch Shell (NLD and GBR) had significantly overstated its reported oil reserves.

Some companies do not use an Accumulated Depletion account. In such cases, the company credits the amount of depletion directly to the natural resources account.

Environmental, Social, and Governance Insight

BHP Billiton

Sustainability Report Please

Sustainability reports identify how the company is meeting its social responsibilities. Many companies, both large and small, are now issuing these reports. For example, companies such as **Microsoft** (USA), **Tata** (IND), **BP** (GBR), **Nestlé** (CHE), and **Samsung** (KOR) issue these reports.

The following is an adapted section of a recent **BHP Billiton** (AUS) (a global mining, oil, and gas company) sustainability report on its environmental policies. These policies are to (1) take action to address the challenges of climate change, (2) set and achieve targets that reduce pollution, and (3) enhance biodiversity by assessing and considering ecological values and land-use aspects. Here is how BHP Billiton measures the success or failure of some of these policies:

Social Responsibility	Target	Target Date
Safety	• Zero work-related fatalities. • Year-on-year improvement of our total recordable injury frequency (TRIF).	Annual Annual
Health	For our most material exposures of respirable silica, diesel particulate and coal mine dust, we will achieve a 50 percent reduction in the number of workers potentially exposed as compared with the FY2017 baseline.	30 June 2022
Community	Zero significant community events.	Annual
	Our social investment will contribute to improved quality of life in host communities and support achievement of the UN Sustainable Development Goals. We will invest not less than one percent of pre-tax profit (three-year rolling average) in meeting these objectives.	30 June 2022
	Regional Indigenous Peoples Plans will be developed, which support implementation of BHP's Indigenous Peoples Strategy. Plans will include all geographically relevant assets.	30 June 2022
Climate change	Maintain FY2022 greenhouse gas (GHG) emissions at or below FY2017 levels while we continue to grow our business.	30 June 2022
	Longer-term goal: In line with international commitments, BHP aims to achieve net-zero operational GHG emissions in the second half of this century.	The second half of this century.

In addition to the environment, BHP Billiton has sections in its sustainability report that discuss people, safety, health, and community.

Why do you believe companies issue sustainability reports?

Answer

Intangible Assets

Intangible assets are rights, privileges, and competitive advantages that result from the ownership of long-lived assets that do not possess physical substance. Evidence of intangibles may exist in the form of contracts or licenses. Intangibles may arise from the following sources.

1. Government grants, such as patents, copyrights, licenses, trademarks, and trade names.
2. Acquisition of another business, in which the purchase price includes a payment for **goodwill**.
3. Private monopolistic arrangements arising from contractual agreements, such as franchises and leases.

Some widely known intangibles are **SAP**'s (DEU) patents, **Spar**'s (NLD) convenience store franchises, **Apple**'s (USA) trade name iPod, J.K. Rowlings' copyrights on the *Harry Potter* books, and the trademark **Europcar** in the Feature Story.

Accounting for Intangible Assets

Companies record intangible assets at cost. This cost consists of all expenditures necessary for the company to acquire the right, privilege, or competitive advantage. Intangibles are categorized as having either a limited life or an indefinite life.

- If an intangible has a **limited life**, the company allocates its cost over the asset's useful life using a process similar to depreciation.
- The process of allocating the cost of intangibles is referred to as **amortization** (see **Helpful Hint**).
- The cost of intangible assets with **indefinite lives should not be amortized**.

> **HELPFUL HINT**
>
> ***Amortization* is to intangibles what *depreciation* is to plant assets and *depletion* is to extractable natural resources.**

To record amortization of an intangible asset, a company increases (debits) Amortization Expense and decreases (credits) the specific intangible asset. Alternatively, some companies choose to credit a contra account, such as Accumulated Amortization. *For homework purposes, you should directly credit the specific intangible asset.*

Intangible assets are typically amortized on a straight-line basis. For example, the legal life of a patent is 20 years in many countries. Companies **amortize the cost of a patent over its 20-year life or its useful life, whichever is shorter**. To illustrate the computation of patent amortization, assume that National Labs purchases a patent at a cost of NT$720,000. If National estimates the useful life of the patent to be eight years, the annual amortization expense is NT$90,000 (NT$720,000 ÷ 8). National records the annual amortization as follows.

Dec. 31	Amortization Expense	90,000	
	Patents		90,000
	(To record patent amortization)		

Companies classify amortization expense as an operating expense in the income statement. Similar to property, plant, and equipment, IFRS permits revaluation of intangible assets to fair value, except for goodwill.

When intangible assets are acquired through a purchase, the determination of cost is similar to that of property, plant, and equipment. Cost includes the purchase price, as well as costs incurred to get the asset ready for use. However, special rules are used to determine cost when an intangible asset is generated internally, as a result of a company's own research and development efforts. These rules are discussed in a later section.

Patents

A **patent** is an exclusive right issued by a patent office that enables the recipient to manufacture, sell, or otherwise control an invention for a specified number of years from the date of the grant. These "legal lives" sometimes vary across countries, but the legal life in many countries is 20 years. A patent is non-renewable. But, companies can extend the legal life of a patent by obtaining new patents for improvements or other changes in the basic design.

- **The initial cost of a patent is the cash or cash equivalent price paid to acquire the patent.**
- Many patents are subject to litigation by competitors. Any legal costs an owner incurs in successfully defending a patent in an infringement suit are considered necessary to establish the patent's validity. **The owner adds those costs to the Patents account and amortizes them over the remaining life of the patent.**

The patent holder amortizes the cost of a patent over its legal life or its useful life, whichever is shorter. Companies consider obsolescence and inadequacy in determining useful life. These factors may cause a patent to become economically ineffective before the end of its legal life.

Copyrights

Governments grant **copyrights**, which give the owner the exclusive right to reproduce and sell an artistic or published work. Copyrights extend for the life of the creator plus a specified number of years, which can vary by country but is commonly 70 years.

- The cost of a copyright is the **cost of acquiring and defending it**.
- The cost may be only the small fee paid to a copyright office. Or, it may amount to much more if a copyright is acquired from another party.

The useful life of a copyright generally is significantly shorter than its legal life. Therefore, copyrights usually are amortized over a relatively short period of time.

Trademarks and Trade Names

A **trademark** or **trade name** is a word, phrase, jingle, or symbol that identifies a particular enterprise or product. Trade names like Big Mac, Coca-Cola, and Jetta create immediate product identification. They also generally enhance the sale of the product. The creator or original user may obtain exclusive legal right to the trademark or trade name by registering it with a patent office or similar governmental agency. Such registration provides a specified number of years of protection, which can vary by country but is commonly 20 years. The registration may be renewed indefinitely as long as the trademark or trade name is in use.

- If a company purchases the trademark or trade name, its cost is the purchase price.
- If a company develops and maintains the trademark or trade name, any costs related to these activities are expensed as incurred.
- Because trademarks and trade names have indefinite lives, they are not amortized.

Franchises and Licenses

When you fill up your tank at the **CPC** (TWN) station, eat lunch at **Subway** (USA), or rent a car from **Europcar**, you are dealing with franchises. A **franchise** is a contractual arrangement between a franchisor and a franchisee. The franchisor grants the franchisee the right to sell certain products, perform specific services, or use certain trademarks or trade names, usually within a designated geographic area.

Another type of franchise is that entered into between a governmental body (commonly municipalities) and a company. This franchise permits the company to use public property in performing its services. Examples are the use of city streets for a bus line or taxi service, use of public land for telephone and electric lines, and the use of airwaves for radio or TV broadcasting. Such operating rights are referred to as **licenses**. Franchises and licenses may be granted for a definite period of time, an indefinite period, or perpetually.

- **When a company incurs costs in connection with the purchase of a franchise or license, it should recognize an intangible asset.**
- Companies should amortize the cost of a limited-life franchise (or license) over its useful life.
- If the life is indefinite, the cost is not amortized.

Annual payments made under a franchise agreement are recorded as **operating expenses** in the period in which they are incurred.

Goodwill

Usually, the largest intangible asset that appears on a company's statement of financial position is goodwill. **Goodwill** represents the value of all favorable attributes that relate to a company that is not tied to any other specific asset. These attributes include exceptional management, desirable location, good customer relations, skilled employees, high-quality products, and harmonious relations with labor unions. Goodwill is unique. Unlike assets such as investments and plant assets, which can be sold **individually** in the marketplace, goodwill can be identified only with the business **as a whole**.

If goodwill can be identified only with the business as a whole, how can its amount be determined? Management could try to put a monetary value on the factors listed above (exceptional management, desirable location, and so on). But, the results would be very subjective, and such subjective valuations would not contribute to the reliability of financial statements.

- **Therefore, companies record goodwill only when an entire business is purchased.**
- **In that case, goodwill is the excess of cost over the fair value of the net assets (assets less liabilities) acquired.**

In recording the purchase of a business, the company debits (increases) the identifiable acquired assets, credits liabilities at their fair values, credits cash for the purchase price, and records the difference as goodwill.

- **Goodwill is not amortized** because it is considered to have an indefinite life.
- However, goodwill must be written down if a company determines that its value has been permanently impaired.

Companies report goodwill in the statement of financial position under intangible assets.

Global Insight

SoftBank Corp.

Should Companies Write Up Goodwill?

SoftBank Corp. (JPN) at one time was the country's largest Internet company. It boosted the profit margin of its mobile-phone unit from 3.2% to 11.2% through what appeared to some as accounting tricks. What did it do? It wrote down the value of its mobile-phone-unit assets by half. This would normally result in a huge loss.

But rather than take a loss, the company wrote up goodwill by the same amount. How did this move increase earnings? The assets were being depreciated over 10 years, but the company amortizes goodwill over 20 years. (Amortization of goodwill was allowed under the accounting standards it followed at that time.) While the new treatment did not break any rules, the company was criticized by investors for not providing sufficient justification or a detailed explanation for the sudden shift in policy.

Source: Adapted from Andrew Morse and Yukari Iwatani Kane, "SoftBank's Accounting Shift Raises Eyebrows," *Wall Street Journal* (August 28, 2007), p. C1.

Which aspects of this treatment are allowed under IFRS?

Answer

Research and Development Costs

Research and development costs are expenditures that may lead to patents, copyrights, new processes, and new products. Many companies spend considerable sums of money on research and development (R&D). For example, in a recent year **Samsung** (KOR) spent over ₩15 trillion on R&D.

Research and development costs present accounting problems as it is sometimes difficult to assign these costs to specific projects. Also, there are uncertainties in identifying the amount and timing of future benefits.

- Costs in the research phase are always expensed as incurred.
- Costs in the development phase are expensed until specific criteria are met, primarily that technological feasibility is achieved.
- Development costs incurred after technological feasibility has been achieved are capitalized to Development Costs, which is considered an intangible asset.

To illustrate, assume that Laser Scanner Ltd. spent NT$1 million on research and NT$2 million on development of new products. Of the NT$2 million in development costs, NT$400,000 was incurred prior to technological feasibility and NT$1,600,000 was incurred after technological feasibility had been demonstrated. The company would record these costs as follows.

Research and Development Expense	1,400,000	
Development Costs	1,600,000	
Cash		3,000,000
(To record research and development costs)		

DO IT! 4

Classification Concepts

Match the statement with the term most directly associated with it.

Copyrights

Intangible assets

Research costs

Depletion

Franchises

1. _____ The allocation of the cost of a natural resource in a systematic manner.
2. _____ Rights, privileges, and competitive advantages that result from the ownership of long-lived assets that do not possess physical substance.
3. _____ An exclusive right granted by a government to reproduce and sell an artistic or published work.
4. _____ A right to sell certain products or services or to use certain trademarks or trade names within a designated geographic area.
5. _____ Costs incurred by a company that often lead to patents or new products. These costs must be expensed as incurred.

ACTION PLAN

- **Know that the accounting for intangibles often depends on whether the item has a finite or indefinite life.**
- **Recognize the many similarities and differences between the accounting for natural resources, plant assets, and intangible assets.**

Solution

Related exercise material: **BE9.13**, **BE9.14**, **BE9.15**, **DO IT! 9.4**, **E9.14**, **E9.15**, **and** **E9.16**.

9.5 Statement Presentation and Analysis

LEARNING OBJECTIVE 5

Discuss how plant assets, natural resources, and intangible assets are reported and analyzed.

Presentation

Usually, companies combine plant assets and natural resources under “Property, plant, and equipment” in the statement of financial position. They show intangibles assets separately. **Illustration 9.23** shows the assets section from the statement of financial position of Artex Enterprises, with emphasis on the reporting of plant assets.

ILLUSTRATION 9.23 **Presentation of property, plant, and equipment, and intangible assets**

Artex Enterprises
Statement of Financial Position (partial)
(in billions)

Property, plant, and equipment			
Gold mine	¥ 530		
Less: Accumulated depletion	210	¥ 320	
Land		600	
Buildings	7,600		
Less: Accumulated depreciation—buildings	500	7,100	
Equipment	3,870		
Less: Accumulated depreciation—equipment	620	3,250	
Total property, plant, and equipment			¥11,270
Intangible assets			
Patents		440	
Trademarks		180	
Goodwill		900	1,520
Total assets			¥12,790

Companies may disclose in the statement of financial position or the notes to the financial statements the major classes of assets such as land, land improvements, buildings and equipment, and accumulated depreciation (by major classes or in total). In addition, they should describe the depreciation and amortization methods that were used, as well as disclose the amount of depreciation and amortization expense for the period. *For homework purposes, use the format in Illustration 9.23 for preparing statement of financial position information*.

Analysis

Using ratios, we can analyze how efficiently a company uses its assets to generate sales. The **asset turnover** analyzes the productivity of a company's assets. It tells us, as shown below for **LG** (KOR), how many Korean won of sales the company generates for each Korean won invested in assets. This ratio is computed by dividing net sales by average total assets for the period, as shown in **Illustration 9.24**. LG's net sales for a recent year were ₩58,140 billion. Its total ending assets were ₩35,528 billion, and beginning assets were ₩34,766 billion.

ILLUSTRATION 9.24 **Asset turnover formula and computation**

Net Sales	÷	Average Total Assets	=	Asset Turnover
₩58,140	÷	$\frac{₩35,528 + ₩34,766}{2}$	=	1.65 times

Thus, each Korean won invested in assets produced ₩1.65 in sales for LG. If a company is using its assets efficiently, each investment in assets will create a high amount of sales. This ratio varies greatly among different industries—from those that are asset-intensive (utilities) to those that are not (services).

DO IT! 5

Asset Turnover

Paramour Company reported net income of $180,000, net sales of $420,000, and had total assets of $460,000 on January 1, 2025, and total assets on December 31, 2025, of $540,000 billion. Determine Paramour's asset turnover for 2025.

ACTION PLAN

- **Recognize that the asset turnover analyzes the productivity of a company's assets.**
- **Know the formula Net sales ÷ Average total assets = Asset turnover.**

Solution

Related exercise material: **BE9.17**, **DO IT! 9.5**, **and E9.17**.

Appendix 9A Exchange of Plant Assets

LEARNING OBJECTIVE *6

Explain how to account for the exchange of plant assets.

Ordinarily, companies record a gain or loss on the exchange of plant assets.

- The rationale for recognizing a gain or loss is that most exchanges have **commercial substance**.
- An exchange has commercial substance if the future cash flows change as a result of the exchange.

To illustrate, Ramos Construction exchanges some of its equipment for land held by Brodhead Group. It is likely that the timing and amount of the cash flows arising from the land will differ significantly from the cash flows arising from the equipment. As a result, both Ramos and Brodhead are in different economic positions. Therefore, **the exchange has commercial substance**, and the companies recognize a gain or loss in the exchange. Because most exchanges have commercial substance (even when similar assets are exchanged), we illustrate only this type of situation for both a loss and a gain.

Loss Treatment

To illustrate an exchange that results in a loss, assume that Roland NV exchanged a set of used trucks plus cash for a new semi-truck. The used trucks have a combined book value of €42,000 (cost €64,000 less €22,000 accumulated depreciation). Roland's purchasing agent, experienced in the secondhand market, indicates that the used trucks have a fair value of €26,000. In addition to the trucks, Roland must pay €17,000 for the semi-truck. Roland computes the cost of the semi-truck as shown in **Illustration 9A.1**.

ILLUSTRATION 9A.1 Cost of semi-truck

Fair value of used trucks	€26,000
Cash paid	17,000
Cost of semi-truck	€43,000

Roland incurs a loss on disposal of plant assets of €16,000 on this exchange. The reason is that the book value of the used trucks is greater than the fair value of these trucks. **Illustration 9A.2** shows the computation.

ILLUSTRATION 9A.2 Computation of loss on disposal

Book value of used trucks (€64,000 – €22,000)	€42,000
Less: Fair value of used trucks	26,000
Loss on disposal of plant assets	**€16,000**

In recording an exchange at a loss, four steps are required:

1. Eliminate the book value of the asset given up.
2. Record the cost of the asset acquired.
3. Recognize the loss on disposal of plant assets.
4. Record the cash paid or received.

Roland thus records the exchange on the loss as follows.

Equipment (new)	43,000	
Accumulated Depreciation—Equipment	22,000	
Loss on Disposal of Plant Assets	16,000	
Equipment (old)		64,000
Cash		17,000
(To record exchange of used trucks for semi-truck)		

Gain Treatment

To illustrate a gain situation, assume that Mark Express decides to exchange its old delivery equipment plus cash of €3,000 for new delivery equipment. The book value of the old delivery equipment is €12,000 (cost €40,000 less accumulated depreciation €28,000). The fair value of the old delivery equipment is €19,000.

The cost of the new asset is the fair value of the old asset exchanged plus any cash paid (or other consideration given up). The cost of the new delivery equipment is €22,000, computed as shown in Illustration 9A.3.

ILLUSTRATION 9A.3 Cost of new delivery equipment

Fair value of old delivery equipment	€19,000
Cash paid	3,000
Cost of new delivery equipment	**€22,000**

A gain results when the fair value of the old delivery equipment is greater than its book value. For Mark Express, there is a gain of €7,000 on disposal of plant assets, computed as shown in Illustration 9A.4.

ILLUSTRATION 9A.4 Computation of gain on disposal

Fair value of old delivery equipment	€19,000
Less: Book value of old delivery equipment (€40,000 – €28,000)	12,000
Gain on disposal of plant assets	**€ 7,000**

Mark Express records the exchange as follows.

Equipment (new)	22,000	
Accumulated Depreciation—Equipment (old)	28,000	
Equipment (old)		40,000
Gain on Disposal of Plant Assets		7,000
Cash		3,000
(To record exchange of old delivery equipment for new delivery equipment)		

In recording an exchange at a gain, the following four steps are involved.

1. Eliminate the book value of the asset given up.
2. Record the cost of the asset acquired.
3. Recognize the gain on disposal of plant assets.
4. Record the cash paid or received.

Accounting for exchanges of plant assets becomes more complex if the transaction does not have commercial substance. This issue is discussed in more advanced accounting classes.

Review and Practice

Learning Objectives Review

1 Explain the accounting for plant asset expenditures.

The cost of plant assets includes all expenditures necessary to acquire the asset and make it ready for its intended use. Once cost is established, the company uses that amount as the basis of accounting for a plant asset over its useful life.

Companies incur revenue expenditures to maintain the operating efficiency and productive life of an asset. They debit these expenditures to Maintenance and Repairs Expense as incurred. Capital expenditures increase the operating efficiency, productive capacity, or expected useful life of the asset. Companies generally debit these expenditures to the plant asset affected.

2 Apply depreciation methods to plant assets.

Depreciation is the allocation of the cost of a plant asset to expense over its useful (service) life in a systematic manner. Depreciation is not a process of valuation, nor is it a process that results in an accumulation of cash.

Three depreciation methods are:

Method	Effect on Annual Depreciation	Formula
Straight-line	Constant amount	Depreciable cost ÷ Useful life (in years)
Units-of-activity	Varying amount	Depreciable cost per unit × Units of activity during the year
Declining-balance	Decreasing amount	Book value at beginning of year × Declining-balance rate

Companies make revisions of periodic depreciation in present and future periods, not retroactively. They determine the new annual depreciation by dividing the depreciable cost at the time of the revision by the remaining useful life.

3 Explain how to account for the disposal of plant assets.

The accounting for disposal of a plant asset through retirement or sale is as follows. (a) Eliminate the book value of the plant asset at the date of disposal. (b) Record cash proceeds, if any. (c) Account for the

difference between the book value and the cash proceeds as a gain or loss on disposal. (d) Record cash paid or received.

4 Describe how to account for natural resources and intangible assets.

Companies compute depletion cost per unit by dividing the total cost of the natural resource minus residual value by the number of units estimated to be in the resource. They then multiply the depletion cost per unit by the number of units extracted.

The process of allocating the cost of an intangible asset is referred to as amortization. The cost of intangible assets with indefinite lives is not amortized. Companies normally use the straight-line method for amortizing intangible assets.

5 Discuss how plant assets, natural resources, and intangible assets are reported and analyzed.

Companies usually combine plant assets and natural resources under property, plant, and equipment. They show intangibles separately under intangible assets. Either within the statement of financial position or in the notes, companies should disclose the balances of the major classes of assets, such as land, buildings, and equipment, and accumulated depreciation by major classes or in total. They also should describe the depreciation and amortization methods used, and should disclose the amount of depreciation and amortization expense for the period. The asset turnover measures the productivity of a company's assets in generating sales.

***6 Explain how to account for the exchange of plant assets.**

Ordinarily, companies record a gain or loss on the exchange of plant assets. The rationale for recognizing a gain or loss is that most exchanges have commercial substance. An exchange has commercial substance if the future cash flows change as a result of the exchange.

Glossary Review

Accelerated-depreciation method
Depreciation method that produces higher depreciation expense in the early years than in the later years.

Additions and improvements
Costs incurred to increase the operating efficiency, productive capacity, or useful life of a plant asset.

Amortization
The allocation of the cost of an intangible asset to expense over its useful life in a systematic manner.

Asset turnover
A measure of how efficiently a company uses its assets to generate sales; calculated as net sales divided by average total assets.

Capital expenditures
Expenditures that increase the company's investment in productive facilities.

Component depreciation
Depreciation method in which any significant parts of a plant asset that have significantly different useful lives are separately depreciated.

Copyrights
Exclusive grant from the government that allows the owner to reproduce and sell an artistic or published work.

Declining-balance method
Depreciation method that applies a constant rate to the declining book value of the asset and produces a decreasing annual depreciation expense over the useful life of the asset.

Depletion
The allocation of the cost of an extractable natural resource to expense in a systematic manner over the resource's useful life.

Depreciable cost
The cost of a plant asset less its residual value.

Depreciation
The systematic allocation of the depreciable amount of an asset over its useful life.

Franchise (license)
A contractual arrangement under which the franchisor grants the franchisee the right to sell certain products, perform specific services, or use certain trademarks or trade names, usually within a designated geographic area.

Going concern assumption
States that the company will continue in operation for the foreseeable future.

Goodwill
The value of all favorable attributes that relate to a company that is not attributable to any other specific asset.

Intangible assets
Rights, privileges, and competitive advantages that result from the ownership of long-lived assets that do not possess physical substance.

Licenses
Operating rights to use public property, granted to a business by a governmental agency.

Materiality concept
If an item would not make a difference in decision-making, a company does not have to follow IFRS in reporting it.

Natural resources
Assets that consist of standing timber and underground deposits of oil, gas, or minerals.

Ordinary repairs
Expenditures to maintain the operating efficiency and productive life of the plant asset.

Patent
An exclusive right issued by a patent office that enables the recipient to manufacture, sell, or otherwise control an invention for a specified number of years from the date of the grant.

Plant assets
Tangible resources that are used in the operations of the business and are not intended for sale to customers.

Research and development (R&D) costs
Expenditures that may lead to patents, copyrights, new processes, or new products.

Residual value
An estimate of an asset's value at the end of its useful life.

Revenue expenditures
Expenditures that are immediately charged against revenues as an expense.

Straight-line method
Depreciation method in which periodic depreciation is the same for each year of the asset's useful life.

Trademark (trade name)
A word, phrase, jingle, or symbol that identifies a particular enterprise or product.

Units-of-activity method
Depreciation method in which useful life is expressed in terms of the total units of production or use expected from an asset.

Useful life
An estimate of the expected productive life, also called service life, of an asset.

Practice Multiple-Choice Questions

1. **(LO 1)** Erin Danielle Electronics purchased equipment and incurred the following costs.

Cash price	€24,000
Sales taxes	1,200
Insurance during transit	200
Installation and testing	400
Total costs	€25,800

What amount should be recorded as the cost of the equipment?

a. €24,000.

b. €25,200.

c. €25,400.

d. €25,800.

Solution

2. **(LO 1)** Additions to plant assets are:

a. revenue expenditures.

b. debited to the Maintenance and Repairs Expense account.

c. debited to the Purchases account.

d. capital expenditures.

Solution

3. **(LO 2)** Depreciation is a process of:

a. valuation.

b. cost allocation.

c. cash accumulation.

d. appraisal.

Solution

4. **(LO 2)** Micah Bartlett Ltd. purchased equipment on January 1, 2024, at a total invoice cost of £400,000. The equipment has an estimated residual value of £10,000 and an estimated useful life of 5 years. The amount of accumulated depreciation at December 31, 2025, if the straight-line method of depreciation is used, is:

a. £80,000.

b. £160,000.

c. £78,000.

d. £156,000.

Solution

5. **(LO 2)** Ann Torbert purchased a truck for €11,000 on January 1, 2024. The truck will have an estimated residual value of €1,000 at the end of 5 years. Using the units-of-activity method, the balance in accumulated depreciation at December 31, 2025, can be computed by the following formula:

a. (€11,000 ÷ Total estimated activity) × Units of activity for 2025.

b. (€10,000 ÷ Total estimated activity) × Units of activity for 2025.

c. (€11,000 ÷ Total estimated activity) × Units of activity for 2024 and 2025.

d. (€10,000 ÷ Total estimated activity) × Units of activity for 2024 and 2025.

Solution

6. **(LO 2)** Chang Industries purchased a piece of equipment on January 1, 2025. The equipment cost HK$600,000 and has an estimated life of 8 years and a residual value of HK$80,000. What was the depreciation expense for the asset for 2026 under the double-declining-balance method?

a. HK$65,000.

b. HK$112,500.

c. HK$150,000.

d. HK$65,620.

Solution

7. **(LO 2)** When there is a change in estimated depreciation:

a. previous depreciation should be corrected.

b. current and future years' depreciation should be revised.

c. only future years' depreciation should be revised.

d. None of the answer choices is correct.

Solution

8. **(LO 2)** Able Towing purchased a tow truck for £60,000 on January 1, 2023. It was originally depreciated on a straight-line basis over 10 years with an assumed residual value of £12,000. On December 31, 2025, before adjusting entries had been made, the company decided to change the remaining estimated life to 4 years (including 2025) and the residual value to £2,000. What was the depreciation expense for 2025?

a. £6,000.

b. £4,800.

c. £15,000.

d. £12,100.

Solution

9. **(LO 2)** Wales Remodeling applies revaluation accounting to equipment that is recorded on its books at €800,000, with €100,000 of accumulated depreciation after depreciation for the year recorded. It has determined that the asset is now worth €775,000. The entry to record the revaluation would include a:

a. credit to Equipment of €25,000.

b. debit to Equipment of €75,000.

c. credit to Accumulated Depreciation of €100,000.

d. debit to Revaluation Surplus of €75,000.

Solution

10. **(LO 3)** Bennie Razors has decided to sell one of its old manufacturing machines on June 30, 2025. The machine was purchased for €80,000 on January 1, 2021, and was depreciated on a straight-line basis for 10 years assuming no residual value. If the machine was sold for €26,000, what was the amount of the gain or loss recorded at the time of the sale?

a. €18,000.

b. €54,000.

c. €22,000.

d. €46,000.

Solution

11. **(LO 4)** Maggie Sharrer Energy expects to extract 20 million tons of coal from a mine that cost NT$12 million. If no residual value is expected and 2 million tons are mined in the first year, the entry to

record depletion will include a:

a. debit to Accumulated Depletion of NT$2,000,000.

b. credit to Depletion Expense of NT$1,200,000.

c. debit to Inventory of NT$1,200,000.

d. credit to Accumulated Depletion of NT$2,000,000.

Solution

12. (LO 4) Which of the following statements is **false**?

a. If an intangible asset has a finite life, it should be amortized.

b. The amortization period of an intangible asset can exceed 20 years.

c. Goodwill is recorded only when a business is purchased.

d. Development costs are always expensed when incurred.

Solution

13. (LO 5) Indicate which of the following statements is **true**.

a. Since intangible assets lack physical substance, they need be disclosed only in the notes to the financial statements.

b. Goodwill should be reported as a contra account in the equity section.

c. Totals of major classes of assets can be shown in the statement of financial position, with asset details disclosed in the notes to the financial statements.

d. Intangible assets are typically combined with plant assets and extractable natural resources and shown in the property, plant, and equipment section.

Solution

14. (LO 5) Tianzi Coffee reported net sales of HK$1,800,000, net income of HK$540,000, beginning total assets of HK$2,000,000, and ending total assets of HK$3,000,000. What was the company's asset turnover?

a. 0.90.

b. 0.20.

c. 0.72.

d. 1.39.

Solution

***15. (LO 6)** Schopenhauer NV exchanged an old machine, with a book value of €39,000 and a fair value of €35,000, and paid €10,000 cash for a similar new machine. The transaction has commercial substance. At what amount should the machine acquired in the exchange be recorded on Schopenhauer's books?

a. €45,000.

b. €46,000.

c. €49,000.

d. €50,000.

Solution

***16. (LO 6)** In exchanges of assets in which the exchange has commercial substance:

a. neither gains nor losses are recognized immediately.

b. gains, but not losses, are recognized immediately.

c. losses, but not gains, are recognized immediately.

d. both gains and losses are recognized immediately.

Solution

Practice Brief Exercises

Compute straight-line and declining-balance depreciation.

1. (LO 2) Fulmer Express acquires a delivery truck at a cost of NT$50,000. The truck is expected to have a residual value of NT$5,000 at the end of its 5-year useful life. Compute annual depreciation expense for the first and second years using (a) the straight-line method and (b) the double-declining-balance method.

Solution

Prepare entries for disposal by sale.

2. (LO 3) Giolito Farming sells equipment on August 31, 2025, for €20,000 cash. The equipment originally cost €60,000 and as of January 1, 2025, had accumulated depreciation of €38,000. Depreciation for the first 8 months of 2025 is €6,000. Prepare the journal entries to (a) update depreciation to August 31, 2025, and (b) record the sale of the equipment.

Solution

Prepare entries for franchise.

3. (LO 4) Snow Restaurants acquires a limited-life franchise for ¥200,000 on January 2, 2025 (amounts in thousands). Its estimated useful life is 10 years. (a) Prepare the journal entry to record amortization expense for the first year. (b) Show how this franchise is reported on the statement of financial position at the end of the first year.

Solution

Practice Exercises

Determine depreciation for partial periods.

1. (LO 2) Winston Printing purchased a new machine on October 1, 2025, at a cost of £120,000. The company estimated that the machine will have a residual value of £12,000. The machine is expected to be used for 12,000 working hours during its 4-year life.

Instructions

Compute the depreciation expense under the following methods for the year indicated.

a. Straight-line for 2025.

b. Units-of-activity for 2025, assuming machine usage was 1,700 hours.

c. Declining-balance using double the straight-line rate for 2025 and 2026.

Solution

Prepare entries to set up appropriate accounts for different intangibles; amortize intangible assets.

2. (LO 4) Sun Moon Chemical, organized in 2025, has the following transactions related to intangible assets.

1/2/25	Purchased patent (8-year life)	NT$560,000
4/1/25	Goodwill purchased (indefinite life)	360,000
7/1/25	10-year franchise; expiration date 7/1/2035	440,000
9/1/25	Research and development costs	185,000

Instructions

Prepare the necessary entries to record these intangibles. All costs incurred were for cash. Make the adjusting entries as of December 31, 2025, recording any necessary amortization and reflecting all balances accurately as of that date. Assume all development costs were incurred prior to technological feasibility.

Solution

Practice Problems

Compute depreciation under different methods.

1. (LO 2) DuPage Manufacturing purchases a factory machine at a cost of €18,000 on January 1, 2025. DuPage expects the machine to have a residual value of €2,000 at the end of its 4-year useful life.

During its useful life, the machine is expected to be used 160,000 hours. Actual annual hourly use was 2025, 40,000; 2026, 60,000; 2027, 35,000; and 2028, 25,000.

Instructions

Prepare depreciation schedules for the following methods: (a) straight-line, (b) units-of-activity, and (c) declining-balance using double the straight-line rate.

Solution

Record disposal of plant asset.

2. (LO 3) On January 1, 2025, Hong Kong International Airport Limousine purchased a limo at an acquisition cost of HK$280,000. The vehicle has been depreciated by the straight-line method using a 4-year service life and a HK$40,000 residual value. The company's fiscal year ends on December 31.

Instructions

Prepare the journal entry or entries to record the disposal of the limousine assuming that it was:

a. Retired and scrapped on January 1, 2029.

b. Sold for HK$50,000 on July 1, 2028.

Solution

Note: Asterisked Questions, Exercises, and Problems relate to material in the appendix to the chapter.

Questions

1. Rick Baden is uncertain about the applicability of the historical cost basis to plant assets. Explain the principle to Rick.

2. What are some examples of land improvements?

3. Lexa Company acquires the land and building owned by Malta Company. What types of costs may be incurred to make the asset ready for its intended use if Lexa Company wants to use (a) only the land, and (b) both the land and the building?

4. Distinguish between revenue expenditures and capital expenditures during an asset's useful life.

5. In a recent newspaper release, the president of Wanzo OAO asserted that something has to be done about depreciation. The president said, "Depreciation does not come close to accumulating the cash needed to replace the asset at the end of its useful life." What is your response to the president?

6. Jeremy is studying for the next accounting examination. He asks your help on two questions: (a) What is residual value? (b) Is residual value used in determining periodic depreciation under each depreciation method? Answer Jeremy's questions.

7. Contrast the straight-line method and the units-of-activity method as to (a) useful life, and (b) the pattern of periodic depreciation over useful life.

8. Contrast the effects of the three depreciation methods on annual depreciation expense.

9. What is component depreciation, and when must it be used?

10. In the fourth year of an asset's 5-year useful life, the company decides that the asset will have a 6-year service life. How should the revision of depreciation be recorded? Why?

11. What is revaluation of plant assets? When should revaluation be applied?

12. How is a gain or loss on the sale of a plant asset computed?

13. Luis Cycles owns a machine that is fully depreciated but is still being used. How should Luis account for this asset and report it in the financial statements?

14. What are extractable natural resources, and what are their distinguishing characteristics?

15. Explain the concept of depletion and how it is computed.

16. What are the similarities and differences between the terms depreciation, depletion, and amortization?

17. Spectrum Pharmaceuticals hires an accounting intern who says that intangible assets should always be amortized over their legal lives. Is the intern correct? Explain.

18. Goodwill has been defined as the value of all favorable attributes that relate to a business. What types of attributes could result in goodwill?

19. Mark Gannon, a business major, is working on a case problem for one of his classes. In the case problem, the company needs to raise cash to market a new product it developed. Sara Bates, an engineering major, takes one look at the company's statement of financial position and says, "This company has an awful lot of goodwill. Why don't you recommend that it sell some of it to raise cash?" How should Mark respond to Sara?

20. Under what conditions is goodwill recorded?

21. Often, research and development costs provide companies with benefits that last a number of years. (For example, these costs can lead to the development of a patent that will increase the company's income for many years.) However, IFRS requires that many such costs be recorded as an expense when incurred. Why?

22. Some product development expenditures are recorded as research and development expenses, and others as development costs. Explain the difference between these accounts, and how a company decides which classification is appropriate.

23. **McDonald's Corporation** (USA) reports total average assets of $28.9 billion and net sales of $20.5 billion. What is the company's asset turnover?

24. Alpha SE and Zito SE operate in the same industry. Alpha uses the straight-line method to account for depreciation; Zito uses an accelerated method. Explain what complications might arise in trying to compare the results of these two companies.

25. Wanzo ASA uses straight-line depreciation for financial reporting purposes but an accelerated method for tax purposes. Is it acceptable to use different methods for the two purposes? What is Wanzo's motivation for doing this?

26. You are comparing two companies in the same industry. You have determined that Lam Ltd. depreciates its plant assets over a 40-year life, whereas Shuey Ltd. depreciates its plant assets over a 20-year life. Discuss the implications this has for comparing the results of the two companies.

27. Zelm Company is doing significant work to revitalize its warehouses. It is not sure whether it should capitalize these costs or expense them. What are the implications for current-year net income and future net income of expensing versus capitalizing these costs?

***28.** When assets are exchanged in a transaction involving commercial substance, how is the gain or loss on disposal of plant assets computed?

***29.** Morris Refrigeration Company trades in an old machine on a new model when the fair value of the old machine is greater than its book value. The transaction has commercial substance. Should Morris recognize a gain on disposal of plant assets? If the fair value of the old machine is less than its book value, should Morris recognize a loss on disposal of plant assets?

Brief Exercises

Determine the cost of land.

BE9.1 (LO 1) The following expenditures were incurred by Rosenberg Construction in purchasing land: cash price €64,000, accrued taxes €3,000, attorneys' fees €2,500, real estate broker's commission €2,000, and clearing and grading €4,400. What is the cost of the land?

Determine the cost of a truck.

BE9.2 (LO 1) Jawson Repairs incurs the following expenditures in purchasing a truck: cash price £30,000, accident insurance £2,000, sales taxes £1,800, motor vehicle license £160, and painting and lettering £400. What is the cost of the truck?

Prepare entries for delivery truck costs.

BE9.3 (LO 1) Tong Pizza had the following two transactions related to its delivery truck.

1. Paid €45 for an oil change.
2. Paid €580 to install special gear unit, which increases the operating efficiency of the truck.

Prepare Tong's journal entries to record these two transactions.

Compute straight-line depreciation.

BE9.4 (LO 2) Weller Express acquires a delivery truck at a cost of €42,000. The truck is expected to have a residual value of €9,000 at the end of its 5-year useful life. Compute annual depreciation expense for the first and second years using the straight-line method.

Compute depreciation and evaluate treatment.

BE9.5 (LO 2) Kowloon Group purchased land and a building on January 1, 2025. Management's best estimate of the value of the land was HK$1,000,000 and of the building HK$2,000,000. However, management told the accounting department to record the land at HK$2,250,000 and the building at HK$750,000. The building is being depreciated on a straight-line basis over 20 years with no residual value. Why do you suppose management requested this accounting treatment? Is it ethical?

Compute declining-balance depreciation.

BE9.6 (LO 2) Depreciation information for Weller Express is given in BE9.4. Assuming the declining-balance depreciation rate is double the straight-line rate, compute annual depreciation for the first and second years under the declining-balance method.

Compute depreciation using the units-of-activity method.

BE9.7 (LO 2) Freemont Taxi Service uses the units-of-activity method in computing depreciation on its taxicabs. Each cab is expected to be driven 150,000 miles. Taxi no. 10 cost €33,500 and is expected to have a residual value of €500. Taxi no. 10 is driven 36,000 miles in year 1 and 22,000 miles in year 2. Compute the depreciation for each year.

Compute depreciation using component method.

BE9.8 (LO 2) Mandall Ltd. constructed a warehouse for £280,000. Mandall estimates that the warehouse has a useful life of 20 years and no residual value. Construction records indicate that £40,000 of the cost

of the warehouse relates to its heating, ventilation, and air conditioning (HVAC) system, which has an estimated useful life of only 8 years. Compute the first year of depreciation expense using straight-line component depreciation.

Compute revised depreciation.

BE9.9 (LO 2) On January 1, 2025, the Vasquez SA ledger shows Equipment €32,000 and Accumulated Depreciation—Equipment €9,000. The depreciation resulted from using the straight-line method with a useful life of 10 years and residual value of €2,000. On this date, the company concludes that the equipment has a remaining useful life of only 4 years with the same residual value. Compute the revised annual depreciation.

Prepare entries for revaluation of plant assets.

BE9.10 (LO 2) At the end of its first year of operations, Brianna Industries chose to use the revaluation framework allowed under IFRS. Brianna's ledger shows Equipment £480,000 and Accumulated Depreciation—Equipment £60,000. Prepare journal entries to record the following.

a. Independent appraisers determine that the plant assets have a fair value of £468,000.

b. Independent appraisers determine that the plant assets have a fair value of £400,000.

Prepare entries for disposal by retirement.

BE9.11 (LO 3) Prepare journal entries to record the following.

a. Matterhorn AG retires its delivery equipment, which cost CHF44,000. Accumulated depreciation is also CHF44,000 on this delivery equipment. No residual value is received.

b. Assume the same information as (a), except that accumulated depreciation is CHF37,000, instead of CHF44,000, on the delivery equipment.

Prepare entries for disposal by sale.

BE9.12 (LO 3) Arma Ltd. sells equipment on September 30, 2025, for £20,000 cash. The equipment originally cost £72,000 and as of January 1, 2025, had accumulated depreciation of £42,000. Depreciation for the first 9 months of 2025 is £4,800. Prepare the journal entries to (a) update depreciation to September 30, 2025, and (b) record the sale of the equipment.

Prepare depletion entry and statement of financial position presentation for natural resources.

BE9.13 (LO 4) Jackie Chan Mining purchased for ¥7 million a mine that is estimated to have 28 million tons of ore and no residual value. In the first year, 4.7 million tons of ore are extracted.

a. Prepare the journal entry to record depletion for the first year.

b. Show how this mine is reported on the statement of financial position at the end of the first year.

Prepare amortization expense entry and statement of financial position presentation for intangibles.

BE9.14 (LO 4) Felipe Engineering purchases a patent for R$120,000 on January 2, 2025. Its estimated useful life is 8 years.

a. Prepare the journal entry to record amortization expense for the first year.

b. Show how this patent is reported on the statement of financial position at the end of the first year.

Prepare entry for research and development costs.

BE9.15 (LO 4) Newell Industries spent €260,000 on research and €600,000 on development of a new product. Of the €600,000 in development costs, €400,000 was incurred prior to technological feasibility and €200,000 after technological feasibility had been demonstrated. Prepare the journal entry to record research and development costs.

Classify long-lived assets on statement of financial position.

BE9.16 (LO 5) Information related to plant assets, extractable natural resources, and intangibles at the end of 2025 for Loomis Energy is as follows: buildings £1,300,000, accumulated depreciation—buildings £650,000, goodwill £410,000, coal mine £500,000, and accumulated depletion—coal mine £122,000. Prepare a partial statement of financial position of Loomis Energy for these items.

Analyze long-lived assets.

BE9.17 (LO 5) In a recent annual report, **Target** (USA) reported beginning total assets of $48.2 billion; ending total assets of $44.6 billion; and net sales of $72.6 billion. Compute Target's asset turnover.

Prepare entry for disposal by exchange.

***BE9.18 (LO 6)** Cordero Shipping exchanges old delivery equipment for new delivery equipment. The book value of the old delivery equipment is €33,000 (cost €61,000 less accumulated depreciation €28,000). Its fair value is €19,000, and cash of €5,000 is paid. Prepare the entry to record the exchange, assuming the transaction has commercial substance.

Prepare entry for disposal by exchange.

***BE9.19 (LO 6)** Assume the same information as BE9.18, except that the fair value of the old delivery equipment is €37,200. Prepare the entry to record the exchange.

DO IT! Exercises

Explain accounting for cost of plant assets.

DO IT! 9.1 (LO 1) Yockey HVAC purchased a delivery truck. The total cash payment was £28,220 including the following items.

Negotiated purchase price	£24,000
Installation of special shelving	1,200
Painting and lettering	780
Motor vehicle license	140
Annual insurance policy	800
Sales tax	1,300
Total paid	£28,220

Explain how each of these costs would be accounted for.

Calculate depreciation expense and make journal entry.

DO IT! 9.2a (LO 2) On January 1, 2025, Rolling Hills Country Club purchased a new riding mower for £18,000. The mower is expected to have an 8-year life with a £2,000 residual value. What journal entry would Rolling Hills make at December 31, 2025, if it uses straight-line depreciation?

Calculate revised depreciation.

DO IT! 9.2b (LO 2) Savin NV purchased a piece of equipment for €50,000. It estimated a 5-year life and €2,000 residual value. At the end of year four (before the depreciation adjustment), it estimated the new total life to be 8 years and the new residual value to be €4,000. Compute the revised depreciation.

Make journal entries to record plant asset disposal.

DO IT! 9.3 (LO 3) Forgetta Manufacturing has old equipment that cost €48,000. The equipment has accumulated depreciation of €28,000. Forgetta has decided to sell the equipment.

a. What entry would Forgetta make to record the sale of the equipment for €26,000 cash?

b. What entry would Forgetta make to record the sale of the equipment for €15,000 cash?

Match intangibles classifications concepts.

DO IT! 9.4 (LO 4) Match the statement with the term most directly associated with it.

a. Goodwill

b. Intangible assets

c. Development expenses

d. Amortization

e. Franchises

f. Development costs

1. _____ Rights, privileges, and competitive advantages that result from the ownership of long-lived assets that do not possess physical substance.
2. _____ The allocation of the cost of an intangible asset to expense in a systematic manner.
3. _____ A right to sell certain products or services, or use certain trademarks or trade names within a designated geographic area.
4. _____ Costs incurred after technological feasibility to complete the development of a new product.
5. _____ The excess of the cost of a company over the fair value of the net assets acquired.
6. _____ Costs incurred after research to bring a new product to a state of technological feasibility.

Calculate asset turnover.

DO IT! 9.5 (LO 5) For 2025, Sale Company reported beginning total assets of $300,000 and ending total assets of $340,000. Its net income for this period was $50,000, and its net sales were $400,000. Compute the company's asset turnover for 2025.

Exercises

Determine cost of plant acquisitions.

E9.1 (LO 1) Writing The following expenditures (in thousands) relating to plant assets were made by Lee Jung Ltd. during the first 2 months of 2025.

1. Paid ₩5,000 of accrued taxes at time plant site was acquired.
2. Paid ₩400 insurance to cover possible accident loss on new factory machinery while the machinery was in transit.
3. Paid ₩850 sales taxes on new delivery truck.
4. Paid ₩17,500 for parking lots and driveways on new plant site.
5. Paid ₩310 to have company name and advertising slogan painted on new delivery truck.
6. Paid ₩8,000 for installation of new factory machinery.
7. Paid ₩900 for one-year accident insurance policy on new delivery truck.
8. Paid ₩90 motor vehicle license fee on the new truck.

Instructions

a. Explain the application of the historical cost basis in determining the acquisition cost of plant assets.

b. List the numbers of the foregoing transactions, and opposite each indicate the account title to which each expenditure should be debited.

Determine property, plant, and equipment costs.

E9.2 (LO 1) Bliesmer Electronics incurred the following costs.

1.	Sales tax on factory machinery purchased	€ 5,000
2.	Painting of and lettering on truck immediately upon purchase	700
3.	Installation and testing of factory machinery	2,000
4.	Real estate broker's commission on land purchased	3,500
5.	Insurance premium paid for first year's insurance on new truck	1,100
6.	Cost of landscaping on property purchased	7,200
7.	Cost of paving parking lot for new building constructed	17,900
8.	Cost of clearing, draining, and filling land	12,600
9.	Architect's fees on self-constructed building	10,000

Instructions

Indicate to which account Bliesmer would debit each of the costs.

Determine acquisition costs of land.

E9.3 (LO 1) On March 1, 2025, Rollinger Group acquired real estate on which it planned to construct a small office building. The company paid €86,000 in cash. An old warehouse on the property was razed at a cost of €9,400; the salvaged materials were sold for €1,700. Additional expenditures before construction began included €1,100 attorney's fee for work concerning the land purchase, €5,100 real estate broker's fee, €7,800 architect's fee, and €12,700 to put in driveways and a parking lot.

Instructions

a. Determine the amount to be reported as the cost of the land.

b. For each cost not used in part (a), indicate the account to be debited.

Understand depreciation concepts.

E9.4 (LO 2) Ann Tremel has prepared the following list of statements about depreciation.

1. Depreciation is a process of asset valuation, not cost allocation.
2. Depreciation provides for the proper matching of expenses with revenues.
3. The book value of a plant asset should approximate its fair value.
4. Depreciation applies to three classes of plant assets: land, buildings, and equipment.
5. Depreciation does not apply to a building because its usefulness and revenue-producing ability generally remain intact over time.
6. The revenue-producing ability of a depreciable asset will decline due to wear and tear and to obsolescence.
7. Recognizing depreciation on an asset results in an accumulation of cash for replacement of the asset.
8. The balance in accumulated depreciation represents the total cost that has been charged to expense.
9. Depreciation expense and accumulated depreciation are reported on the income statement.
10. Three factors affect the computation of depreciation: cost, useful life, and residual value.

Instructions

Identify each statement as true or false. If false, indicate how to correct the statement.

Compute depreciation under units-of-activity method.

E9.5 (LO 2) Copacabana Bus Lines uses the units-of-activity method in depreciating its buses. One bus was purchased on January 1, 2025, at a cost of R$145,000. Over its 4-year useful life, the bus is expected to be driven 100,000 miles. Residual value is expected to be R$15,000.

Instructions

a. Compute the depreciable cost per unit.

b. Prepare a depreciation schedule assuming actual mileage was 2025, 27,000; 2026, 32,000; 2027, 24,000; and 2028, 17,000.

Determine depreciation for partial periods.

E9.6 (LO 2) Xanadu A/S purchased a new machine on October 1, 2025, at a cost of €96,000. The company estimated that the machine will have a residual value of €12,000. The machine is expected to be used for 10,000 working hours during its 5-year life.

Instructions

Compute the depreciation expense under the following methods for the year indicated.

a. Straight-line for 2025.

b. Units-of-activity for 2025, assuming machine usage was 1,700 hours.

c. Declining-balance using double the straight-line rate for 2025 and 2026.

Compute depreciation using different methods.

E9.7 (LO 2) Tanger Interiors purchased a delivery truck for R$38,000 on January 1, 2025. The truck has an expected residual value of R$6,000, and is expected to be driven 100,000 miles over its estimated

useful life of 8 years. Actual miles driven were 15,000 in 2025 and 12,000 in 2026.

Instructions

a. Compute depreciation expense for 2025 and 2026 using (1) the straight-line method, (2) the units-of-activity method, and (3) the double-declining-balance method.

b. Assume that Tanger uses the straight-line method.

1. Prepare the journal entry to record 2025 depreciation.
2. Show how the truck would be reported in the December 31, 2025, statement of financial position.

Compute depreciation under component method.

E9.8 (LO 2) Mooney Ltd. completed construction of an office building for £2,400,000 on December 31, 2024. The company estimated that the building would have a residual value of £0 and a useful life of 40 years. A more detailed review of the expenditures related to the building indicates that £300,000 of the total cost was used for personal property and £180,000 for land improvements. The personal property has a depreciable life of 5 years and land improvements have a depreciable life of 10 years.

Instructions

Compute depreciation expense for 2025 using component depreciation and the straight-line method.

Compute revised annual depreciation.

E9.9 (LO 2) Steve Grant, the new controller of Greenbriar Ltd., has reviewed the expected useful lives and residual values of selected depreciable assets at the beginning of 2025. His findings are as follows.

Type of Asset	Date Acquired	Cost	Accumulated Depreciation 1/1/25	Total Useful Life in Years		Residual Value	
				Old	Proposed	Old	Proposed
Building	1/1/15	£800,000	£190,000	40	50	£40,000	£18,000
Warehouse	1/1/20	100,000	18,000	25	20	10,000	3,700

All assets are depreciated by the straight-line method. Greenbriar uses a calendar year in preparing annual financial statements. After discussion, management has agreed to accept Grant's proposed changes.

Instructions

a. Compute the revised annual depreciation on each asset in 2025. (Show computations.)

b. Prepare the entry (or entries) to record depreciation on the building in 2025.

Journalize entries for straight-line depreciation and revaluation.

E9.10 (LO 2) Barton Enterprises purchased equipment on January 1, 2025, at a cost of €350,000. Barton uses the straight-line depreciation method, a 5-year estimated useful life, and no residual value. At the end of 2025, independent appraisers determined that the assets have a fair value of €320,000.

Instructions

a. Prepare the journal entry to record 2025 depreciation using the straight-line method.

b. Prepare the journal entry to record the revaluation of the equipment.

c. Prepare the journal entry to record 2026 depreciation, assuming no additional revaluation.

Journalize entries for straight-line depreciation and revaluation.

E9.11 (LO 2) At December 31, 2025, the end of its first year of operations, Franklin SA chose to use the revaluation framework allowed under IFRS. Franklin's ledger shows Equipment €750,000 and Accumulated Depreciation—Equipment €150,000.

Instructions

a. Independent appraisers determine that the plant assets have a fair value of €660,000. Record the revaluation.

b. Using your answer from part (a), what would be the amount of Franklin's 2026 depreciation? Assume no change in the value of Franklin's equipment in 2026, a 4-year remaining life, and no residual value.

c. Independent appraisers determine that the plant assets have a fair value of €520,000. Record the revaluation. (Ignore your answers to parts (a) and (b).)

d. Using your answer from part (c), what would be the amount of Franklin's 2026 depreciation? Assume no change in the value of Franklin's equipment in 2026, a 4-year remaining life, and no residual value.

Journalize entries for disposal of plant assets.

E9.12 (LO 3) Presented below are selected transactions at Ingles Company for 2025.

Jan.	1	Retired a piece of machinery that was purchased on January 1, 2015. The machine cost £58,000 on that date. It had a useful life of 10 years with no residual value.
June	30	Sold a computer that was purchased on January 1, 2022. The computer cost £40,000. It had a useful life of 5 years with no residual value. The computer was sold for £14,600.
Dec.	31	Discarded a delivery truck that was purchased on January 1, 2021. The truck cost £34,000. It was depreciated based on a 6-year useful life with a £4,000 residual value.

Instructions

Journalize all entries required on the above dates, including entries to update depreciation, where applicable, on assets disposed of. Ingles Company uses straight-line depreciation. (Assume depreciation is up to date as of December 31, 2024.)

Journalize entries for disposal of equipment.

E9.13 (LO 3) Francis Manufacturing owns equipment that cost €50,000 when purchased on January 1, 2022. It has been depreciated using the straight-line method based on an estimated residual value of €8,000 and an estimated useful life of 5 years.

Instructions

Prepare Francis's journal entries to record the sale of the equipment in these four independent situations.

a. Sold for €28,000 on January 1, 2025.

b. Sold for €28,000 on May 1, 2025.

c. Sold for €11,000 on January 1, 2025.

d. Sold for €11,000 on October 1, 2025.

Journalize entries for natural resources depletion.

E9.14 (LO 4) On July 1, 2025, Ticino AG invested CHF736,000 in a mine estimated to have 800,000 tons of ore of uniform grade. During the last 6 months of 2025, 124,000 tons of ore were mined.

Instructions

a. Prepare the journal entry to record depletion.

b. Assume that the 124,000 tons of ore were mined, but only 90,000 units were sold. How are the costs applicable to the 34,000 unsold units reported?

Prepare adjusting entries for amortization.

E9.15 (LO 4) The following are selected 2025 transactions of Yosuke Ltd.

Jan.	1	Purchased a small company and recorded goodwill of €150,000. Its useful life is indefinite.
May	1	Purchased for €84,000 a patent with an estimated useful life of 5 years and a legal life of 20 years.

Instructions

Prepare necessary adjusting entries at December 31 to record amortization required by the events above.

Prepare entries to set up appropriate accounts for different intangibles; amortize intangible assets.

E9.16 (LO 4) Nelson Company, organized in 2025, has the following transactions related to intangible assets.

1/2/25	Purchased patent (7-year life)	$560,000
4/1/25	Goodwill purchased (indefinite life)	360,000
7/1/25	8-year franchise; expiration date 7/1/2033	440,000
11/1/25	Research and development costs incurred prior to technological feasibility	448,000

Instructions

Prepare the necessary entries to record these intangibles. All costs incurred were for cash. Make the adjusting entries as of December 31, 2025, recording any necessary amortization and reflecting all balances accurately as of that date.

Calculate asset turnover.

E9.17 (LO 5) During 2025, Otaki Cellular reported net sales of €5,200,000 and net income of €1,500,000. Its statement of financial position reported average total assets of €1,600,000.

Instructions

Calculate the asset turnover.

Journalize entries for exchanges.

***E9.18 (LO 6)** Presented below are two independent transactions. Both transactions have commercial substance.

1. Global Co. exchanged old trucks (cost £64,000 less £22,000 accumulated depreciation) plus cash of £17,000 for new trucks. The old trucks had a fair value of £37,400.
2. Rijo Ltd. trades its used machine (cost £12,000 less £4,000 accumulated depreciation) for a new machine. In addition to exchanging the old machine (which had a fair value of £9,000), Rijo also paid cash of £3,200.

Instructions

a. Prepare the entry to record the exchange of assets by Global Co.

b. Prepare the entry to record the exchange of assets by Rijo Ltd.

Journalize entries for the exchange of plant assets.

***E9.19 (LO 6)** Jay's Delivery Company and Astro's Express Delivery exchanged delivery trucks on January 1, 2025. Jay's truck cost €22,000. It has accumulated depreciation of €16,000 and a fair value of €4,000. Astro's truck cost €10,000. It has accumulated depreciation of €7,000 and a fair value of €4,000. The transaction has commercial substance.

Instructions

a. Journalize the exchange for Jay's Delivery Company.

b. Journalize the exchange for Astro's Express Delivery.

Problems

Determine acquisition costs of land and building.

P9.1 (LO 1) Diaz SLU was organized on January 1. During the first year of operations, the following plant asset expenditures and receipts were recorded in random order.

		Debit
1.	Cost of filling and grading the land	€ 6,600
2.	Full payment to building contractor	780,000
3.	Real estate taxes on land paid for the current year	5,000
4.	Cost of real estate purchased as a plant site (land €100,000 and building €45,000)	145,000
5.	Excavation costs for new building	35,000
6.	Architect's fees on building plans	10,500
7.	Accrued real estate taxes paid at time of purchase of real estate	2,800
8.	Cost of parking lots and driveways	14,000
9.	Cost of demolishing building to make land suitable for construction of new building	15,000
		€1,013,900
	Credit	
10.	Proceeds from salvage of demolished building	€ 3,600

Instructions

Analyze the foregoing transactions using the following column headings. Insert the number of each transaction in the Item column, and then insert the amounts in the other appropriate columns. For amounts entered in the Other Accounts column, also indicate the account titles.

Item	Land	Buildings	Other Accounts
	Totals		
	Land €165,800		
	Buildings €825,500		

Compute depreciation under different methods.

P9.2 (LO 2) In recent years, Freeman Transportation purchased three used buses. Because of frequent turnover in the accounting department, a different accountant selected the depreciation method for each bus, and various methods were selected. Information concerning the buses is summarized below.

Bus	Acquired	Cost	Residual Value	Useful Life in Years	Depreciation Method
1	1/1/23	£ 96,000	£ 6,000	5	Straight-line
2	1/1/23	140,000	10,000	4	Declining-balance
3	1/1/24	92,000	8,000	5	Units-of-activity

For the declining-balance method, the company uses the double-declining rate. For the units-of-activity method, total miles are expected to be 120,000. Actual miles of use in the first 2 years were 24,000 miles in 2024 and 36,000 miles in 2025.

Instructions

a. Compute the amount of accumulated depreciation on each bus at December 31, 2025.

a. Bus 2, 12/31/24, £105,000

b. If Bus 2 was purchased on April 1 instead of January 1, what is the depreciation expense for this bus in (1) 2023 and (2) 2024?

Compute depreciation under different methods.

P9.3 (LO 2) On January 1, 2025, Pele Industries purchased the following two machines for use in its production process.

Machine A: The cash price of this machine was R$35,000. Related expenditures included: sales tax R$2,200, shipping costs R$150, insurance during shipping R$80, installation and testing costs R$70, and R$100 of oil and lubricants to be used with the machinery during its first year of operations. Pele estimates that the useful life of the machine is 5 years with a R$5,000 residual value

remaining at the end of that time period. Assume that the straight-line method of depreciation is used.

Machine B: The recorded cost of this machine was R$80,000. Pele estimates that the useful life of the machine is 4 years with a R$5,000 residual value remaining at the end of that time period.

Instructions

a. Prepare the following for Machine A.

1. The journal entry to record its purchase on January 1, 2025.
2. The journal entry to record annual depreciation at December 31, 2025.

b. Calculate the amount of depreciation expense that Pele should record for Machine B each year of its useful life under the following assumptions.

1. Pele uses the straight-line method of depreciation.
2. Pele uses the declining-balance method. The rate used is twice the straight-line rate.

b. 2. 2025 DDB

depreciation R$40,000

3. Pele uses the units-of-activity method and estimates that the useful life of the machine is 125,000 units. Actual usage is as follows: 2025, 42,000 units; 2026, 37,000 units; 2027, 28,000 units; and 2028, 18,000 units.

c. Which method used to calculate depreciation on Machine B reports the highest amount of depreciation expense in year 1 (2025)? The highest amount in year 4 (2028)? The highest total amount over the 4-year period?

Calculate revisions to depreciation expense.

P9.4 (LO 2) At the beginning of 2023, Mansen Group acquired equipment costing £80,000. It was estimated that this equipment would have a useful life of 6 years and a residual value of £8,000 at that time. The straight-line method of depreciation was considered the most appropriate to use with this type of equipment. Depreciation is to be recorded at the end of each year.

During 2025 (the third year of the equipment's life), the company's engineers reconsidered their expectations, and estimated that the equipment's useful life would probably be 7 years (in total) instead of 6 years. The estimated residual value was not changed at that time. However, during 2028 the estimated residual value was reduced to £4,400.

Instructions

Indicate how much depreciation expense should be recorded each year for this equipment, by completing the following table.

Year	Depreciation Expense	Accumulated Depreciation
2023		
2024		
2025		
2026		
2027		
2028		
2029		

2029 depreciation expense, £11,400

Journalize a series of equipment transactions related to purchase, sale, retirement, and depreciation.

P9.5 (LO 2, 3, 5) At December 31, 2024, Jimenez Enterprises reported the following as plant assets.

Land		€ 3,000,000
Buildings	€26,500,000	
Less: Accumulated depreciation—buildings	12,100,000	14,400,000
Equipment	40,000,000	
Less: Accumulated depreciation—equipment	5,000,000	35,000,000
Total plant assets		€52,400,000

During 2025, the following selected cash transactions occurred.

April	1	Purchased land for €2,200,000.
May	1	Sold equipment that cost €750,000 when purchased on January 1, 2021. The equipment was sold for €466,000.
June	1	Sold land purchased on June 1, 2015 for €1,800,000. The land cost €300,000.
July	1	Purchased equipment for €2,450,000.
Dec.	31	Retired equipment that cost €500,000 when purchased on December 31, 2015. No residual value was received.

Instructions

a. Journalize the above transactions. The company uses straight-line depreciation for buildings and equipment. The buildings are estimated to have a 50-year life and no residual value. The equipment is estimated to have a 10-year useful life and no residual value. Update depreciation on assets disposed of at the time of sale or retirement.

b. Record adjusting entries for depreciation for 2025.

b. Depreciation Expense—Buildings €530,000; Equipment €3,997,500

c. Prepare the plant assets section of Jimenez's statement of financial position at December 31, 2025.

c. Total plant assets €51,722,500

Record disposals

P9.6 (LO 3) Yount Towing has equipment that cost €50,000 and that has been depreciated €22,000.

Instructions

Record the disposal under the following assumptions.

a. It was scrapped as having no value.

b. It was sold for €25,000.

c. It was sold for €31,000.

Prepare entries to record transactions related to acquisition and amortization of intangibles; prepare the intangible assets section.

P9.7 (LO 4, 5) The intangible assets section of Glover Restaurants at December 31, 2024, is presented below.

Patents (£60,000 cost less £6,000 amortization)	£54,000
Franchises (£48,000 cost less £19,200 amortization)	28,800
Total	£82,800

The patent was acquired in January 2024 and has a useful life of 10 years. The franchise was acquired in January 2021 and also has a useful life of 10 years. The following cash transactions may have affected intangible assets during 2025.

Jan. 2	Paid £45,000 legal costs to successfully defend the patent against infringement by another company.
Jan.–June	Developed a new product, incurring £100,000 in research costs and £68,000 in development costs prior to technological feasibility. A patent was granted for the product on July 1. Its useful life is equal to its 20-year legal life.
Sept. 1	Paid £58,000 to an extremely large defensive lineman to appear in commercials advertising the company's products. The commercials will air in September and October.
Oct. 1	Acquired a franchise for £100,000. The franchise has a useful life of 40 years.

Instructions

a. Prepare journal entries to record the transactions above.

b. Prepare journal entries to record the 2025 amortization expense.

b. Amortization Expense (patents) £11,000 Amortization Expense (franchises) £5,425

c. Prepare the intangible assets section of the statement of financial position at December 31, 2025.

c. Total intangible assets £211,375

Prepare entries to correct errors made in recording and amortizing intangible assets.

P9.8 (LO 4) Due to rapid turnover in the accounting department, a number of transactions involving intangible assets were improperly recorded by the Buek Industries in 2025.

1. Buek developed a new manufacturing process, incurring research costs of €97,000 and development costs prior to technological feasibility of €50,000. The company also purchased a patent for €60,000. In early January, Buek capitalized €207,000 as the cost of the patents. Patent amortization expense of €10,350 was recorded based on a 20-year useful life.
2. On July 1, 2025, Buek purchased a small company and as a result acquired goodwill of €80,000. Buek recorded a half-year's amortization in 2025, based on a 50-year life (€800 amortization). The goodwill has an indefinite life.

Instructions

Prepare all journal entries necessary to correct any errors made during 2025. Assume the books have not yet been closed for 2025.

Research and Develop. Exp. €147,000

Calculate and comment on asset turnover.

P9.9 (LO 5) Writing Luó Ltd. and Zhào Ltd., two companies of roughly the same size, are both involved in the manufacture of in-line skates. Each company depreciates its plant assets using the straight-line approach. An investigation of their financial statements reveals the following information.

	Luó Ltd.	Zhào Ltd.
Net income	HK$ 400,000	HK$ 450,000
Sales revenue	1,240,000	1,110,000
Average total assets	2,000,000	1,500,000
Average plant assets	1,500,000	800,000

Instructions

a. For each company, calculate the asset turnover.

b. Based on your calculations in part (a), comment on the relative effectiveness of the two companies in using their assets to generate sales and produce net income.

Comprehensive Accounting Cycle Review

ACR9 Raymond Construction's trial balance at December 31, 2025, is presented as follows. All 2025 transactions have been recorded except for the items described below.

	Debit	Credit
Cash	£ 28,000	
Accounts Receivable	36,800	
Notes Receivable	10,000	
Interest Receivable	–0–	
Inventory	36,200	
Prepaid Insurance	4,400	
Land	20,000	
Buildings	160,000	
Equipment	60,000	
Patents	8,000	
Allowance for Doubtful Accounts		£ 300
Accumulated Depreciation—Buildings		49,000
Accumulated Depreciation—Equipment		24,000
Accounts Payable		28,300
Income Taxes Payable		–0–
Salaries and Wages Payable		–0–
Unearned Rent Revenue		6,000
Notes Payable (due in 2026)		11,000
Interest Payable		–0–
Notes Payable (due after 2026)		35,000
Share Capital—Ordinary		50,000
Retained Earnings		63,600
Dividends	12,000	
Sales Revenue		910,000
Interest Revenue		–0–
Rent Revenue		–0–
Gain on Disposal of Plant Assets		–0–
Bad Debt Expense	–0–	
Cost of Goods Sold	630,000	
Depreciation Expense	–0–	
Income Tax Expense	–0–	
Insurance Expense	–0–	
Interest Expense	–0–	
Other Operating Expenses	61,800	
Amortization Expense	–0–	
Salaries and Wages Expense	110,000	
Total	£1,177,200	£1,177,200

Unrecorded transactions:

1. On May 1, 2025, Raymond purchased equipment for £13,000 plus sales taxes of £780 (all paid in cash).
2. On July 1, 2025, Raymond sold for £3,500 equipment which originally cost £5,000. Accumulated depreciation on this equipment at January 1, 2025, was £1,800; 2025 depreciation prior to the sale of the equipment was £450.
3. On December 31, 2025, Raymond sold on account £9,400 of inventory that cost £6,600.

4. Raymond estimates that uncollectible accounts receivable at year-end is £4,000.
5. The note receivable is a one-year, 8% note dated April 1, 2025. No interest has been recorded.
6. The balance in prepaid insurance represents payment of a £4,400 6-month premium on October 1, 2025.
7. The building is being depreciated using the straight-line method over 40 years. The residual value is £20,000.
8. The equipment owned prior to this year is being depreciated using the straight-line method over 5 years. The residual value is 10% of cost.
9. The equipment purchased on May 1, 2025, is being depreciated using the straight-line method over 5 years, with a residual value of £1,000.
10. The patent was acquired on January 1, 2025, and has a useful life of 10 years from that date.
11. Unpaid salaries and wages at December 31, 2025, total £2,200.
12. The unearned rent revenue of £6,000 was received on December 1, 2025, for 4 months rent.
13. Both the short-term and long-term notes payable are dated January 1, 2025, and carry a 9% interest rate. All interest is payable in the next 12 months.
14. Income tax expense was £17,000. It was unpaid at December 31.

Instructions

a. Prepare journal entries for the transactions listed above.

b. Prepare a December 31, 2025, adjusted trial balance.

b. Totals £1,228,294

c. Prepare a 2025 income statement and a 2025 retained earnings statement.

c. Net income £68,256

d. Prepare a December 31, 2025, classified statement of financial position.

d. Total assets £271,996

Data Analytics in Action

Using Data Visualization to Analyze Types of Assets



DA9 Data visualization can be used to identify changes in the composition of assets.

Example: Patents are often reported on companies' statements of financial position as intangible assets. For example, consider the following chart, which shows the countries that recently had at least 100,000 patents in force.

For U.S. companies that have many patents, U.S. accounting standards (GAAP) require the amounts to be valued at historical cost on the companies' statements of financial position (balance sheets). The market value of many of the patents owned by U.S. companies such as **Dropbox**, **Google**, and **Meta Platforms** is therefore much greater than the amount reported on a company's statement of financial position.

For this case, you will use data that shows the U.S. dollar value of intangible assets compared to tangible assets held by S&P 500 companies over the last 45 years. (The S&P 500 companies are a group of the largest 500 companies that trade shares on multiple U.S. exchanges, including the New York Stock Exchange and NASDAQ.) You will create and analyze a stacked column chart to identify trends in the types of assets held by these large U.S. companies over time.

Go to the Wiley online course for complete case details and instructions.

Expand Your Critical Thinking

Financial Reporting Problem: TSMC, Ltd. (TWN)

CT9.1 The financial statements of **TSMC** are presented in Appendix A. The complete annual report, including the notes to the financial statements, is available at the company's website.

Instructions

Refer to TSMC's financial statements and answer the following questions.

a. What was the total cost and book value of property, plant, and equipment at December 31, 2020?

b. What method or methods of depreciation are used by the company for financial reporting purposes?

c. What was the amount of depreciation expense for each of the years 2020 and 2019?

d. Using the statement of cash flows, what is the amount of capital spending in 2020 and 2019?

e. Where does the company disclose its intangible assets, and what types of intangibles did it have at December 31, 2020?

Comparative Analysis Problem: Nestlé SA (CHE) vs. Delfi Limited (SGP)

CT9.2 **Nestlé**'s financial statements are presented in Appendix B. Financial statements of **Delfi Limited** are presented in Appendix C.

Instructions

a. Compute the asset turnover for each company for the most recent fiscal year presented.

b. What conclusions concerning the efficiency of assets can be drawn from these data?

Real-World Focus

CT9.3 Financial statement readers use a company's annual report to identify its plant assets and the depreciation method used.

Instructions

Select a well-known company, do an Internet search by that company name, and then answer the following questions.

a. What is the name of the company?

b. What is the Internet address of the annual report?

c. At fiscal year-end, what is the net amount of its plant assets?

d. What is the accumulated depreciation?

e. Which method of depreciation does the company use?

Decision-Making Across the Organization

CT9.4 Givens Enterprises and Runge Group are two companies that are similar in many respects. One difference is that Givens uses the straight-line method, and Runge uses the declining-balance method at double the straight-line rate. On January 2, 2023, both companies acquired the following depreciable assets.

Asset	Cost	Residual Value	Useful Life
Buildings	£320,000	£20,000	40 years
Equipment	125,000	10,000	10 years

Including the appropriate depreciation charges, annual net income for the companies in the years 2023, 2024, and 2025 and total income for the 3 years were as follows.

	2023	2024	2025	Total
Givens Enterprises	£84,000	£88,400	£90,000	£262,400
Runge Group	68,000	76,000	85,000	229,000

At December 31, 2025, the statements of financial position of the two companies are similar except that Runge has more cash than Givens.

Linda Yanik is interested in buying one of the companies. She comes to you for advice.

Instructions

With the class divided into groups, answer the following.

a. Determine the annual and total depreciation recorded by each company during the 3 years.

b. Assuming that Runge also uses the straight-line method of depreciation instead of the declining-balance method as in (a), prepare comparative income data for the 3 years.

c. Which company should Linda Yanik buy? Why?

Communication Activity

CT9.5 The following was published with the financial statements to **American Exploration Company** (USA).

> **American Exploration Company**
> **Notes to the Financial Statements**
>
> **Property, Plant, and Equipment**—The Company accounts for its oil and gas exploration and production activities using the successful efforts method of accounting. Under this method, acquisition costs for proved and unproved properties are capitalized when incurred…. The costs of drilling exploratory wells are capitalized pending determination of whether each well has discovered proved reserves. If proved reserves are not discovered, such drilling costs are charged to expense…. Depletion of the cost of producing oil and gas properties is computed on the units-of-activity method.

Instructions

Write a brief email to your instructor discussing American Exploration Company's note regarding property, plant, and equipment. Your email should address what is meant by the "successful efforts method" and "units-of-activity method."

Ethics Case

CT9.6 Dieker Containers is suffering declining sales of its principal product, non-biodegradeable plastic cartons. The president, Edward Mohling, instructs his controller, Betty Fetters, to lengthen asset lives to reduce depreciation expense. A processing line of automated plastic extruding equipment, purchased for €3.1 million in January 2025, was originally estimated to have a useful life of 8 years and a residual value of €300,000. Depreciation has been recorded for 2 years on that basis. Edward wants the estimated life changed to 12 years total, and the straight-line method continued. Betty is hesitant to make the change, believing it is unethical to increase net income in this manner. Edward says, "Hey, the life is only an estimate, and I've heard that our competition uses a 12-year life on their production equipment."

Instructions

a. Who are the stakeholders in this situation?

b. Is the change in asset life unethical, or is it simply a good business practice by an astute president?

c. What is the effect of Edward Mohling's proposed change on income before taxes in the year of change?

A Look at U.S. GAAP

> **LEARNING OBJECTIVE 7**
>
> Compare the accounting for long-lived assets under IFRS and U.S. GAAP.

GAAP follows most of the same principles as IFRS in the accounting for property, plant, and equipment. There are, however, some significant differences in the implementation: IFRS allows the use of revaluation of property, plant, and equipment, and it also requires the use of component depreciation. In addition, there are some significant differences in the accounting for both intangible assets and impairments.

Key Points

The following are the key similaries and differences between IFRS and U.S. GAAP related to the recording process for long-lived assets.

Similarities

- The definition for plant assets for both GAAP and IFRS is essentially the same.
- GAAP, like IFRS, capitalizes all direct costs in self-constructed assets such as raw materials and labor. IFRS does not address the capitalization of fixed overhead although in practice these costs are generally capitalized.
- GAAP, like IFRS, also capitalizes interest costs incurred during the construction period for self-constructed assets such as buildings.
- GAAP also views depreciation as an allocation of cost over an asset's useful life. GAAP permits the same depreciation methods (e.g., straight-line, accelerated, and units-of-activity) as IFRS.
- The accounting for subsequent expenditures, such as ordinary repairs and additions, are essentially the same under GAAP and IFRS.
- Under both GAAP and IFRS, changes in the depreciation method used and changes in useful life are handled in current and future periods. Prior periods are not affected. GAAP recently conformed to IFRS in the accounting for changes in depreciation methods.
- The accounting for plant asset disposals is essentially the same under GAAP and IFRS.
- Initial costs to acquire natural resources are recorded in essentially the same manner under GAAP and IFRS.
- The definition of intangible assets is essentially the same under GAAP and IFRS.
- The accounting for exchanges of non-monetary assets has converged between IFRS and GAAP. GAAP now requires that gains on exchanges of non-monetary assets be recognized if the exchange has commercial substance. This is the same framework used in IFRS.
- Both IFRS and GAAP record property, plant, and equipment at historical cost (also known as acquisition cost) when the asset is acquired. Acquisition cost consists of all expenditures necessary to acquire the asset and make it ready for its intended use.
- Under both GAAP and IFRS, interest costs incurred during construction are capitalized. Recently, IFRS converged to GAAP requirements in this area.

Differences

- Under GAAP, an item of property, plant, and equipment with multiple parts is generally depreciated over the useful life of the total asset. Thus, component depreciation is generally not used. However, GAAP permits companies to use component depreciation.
- GAAP uses the term **salvage value**, rather than residual value, to refer to an owner's estimate of an asset's value at the end of its useful life for that owner.
- While both IFRS and GAAP capitalize interest costs incurred during the construction period for self-constructed assets such as buildings, the method used to determine the amount of interest capitalized is different.
- IFRS allows companies to revalue plant assets to fair value at the reporting date.
- As in IFRS, under GAAP the costs associated with research and development are segregated into the two components. Costs in the research phase are always expensed under both GAAP and IFRS. Under IFRS, however, costs in the development phase are capitalized as Development Costs once technological feasibility is achieved. Under GAAP, all development costs are expensed as incurred.
- IFRS permits revaluation of intangible assets (except for goodwill). GAAP prohibits revaluation of intangible assets.
- IFRS requires an impairment test at each reporting date for plant assets and intangibles and records an impairment if the asset's carrying amount exceeds its recoverable amount. The recoverable amount is the higher of the asset's fair value less costs to sell or its value-in-use. Value-in-use is the

future cash flows to be derived from the particular asset, discounted to present value. Under GAAP, impairment loss is measured as the excess of the carrying amount over the asset's fair value.

- IFRS allows reversal of impairment losses when there has been a change in economic conditions or in the expected use of the asset. Under GAAP, impairment losses cannot be reversed for assets to be held and used; the impairment loss results in a new cost basis for the asset. IFRS and GAAP are similar in the accounting for impairments of assets held for disposal.

GAAP Practice

GAAP Self-Test Questions

1. Which of the following statements is **correct**?

a. Both IFRS and GAAP permit revaluation of property, plant, and equipment and intangible assets (except for goodwill).

b. IFRS permits revaluation of property, plant, and equipment and intangible assets (except for goodwill).

c. Both IFRS and GAAP permit revaluation of property, plant, and equipment but not intangible assets.

d. GAAP permits revaluation of property, plant, and equipment but not intangible assets.

Answer

2. Rando Company has land that cost $450,000 but now has a fair value of $600,000. Rando Company follows GAAP to account for the land. Which of the following statements is **correct**?

a. Rando Company must continue to report the land at $450,000.

b. Rando Company would report a net income increase of $150,000 due to an increase in the value of the land.

c. Rando Company would report the land at $600,000.

d. Rando Company would credit Retained Earnings by $150,000.

Answer

3. Francisco Corporation is constructing a new building at a total initial cost of $10,000,000. The building is expected to have a useful life of 50 years with no salvage value. The building's finished surfaces (e.g., roof cover and floor cover) are 5% of this cost and have a useful life of 20 years. Building services systems (e.g., electric, heating, and plumbing) are 20% of the cost and have a useful life of 25 years. The depreciation in the first year using GAAP (without component depreciation), assuming straight-line depreciation with no salvage value, is:

a. $200,000.

b. $215,000.

c. $255,000.

d. None of the answer choices is correct.

Answer

4. Research and development costs are:

a. expensed under GAAP.

b. expensed under IFRS.

c. expensed under both GAAP and IFRS.

d. None of the answer choices is correct.

Answer

5. Value-in-use is defined as:

a. net realizable value.

b. fair value.

c. future cash flows discounted to present value.

d. total future undiscounted cash flows.

Answer

GAAP Exercises

GAAP9.1 Is component depreciation required under IFRS and GAAP? Explain.

GAAP9.2 What is revaluation of plant assets? Should revaluation be applied under GAAP?

GAAP9.3 Some product development expenditures are recorded as development expenses and others as development costs. Explain the difference between these accounts and how development costs are reported under GAAP.

GAAP9.4 Mandall Company constructed a warehouse for $280,000. Mandall estimates that the warehouse has a useful life of 20 years and no salvage (residual) value. Construction records indicate that $40,000 of the cost of the warehouse relates to its heating, ventilation, and air conditioning (HVAC) system, which has an estimated useful life of only 10 years. Compute the first year of depreciation expense using straight-line component depreciation using IFRS. How might GAAP differ from IFRS?

GAAP9.5 Newell Industries spent $300,000 on research and $600,000 on development of a new product. Of the $600,000 in development costs, $400,000 was incurred prior to technological feasibility and $200,000 after technological feasibility had been demonstrated. (a) Prepare the journal entry to record research and development costs under IFRS. (b) Prepare the journal entry to record research and development costs under GAAP.

GAAP Financial Statement Analysis: Apple Inc. (USA)

GAAP9.6 The financial statements of **Apple** are presented in Appendix D. The complete annual report, including the notes to the financial statements, is available at the company's website.

Instructions

Use the company's financial statements and notes to the financial statements, available at the company's website, to answer the following questions.

a. What were the total cost and book value of property, plant, and equipment at September 26, 2020?

b. What method or methods of depreciation are used by Apple for financial reporting purposes?

c. What was the amount of depreciation and amortization expense for each of the 3 years 2018–2020? (*Hint:* Use the statement of cash flows.)

d. Using the statement of cash flows, what are the amounts of property, plant, and equipment purchased (capital expenditures) in 2020 and 2019?

Note

1 IFRS refers to an alternative method of accelerated depreciation, called the *diminishing-balance method*. Under this method, a rate is multiplied by the remaining book value to determine depreciation. The rate is calculated using the formula $\text{Rate} = 1 - \left(\sqrt[n]{\frac{\text{Residual value}}{\text{Cost}}} \right)$, where n is the estimated useful life.

Because financial calculators do not typically solve for the n^{th} root, we have chosen to present the declining-balance method.

CHAPTER 10
Current Liabilities



carrry/Getty Images

Chapter Preview

Inventor-entrepreneur Wilbert Murdock, as the following Feature Story notes, had to use multiple credit cards to finance his business ventures. Murdock's credit card debts would be classified as **current liabilities** because they are due every month. Yet, by making minimal payments and paying high amounts of interest each month, Murdock used this credit source long-term. Some credit card balances remain outstanding for years as they accumulate interest.

Feature Story

Financing His Dreams

What would you do if you had a great idea for a new product but couldn't come up with the cash to get the business off the ground? Small businesses often cannot attract investors. Nor can they obtain traditional debt financing through bank loans or bond issuances. Instead, they often resort to unusual, and costly, forms of non-traditional financing.

Such was the case for Wilbert Murdock. Murdock grew up in a New York housing project and always had great ambitions. His entrepreneurial spirit led him into some business ventures that failed: a medical diagnostic tool, a device to eliminate carpal tunnel syndrome, custom-designed sneakers, and a device to keep people from falling asleep while driving.

Another idea was computerized golf clubs that analyze a golfer's swing and provide immediate feedback. Murdock saw great potential in the idea. Many golfers are willing to shell out considerable sums of money for devices that might improve their game. But Murdock had no cash to develop his product, and banks and other lenders had shied away. Rather than give up, Murdock resorted to credit cards—in a big way. He quickly owed $25,000 to credit card companies.

While funding a business with credit cards might sound unusual, it isn't. A recent study found that one-third of businesses with fewer than 20 employees financed at least part of their operations with credit cards. As Murdock explained, credit cards are an appealing way to finance a start-up because "credit-card companies don't care how the money is spent." However, they do care how they are paid. And so Murdock faced high interest charges and a number of credit card collection letters.

Murdock's debt forced him to sacrifice nearly everything in order to keep his business afloat. His car stopped running, he barely had enough money to buy food, and he lived and worked out of a dimly lit apartment in his mother's basement. Through it all he tried to maintain a positive spirit, joking that, if he becomes successful, he might some day get to appear in an **American Express** (USA) commercial.

Source: Rodney Ho, "Banking on Plastic: To Finance a Dream, Many Entrepreneurs Binge on Credit Cards," *Wall Street Journal* (March 9, 1998), p. A1.

Chapter Outline

LEARNING OBJECTIVES	REVIEW	PRACTICE
LO 1 Explain how to account for current liabilities.	• What is a current liability? • Notes payable • Value-added and sales taxes payable • Unearned revenues • Salaries and wages • Current maturities of long-term debt	DO IT! 1 Current Liabilities
LO 2 Discuss how current liabilities are reported and analyzed.	• Reporting uncertainty • Reporting of current liabilities • Analysis of current liabilities	DO IT! 2 Reporting and Analyzing

Go to the Review and Practice section at the end of the chapter for a review of key concepts and practice applications with solutions.
Additional tutorials and practice opportunities are available in the Wiley online course.

10.1 Accounting for Current Liabilities

LEARNING OBJECTIVE 1

Explain how to account for current liabilities.

What Is a Current Liability?

You have learned that liabilities are defined as "creditors' claims on total assets" and as "existing debts and obligations." Companies must settle or pay these claims, debts, and obligations at some time in the future by transferring assets or services. The future date on which they are due or payable (the maturity date) is a significant feature of liabilities.

Recall that a **current liability** is a debt that a company expects to pay within one year or the operating cycle, whichever is longer. Debts that do not meet this criterion are **non-current liabilities.**

- Financial statement users want to know whether a company's obligations are current or non-current. A company that has more current liabilities than current assets often lacks liquidity, or short-term debt-paying ability.
- In addition, users want to know the types of liabilities a company has. If a company declares bankruptcy, a specific, predetermined order of payment to creditors exists.

Thus, the amount and type of liabilities are of critical importance.

The different types of current liabilities include notes payable, accounts payable, unearned revenues, and accrued liabilities such as taxes, salaries and wages, and interest payable (see Helpful Hint). In the sections that follow, we discuss common types of current liabilities.

> **HELPFUL HINT**
>
> **In previous chapters, we explained the entries for accounts payable and the adjusting entries for some current liabilities.**

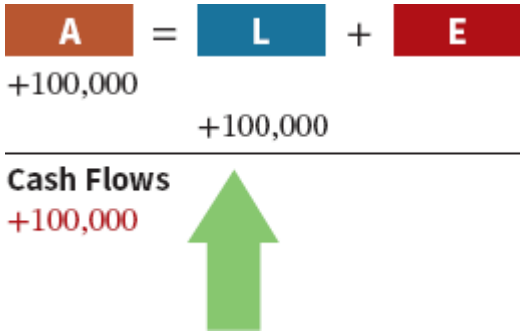
Notes Payable

Companies record obligations in the form of written notes as **notes payable**. Notes payable are often used instead of accounts payable because they give the lender formal proof of the obligation in case legal remedies are needed to collect the debt.

- Companies frequently issue notes payable to meet short-term financing needs. Notes payable usually require the borrower to pay interest.
- Notes are issued for varying periods of time. **Those due for payment within one year of the statement of financial position date are usually classified as current liabilities.**

To illustrate the accounting for notes payable, assume that First Hunan Bank agrees to lend ¥100,000 on September 1, 2025, if Yang Enterprises signs a ¥100,000, 12%, four-month note maturing on January 1 (amounts in thousands). When a company issues an interest-bearing note, the amount of assets it receives upon issuance of the note generally equals the note's face value. Yang therefore will receive ¥100,000 cash and will make the following journal entry.

Sept. 1	Cash	100,000	
	Notes Payable		100,000
	(To record issuance of 12%, 4-month note to First Hunan Bank)		



Interest accrues over the life of the note, and the company must periodically record that accrual. If Yang prepares financial statements annually, it makes an adjusting entry at December 31 to recognize interest expense and interest payable of ¥4,000 (¥100,000 × 12% × 4/12). **Illustration 10.1** shows the formula for computing interest and its application to Yang's note.

ILLUSTRATION 10.1 Formula for computing interest

Face Value of Note	×	Annual Interest Rate	×	Time in Terms of One Year	=	Interest
¥100,000	×	12%	×	4/12	=	¥4,000

Yang makes an adjusting entry as follows.

Dec. 31	Interest Expense	4,000	
	Interest Payable		4,000
	(To accrue interest for 4 months on First Hunan Bank note)		

A	=	L	+	E
				−4,000 Exp
		+4,000		

Cash Flows
no effect

In the December 31 financial statements, the current liabilities section of the statement of financial position will show notes payable ¥100,000 and interest payable ¥4,000. In addition, the company will report interest expense of ¥4,000 under "Other income and expense" in the income statement. If Yang prepared financial statements monthly, the adjusting entry at the end of each month would be for ¥1,000 (¥100,000 × 12% × 1/12).

At maturity (January 1, 2026), Yang must pay the face value of the note (¥100,000) plus ¥4,000 interest (¥100,000 × 12% × 4/12). It records payment of the note and accrued interest as follows.

Jan. 1	Notes Payable	100,000	
	Interest Payable	4,000	
	Cash		104,000
	(To record payment of First Hunan Bank interest-bearing note and accrued interest at maturity)		

A	=	L	+	E
		−100,000		
		−4,000		
−104,000				

Cash Flows
−104,000

Value-Added and Sales Taxes Payable

Most countries have a consumption tax. Consumption taxes are generally either a value-added tax (VAT) or sales tax. The purpose of these taxes is to generate revenue for the government similar to the company or personal income tax. These two taxes accomplish the same objective—to tax the final consumer of the good or service. However, the two systems use different methods to accomplish this objective.

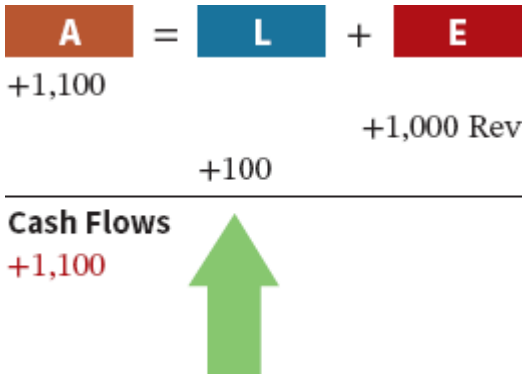
Value-Added Taxes Payable

Value-added taxes (VAT) are used by tax authorities more than sales taxes (over 100 countries require that companies collect a value-added tax). As indicated earlier, a **value-added tax** is a consumption tax. This tax is placed on a product or service whenever value is added at a stage of production and at final sale. A VAT is a cost to the end user, normally a private individual, similar to a sales tax.

- A VAT should not be confused with a sales tax. A sales tax is collected only once at the consumer's point of purchase. No one else in the production or supply chain is involved in the collection of the tax.
- In a VAT taxation system, the VAT is collected every time a business purchases products from another business in the product's supply chain.

To illustrate, assume that Hill Farms Wheat grows wheat and sells it to Sunshine Baking for €1,000. Hill Farms Wheat makes the following entry to record the sale, assuming the VAT is 10%.

Cash	1,100	
Sales Revenue		1,000
Value-Added Taxes Payable		100
(To record sales and value-added taxes)		

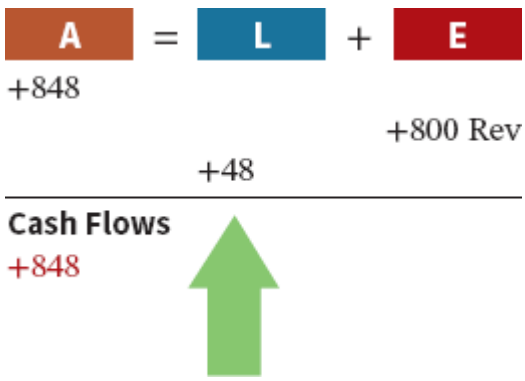


Hill Farms Wheat then remits the €100 to the tax authority.[1]

Sales Taxes Payable

To illustrate the accounting for a sales tax, Cooley Grocery sells loaves of bread totaling €800 on a given day. Assuming a sales tax rate of 6%, Cooley make the following entry record the sale.

Cash	848	
Sales Revenue		800
Sales Taxes Payable		48
(To record sales and sales taxes)		



When the company remits the taxes to the taxing agency, it debits Sales Taxes Payable and credits Cash. The company does not report sales taxes as an expense. It simply forwards to the

government the amount paid by the customers. Thus, Cooley Grocery serves only as a **collection agent** for the taxing authority.

Sometimes companies do not enter sales taxes separately in the cash register. To determine the amount of sales in such cases, divide total receipts by 100% plus the sales tax percentage. For example, assume that Cooley Grocery enters total receipts of €10,600. The receipts from the sales are equal to the sales price (100%) plus the tax percentage (6% of sales), or 1.06 times the sales total. We can compute the sales amount as follows.

$$€10,600 \div 1.06 = €10,000$$

Thus, we can find the sales tax amount of €600 by either (1) subtracting sales from total receipts (€10,600 − €10,000) or (2) multiplying sales by the sales tax rate (€10,000 × .06).

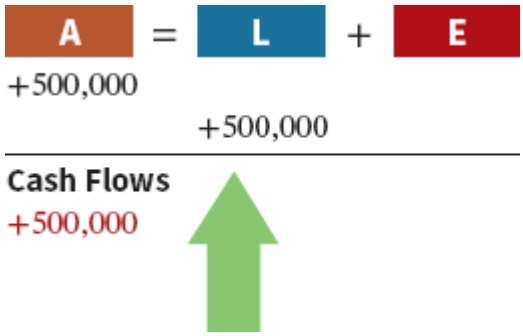
Unearned Revenues

An airline company, such as **Qantas Airways** (AUS), often receives cash when it sells tickets for future flights. A magazine publisher, such as **Finance Asia** (HKG), receives customers' payments when they order magazines. Season tickets for concerts, sporting events, and theater programs are also paid for in advance. How do companies account for unearned revenues that are received before goods are delivered or services are performed?

1. When a company receives the advance payment, it debits Cash and credits a current liability account identifying the source of the unearned revenue.
2. When the company recognizes revenue, it debits an unearned revenue account and credits a revenue account.

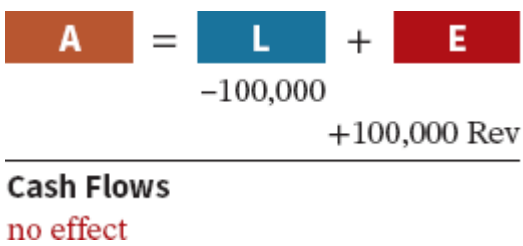
To illustrate, assume that the **Liverpool F.C.** (GBR) sells 10,000 season soccer (football) tickets at £50 each for its five-game home schedule. The club makes the following entry for the sale of season tickets.

Aug. 6	Cash (10,000 × £50)	500,000	
	Unearned Ticket Revenue		500,000
	(To record sale of 10,000 season tickets)		



As each game is completed, Liverpool records the recognition of revenue with the following entry.

Sept. 7	Unearned Ticket Revenue	100,000	
	Ticket Revenue (£500,000 ÷ 5)		100,000
	(To record ticket revenue)		



The account Unearned Ticket Revenue represents unearned revenue, and Liverpool reports it as a current liability. As the club recognizes revenue, it reclassifies the amount from unearned revenue to Ticket Revenue. Unearned revenue is substantial for some companies. In the airline industry, for example, tickets sold for future flights represent almost 50% of total current liabilities. At **United Airlines** (USA), unearned ticket revenue is its largest current liability, recently amounting to over $1 billion.

Illustration 10.2 shows specific unearned revenue and revenue accounts used in selected types of businesses.

ILLUSTRATION 10.2 Unearned revenue and revenue accounts

Type of Business	Account Title	
	Unearned Revenue	**Revenue**
Airline	Unearned Ticket Revenue	Ticket Revenue
Magazine publisher	Unearned Subscription Revenue	Subscription Revenue
Hotel	Unearned Rent Revenue	Rent Revenue

Accounting Across the Organization

SAP

SAP's Liabilities—Good or Bad?



Jerome Cid/123RF

Users of financial statements generally examine current liabilities to assess a company's liquidity and overall financial flexibility. Companies must pay many current liabilities, such as accounts payable, wages payable, and taxes payable, sooner rather than later. A substantial increase in these liabilities should therefore raise a red flag about a company's financial position. However, this is not the case for all current liabilities.

For example, **SAP** (DEU) has a current liability account entitled "Contract liabilities/deferred income" with a balance of €3.028 billion in the most recent period. This account, which has been increasing each year, is almost 24% of total current liabilities and over 13% of total liabilities. Deferred income is a liability account that arises from SAP sales of cloud subscription services and software support services where the payments are collected in advance.

Market analysts read such an increase in deferred income as a positive signal about SAP's sales and profitability. When SAP's sales are growing, its deferred income account increases. Thus, an increase in a liability is good news about SAP's sales. At the same time, a decline in deferred income is bad news. As one commentator noted, a slowdown or reversal of the growth in SAP's deferred income indicates slowing sales and also cash flows. Thus, financial statement readers have to carefully analyze increases in current liabilities to determine if it is a good or bad sign.

Source: Adapted from Glenn Wisegarver, "The SaaS Addiction to Deferred Revenue," *Forbes* (April 7, 2017).

What are some other companies where an increase in current liabilities, specifically deferred income, could be a good sign related to growth? Try to also think of companies not in the software and information technology industry.

Answer

Salaries and Wages

Companies report as a current liability the amounts owed to employees for salaries or wages at the end of an accounting period. In addition, they often also report as current liabilities the following items related to employee compensation.

1. Payroll deductions.
2. Bonuses.

Payroll Deductions

The most common types of payroll deductions are taxes, insurance premiums, employee savings, and union dues. **To the extent that a company has not remitted the amounts deducted to the proper authority at the end of the accounting period, it should recognize them as current liabilities.**

Social Security Taxes

Most governments provide a level of social benefits (for retirement, unemployment, income, disability, and medical benefits) to individuals and families. The benefits are generally funded from taxes assessed on both the employer and the employees. These taxes are often referred to as **Social Security taxes** (or **Social Welfare taxes**).

Funds for these payments generally come from taxes levied on both the employer and the employee. Employers collect the employee's share of this tax by deducting it from the employee's gross pay, and remit it to the government along with their share. The government often taxes both the employer and the employee at the same rate. **Companies should report the amount of unremitted employee and employer Social Security tax on gross wages paid as a current liability.**

Income Tax Withholding

Income tax laws generally require employers to withhold from each employee's pay the applicable income tax due on those wages. The employer computes the amount of income tax to withhold according to a government-prescribed formula or withholding tax table. That amount depends on the length of the pay period and each employee's taxable wages, marital status, and claimed dependents. **Illustration 10.3** summarizes payroll deductions and liabilities.

ILLUSTRATION 10.3 Summary of payroll liabilities

Item	Who Pays	
Income tax withholding Social Security taxes (employee share) Union dues	Employee	Employer reports these amounts as liabilities until remitted.
Social Security taxes (employer share)	Employer	

Payroll Deductions Example: Employee

Assume that Cumberland Company has a weekly payroll of $10,000 (often referred to as **gross earnings**) entirely subject to Social Security taxes (8%), with income tax withholding of $1,320 and union dues of $88 deducted. If the weekly payroll is due on January 14, Cumberland records the salaries and wages payable (often referred to as **net pay**) and the **employee payroll deductions** as follows.

Jan. 14	Salaries and Wages Expense	10,000	
	Income Taxes Payable		1,320
	Social Security Taxes Payable		800
	Union Dues Payable		88
	Salaries and Wages Payable		7,792
	(To record payroll for the week ending January 14)		

A	=	L	+	E
				−10,000
		+1,320		
		+800		
		+88		
		+7,792		
Cash Flows				
no effect				

In many cases, employees ask the employer to withhold voluntary payments for contributions to other organizations, such as payments for additional insurance or charitable organizations, which requires the recording of additional withholding liabilities.

After recording the payroll for the week, Cumberland then records the payment of the payroll as follows.

Jan. 14	Salaries and Wages Payable	7,792	
	Cash		7,792
	(To record payment of payroll)		

Payroll Deductions Example: Employer

As the employer, Cumberland is also required to pay Social Security taxes and often other taxes as well (referred to as **employer payroll taxes**). It records payroll taxes related to the January 14 payroll as follows.

Jan. 14	Payroll Tax Expense	800	
	Social Security Taxes Payable		800

At the appropriate time, Cumberland then remits to the government Social Security taxes payable from both the employer and employee side as well as other withholding amounts.

Cumberland reports any withholding liabilities as a current liability because these amounts must be paid in the near future. Taxing authorities impose substantial penalties on employers if the withholding and payroll taxes are not computed correctly and not paid on time.[2]

Profit-Sharing and Bonus Plans

Many companies give a **bonus** to certain or all employees in addition to their regular salaries or wages. Frequently, the bonus amount depends on the company's yearly profit. A company may consider **bonus payments to employees** as additional salaries and wages and should include them as a deduction in determining the net income for the year (see **Ethics Note**).

> **ETHICS NOTE**
>
> **Bonuses often reward outstanding individual performance, but successful companies also need considerable teamwork. A challenge is to motivate individuals while preventing an unethical employee from taking another's idea for his or her own advantage.**

To illustrate the entries for an employee bonus, assume that Palmer Group shows income for the year 2025 of NT$100,000. It will pay out bonuses of NT$10,700 in January 2026. Palmer makes an adjusting entry dated December 31, 2025, to record the bonuses as follows.

Salaries and Wages Expense	10,700	
Salaries and Wages Payable		10,700

In January 2026, when Palmer pays the bonus, it makes this journal entry:

Salaries and Wages Payable	10,700	
Cash		10,700

Current Maturities of Long-Term Debt

Companies often have a portion of long-term debt that comes due in the current year. That amount is considered a current liability. As an example, assume that Wendy Construction issues a five-year, interest-bearing €25,000 note on January 1, 2025. This note specifies that each January 1, starting January 1, 2026, Wendy should pay €5,000 of the note. When the company prepares financial statements on December 31, 2025, it should report €5,000 as a current liability and €20,000 as a non-current liability. (The €5,000 amount is the portion of the note that is due to be paid within the next 12 months.)

Companies often identify current maturities of long-term debt on the statement of financial position as **long-term debt due within one year**.

- It is not necessary to prepare an adjusting entry to recognize the current maturity of long-term debt.
- At the statement of financial position date, all obligations due within one year are classified as current, and all other obligations as non-current.

DO IT! 1

Current Liabilities

You and several classmates are studying for the next accounting examination. They ask you to answer the following questions (amounts in thousands).

1. If cash is borrowed on a HK$50,000, 6-month, 12% note on September 1, how much interest expense would be incurred by December 31?
2. How is the sales tax amount determined when the cash register total includes sales taxes?
3. If HK$15,000 is collected in advance on November 1 for 3 months' rent, what amount of rent revenue is recognized by December 31?
4. Gross earnings for the month by employees is HK$80,000. All earnings are subject to an 8% Social Security tax and income taxes withheld of HK$15,600. What is the amount of net pay?

ACTION PLAN

- **Use the interest formula: Face value of note × Annual interest rate × Time in terms of one year.**
- **Divide total receipts by 100% plus the tax rate to determine sales revenue; then subtract sales revenue from the total receipts.**
- **Determine what fraction of the total unearned rent should be recognized this year.**
- **Recognize that taxes withheld and Social Security costs are major payroll deductions.**

Related exercise material: **BE10.1**, **BE10.2**, **BE10.3**, **BE10.4**, **BE10.5**, **BE10.6**, **BE10.7**, **BE10.8**, **BE10.9**, **BE10.10**, **BE10.11**, **DO IT! 10.1**, **E10.1**, **E10.2**, **E10.3**, **E10.4**, **E10.5**, **E10.6**, **and E10.7**.

10.2 Reporting and Analyzing Current Liabilities

LEARNING OBJECTIVE 2

Discuss how current liabilities are reported and analyzed.

Reporting Uncertainty

With notes payable, interest payable, accounts payable, value-added and sales taxes payable, and salaries and wages payable, we know that an obligation to make a payment exists. Suppose, however, that your company is involved in a lawsuit which, if you lose, might result in bankruptcy. How should you report this major contingency? The answers to questions like this are difficult because these liabilities are dependent upon some future event.

- A **provision** is a liability of uncertain timing or amount (sometimes referred to as an (*estimated liability*).
- Provisions are very common and may be reported either as current or non-current depending on the date of expected payment.

- Common types of provisions are obligations related to litigation expense, warranty expense or product guarantees, and environmental damage.

For example, **Yancheng Petroleum** (CHN) reported HK$143 million related to provisions for decommissioning liabilities. **Sony** (JPN) reported ¥66,943 million for warranties of its products.

The difference between a provision and other liabilities (such as accounts or notes payable, salaries and wages payable, and dividends payable) is that **a provision has greater uncertainty about the timing or amount of the future expenditure required to settle the obligation**. For example, when **Giant Manufacturing** (TWN) reports an accounts payable, there is an invoice or formal agreement as to the existence and the amount of the liability. Similarly, when Giant accrues interest payable, the timing and the amount are known.

Recognition of a Provision

Companies accrue an expense and related liability for a provision only if the following three conditions are met.

1. A company has a present obligation as a result of a past event;
2. It is probable that an outflow of resources will be required to settle the obligation; and
3. A reliable estimate can be made of the amount of the obligation.

If these three conditions are not met, no provision is recognized.

In applying the second condition, the term **probable** is defined as "more likely than not to occur." This phrase is interpreted to mean the probability of occurrence is greater than 50%. If the probability is 50% or less, the provision is not recognized.

Reporting a Provision

Product warranties are an example of a provision that companies should record in the accounts. Warranty contracts result in future costs that companies may incur in replacing defective units or repairing malfunctioning units. Generally, a manufacturer, such as **Sony** (JPN), knows that it will incur some warranty costs on its most recent version of its Playstation. From prior experience with these products, the company usually can reasonably estimate the anticipated cost of servicing (honoring) the warranty.

- The accounting for warranty costs is based on the expense recognition principle.
- **The estimated cost of honoring product warranty contracts should be recognized as an expense in the period in which the sale occurs**.

To illustrate, assume that in 2025 Denson Manufacturing sells 10,000 washers and dryers at an average price of €600 each. The selling price includes a one-year warranty on parts. Denson expects that 500 units (5%) will be defective and that warranty repair costs will average €80 per unit. In 2025, the company honors warranty contracts on 300 units, at a total cost of €24,000.

Denson records those repair costs incurred in 2025 to honor warranty contracts on 2025 sales as shown below.

Jan. 1–	Warranty Expense	24,000	
Dec. 31	Repair Parts		24,000
	(To record honoring of 300 warranty contracts on 2025 sales)		

At December 31, to accrue the estimated warranty costs on the 2025 sales less the amount already honored in 2025 of €24,000, Denson computes the estimated warranty liability as shown in Illustration 10.4.

ILLUSTRATION 10.4 Computation of estimated warranty liability

Number of units sold	10,000
Estimated rate of defective units	× 5%
Total estimated defective units	500
Average warranty repair cost	× €80
Estimated warranty liability	€40,000
Less: Warranty claims honored	24,000
Warranty liability at December 31, 2025	**€16,000**

The company makes the following adjusting entry for €16,000 after it adjusts for €24,000 of warranty claims honored during 2025.

Warranty Expense	16,000	
Warranty Liability		16,000
(To record estimated warranty liability)		

The company reports warranty expense of €40,000 (€24,000 + €16,000) under selling expenses in the income statement. It classifies warranty liability of €16,000 (€40,000 − €24,000) as a current liability on the statement of financial position, assuming the warranty is estimated to be honored in the next year.

In the following year, Denson should debit to Warranty Liability all expenses incurred in honoring warranty contracts on 2025 sales. To illustrate, assume that the company replaces 20 defective units in January 2026, at an average cost of €80 in parts and labor. The summary entry for the month of January 2026 is as follows.

Jan. 31	Warranty Liability	1,600	
	Repair Parts		1,600
	(To record honoring of 20 warranty contracts on 2025 sales)		

Reporting of Current Liabilities

Current liabilities are reported after non-current liabilities on the statement of financial position.

- Companies list each of the principal types of current liabilities separately within this category.
- In addition, companies disclose the terms of notes payable and other key information about the individual items in the notes to the financial statements.
- As a matter of custom, many companies show notes payable first and then accounts payable, regardless of amount. The current maturity of long-term debt is often shown last in the current liabilities section.

Illustration 10.5 provides an excerpt from Croix Beverages' statement of financial position, which is a common order of presentation among companies (see Helpful Hint).

> **HELPFUL HINT**
>
> **For other examples of current liabilities sections, refer to the TSMC and Nestlé statements of financial position in Appendices A and B.**

ILLUSTRATION 10.5 Statement of financial position reporting of current liabilities

Croix Beverages Statement of Financial Position December 31, 2025 (partial, in thousands)	
Current liabilities	
Notes payable	€ 4,157
Accounts payable	3,990
Accrued expenses	1,847
Salaries and wages payable	1,730
Unearned revenues	555
Income taxes payable	259
Warranty liability	141
Long-term debt due within one year	3,531
Total current liabilities	€16,210

Analysis of Current Liabilities

Use of current and non-current classifications makes it possible to analyze a company's liquidity. **Liquidity** refers to the ability to pay maturing obligations and meet unexpected needs for cash.

- The relationship of current assets to current liabilities is critical in analyzing liquidity.
- We can express this relationship as a currency amount (working capital) and as a ratio (the current ratio).
- The excess of current assets over current liabilities is **working capital**.

Illustration 10.6 shows the formula for the computation of Croix Beverages' working capital, assuming current assets were €20,856 (euro amounts in thousands).

ILLUSTRATION 10.6 Working capital formula and computation

Current Assets	–	Current Liabilities	=	Working Capital
€20,856	–	€16,210	=	€4,646

As an absolute euro amount, working capital offers limited informational value. For example, €1 million of working capital may be far more than needed for a small company but inadequate for a large corporation. Also, €1 million of working capital may be adequate for a company at one time but inadequate at another time.

- The **current ratio** permits us to compare the liquidity of different-sized companies and of a single company at different times.
- The current ratio is calculated as current assets divided by current liabilities.

Illustration 10.7 shows the formula for this ratio, along with its computation using Croix's current asset and current liability data (euro amounts in thousands).

ILLUSTRATION 10.7 Current ratio formula and computation

Current Assets	÷	Current Liabilities	=	Current Ratio
€20,856	÷	€16,210	=	1.29:1

Historically, companies and analysts considered a current ratio of 2:1 to be the standard for a good credit rating. In recent years, however, many healthy companies have maintained ratios well below 2:1 by improving management of their current assets and liabilities. Croix's ratio of 1.29:1 is adequate but certainly below the standard of 2:1.

DO IT! 2

Reporting and Analyzing

Tron Cellular has the following account balances at December 31, 2025 (amounts in thousands).

Notes payable (NT$80,000 due after 12/31/26)	NT$200,000
Unearned service revenue	75,000
Other long-term debt (NT$30,000 due in 2026)	150,000
Salaries and wages payable	22,000
Other accrued expenses	15,000
Accounts payable	100,000

In addition, Tron is involved in a lawsuit. Legal counsel feels it is probable Tron will pay damages of NT$38,000 in 2026.

a. Prepare the current liabilities section of Tron's December 31, 2025, statement of financial position.

b. Tron's current assets are NT$504,000. Compute Tron's working capital and current ratio.

ACTION PLAN

- **Determine which liabilities will be paid within one year or the operating cycle and include those as current liabilities.**
- **If the provision is probable and reliably estimable, include it as a current liability.**
- **Use the formula for working capital: Current assets – Current liabilities.**
- **Use the formula for the current ratio: Current assets ÷ Current liabilities.**

Related exercise material: **BE10.12**, **BE10.13**, **BE10.14**, **DO IT! 10.2**, **E10.13**, **E10.14**, **and E10.15**.

Review and Practice

Learning Objectives Review

1 Explain how to account for current liabilities.

A current liability is a debt that a company expects to pay within one year or the operating cycle, whichever is longer. The major types of current liabilities are notes payable, accounts payable, value-added and sales taxes payable, unearned revenues, and accrued liabilities such as taxes, salaries and wages, and interest payable.

When a promissory note is interest-bearing, the amount of assets received upon the issuance of the note is generally equal to the face value of the note. Interest expense accrues over the life of the note. At maturity, the amount paid equals the face value of the note plus accrued interest.

Companies record value-added and sales taxes payable at the time the related sales occur. The company serves as a collection agent for the taxing authority. These taxes are not an expense to the company. Companies initially record unearned revenues in an Unearned Revenue account. As a company recognizes revenue, a transfer from unearned revenue to revenue occurs. Companies report related payroll liabilities such as Social Security taxes payable, income taxes payable, and salaries and wages payable as current liabilities. Companies report the current maturities of long-term debt as a current liability in the statement of financial position.

2 Discuss how current liabilities are reported and analyzed.

With notes payable, interest payable, accounts payable, and sales taxes payable, an obligation to make a payment exists. Companies report a provision, which is a liability of uncertain timing or amount (sometimes referred to as an estimated liability). Provisions are very common and may be reported either as current or non-current depending on the date of expected payment. Companies accrue an expense and related liability for a provision.

Companies should report the nature and amount of each current liability in the statement of financial position or in schedules in the notes accompanying the statements. The liquidity of a company may be analyzed by computing working capital and the current ratio.

Glossary Review

Bonus
Compensation to management and other personnel, based on factors such as increased sales or the amount of net income.

Current liabilities
Obligations that a company expects to pay within one year or the operating cycle, whichever is longer.

Current ratio
A measure of a company's liquidity; computed as current assets divided by current liabilities.

Employee payroll deductions
Deductions from gross earnings to determine the amount of a paycheck.

Employer payroll taxes
Social Security taxes owed by employers.

Gross earnings
Total compensation earned by an employee.

Net pay
Gross pay less payroll deductions.

Notes payable

Obligations in the form of written notes.

Provision

Liability of uncertain timing or amount.

Social Security (Social Welfare) taxes

Taxes assessed on employees and employers by the government to fund social costs.

Working capital

A measure of a company's liquidity; computed as current assets minus current liabilities.

Practice Multiple-Choice Questions

1. (LO 1) The time period for classifying a liability as current is one year or the operating cycle, whichever is:

a. longer.

b. shorter.

c. probable.

d. possible.

2. (LO 1) To be classified as a current liability, a debt must be expected to be paid within:

a. one year.

b. the operating cycle.

c. 2 years.

d. one year or the operating cycle, whichever is longer.

3. (LO 1) Ong Imports borrows ₩88,500 (amounts in thousands) on September 1, 2025, from Seoul City Bank by signing an ₩88,500, 12%, one-year note. What is the accrued interest at December 31, 2025?

a. ₩2,655.

b. ₩3,540.

c. ₩4,425.

d. ₩10,620.

4. (LO 1) RS Company borrowed €70,000 on December 1 on a 6-month, 6% note. At December 31:

a. neither the note payable nor the interest payable is a current liability.

b. the note payable is a current liability, but the interest payable is not.

c. the interest payable is a current liability but the note payable is not.

d. both the note payable and the interest payable are current liabilities.

5. (LO 1) Becky Sherrick Company has total proceeds from sales of $4,515. If the proceeds include sales taxes of 5%, the amount to be credited to Sales Revenue is:

a. $4,000.

b. $4,300.

c. $4,289.25.

d. None of the answer choices is correct.

6. **(LO 1)** Sensible Insurance Company collected a premium of $18,000 for a 1-year insurance policy on April 1. What amount should Sensible report as a current liability for Unearned Service Revenue at December 31?

a. $0.

b. $4,500.

c. $13,500.

d. $18,000.

7. **(LO 1)** When recording the employer's payroll costs:

a. gross earnings are recorded as salaries and wages payable.

b. net pay is recorded as salaries and wages expense.

c. payroll deductions are recorded as liabilities.

d. more than one of the answer choices is correct.

8. **(LO 1)** Employers' payroll taxes include:

a. salaries and wages expense.

b. union dues payable.

c. income taxes payable.

d. Social Security taxes payable.

9. **(LO 2)** A provision should be recorded in the accounts when:

a. it is probable the cash outflow will happen, but the amount cannot be reliably estimated.

b. it is possible the cash outflow will happen, and the amount can be reliably estimated.

c. it is probable the cash outflow will happen, and the amount can be reliably estimated.

d. it is possible the contingency will happen, but the amount cannot be reliably estimated.

10. **(LO 2)** At December 31, Beijing Supply prepares an adjusting entry for a product warranty contract. Which of the following accounts is/are included in the entry?

a. Miscellaneous Expense.

b. Warranty Expense.

c. Repair Parts.

d. Both Miscellaneous Expense and Warranty Expense.

11. **(LO 2)** Working capital is calculated as:

a. current assets minus current liabilities.

b. total assets minus total liabilities.

c. non-current liabilities minus current liabilities.

d. either total assets minus total liabilities, or non-current liabilities minus current liabilities.

12. **(LO 2)** The current ratio is computed as:

a. total assets divided by total liabilities.

b. total assets divided by current liabilities.

c. current assets divided by total liabilities.

d. current assets divided by current liabilities.

Practice Brief Exercises

Compute value-added taxes payable.

1. **(LO 1)** Pond Discounts does not segregate sales and value-added taxes at the time of sale. The register total for March 16 is ¥19,928 (amounts in thousands). All sales are subject to a 6% value-added tax. Compute value-added taxes payable, and make the entry to record the company's sales for March 16.

Compute gross earnings and net pay.

2. **(LO 1)** Ben Borke's regular hourly wage rate is $20, and he receives an hourly rate of $30 for work in excess of 40 hours. During a January pay period, Ben works 46 hours. Ben's income tax withholding is $123, he has no voluntary deductions, and the Social Security tax rate is 7.65%. Compute Ben's gross earnings and net pay for the pay period.

Prepare adjusting entry for warranty costs.

3. **(LO 2)** On October 1, Oswald Electronics introduces a new product that includes a one-year warranty on parts. By year-end, 3,000 units are sold. Management believes that 6% of the units will be defective and that the average warranty costs will be €120 per unit. Prepare the adjusting entry at December 31 to accrue the estimated warranty cost. No warranties have been honored as of December 31.

Practice Exercises

Prepare entries for interest-bearing notes.

1. **(LO 1)** On June 1, Song Group borrows ¥150,000 from First Bank on a 6-month, ¥150,000, 8% note (amounts in thousands).

Instructions

a. Prepare the entry on June 1.

b. Prepare the adjusting entry on June 30.

c. Prepare the entry at maturity (December 1), assuming monthly adjusting entries have been made through November 30.

d. What was the total financing cost (interest expense)?

Record liabilities related to salaries and wages.

2. (LO 1) During the month of September, Lake Corporation's employees earned wages of $60,000. Withholdings related to these wages were $4,590 for Social Security, $6,500 for income tax, and $2,000 for union dues.

Prepare the September 30 journal entries for (a) salaries and wages expense and salaries and wages payable, (b) payment of salaries and wages, and (c) the company's payroll tax expense.

Prepare current liabilities section of the statement of financial position and evaluate liquidity.

3. (LO 2) Kuo Theater has the following liability accounts after posting adjusting entries (amounts in thousands): Accounts Payable NT$77,000, Unearned Ticket Revenue NT$36,000, Warranty Liability NT$25,000, Interest Payable NT$10,000, Mortgage Payable NT$150,000, Notes Payable NT$100,000, and Sales Taxes Payable NT$14,000. Assume the company's operating cycle is less than 1 year, ticket revenue will be recognized within 1 year, warranty costs are expected to be incurred within 1 year, and the notes mature in 3 years.

Instructions

a. Prepare the current liabilities section of the statement of financial position, assuming NT$40,000 of the mortgage is payable next year.

b. Comment on Kuo's liquidity, assuming total current assets are NT$350,000.

Practice Problem

Record current liabilities and provisions.

(LO 1, 2) Boha Group had the following selected transactions (amounts in thousands).

Feb. 1 Signs a ¥50,000, 6-month, 9%-interest-bearing note payable to CitiBank and receives ¥50,000 in cash.

10 Cash register sales total ¥43,200, which includes an 8% value-added tax.

28 The payroll for the month consists of salaries and wages of ¥50,000. All wages are subject to 8% Social Security taxes. A total of ¥8,900 income taxes are withheld. The salaries are paid on March 1.

28 The company develops the following adjustment data.

1. Interest expense of ¥375 has been incurred on the note.
2. Employer payroll taxes include 8% Social Security taxes.
3. Some sales were made under warranty. Of the units sold under warranty, 350 are expected to become defective. Repair costs are estimated to be ¥40 per unit.

Instructions

a. Journalize the February transactions.

b. Journalize the adjusting entries at February 28.

Questions

1. Anjali Kumar believes a current liability is a debt that can be expected to be paid in one year. Is Anjali correct? Explain.

2. Petrocelli Foods obtains €40,000 in cash by signing a 7%, 6-month, €40,000 note payable to First Bank on July 1. Petrocelli's fiscal year ends on September 30. What information should be reported for the note payable in the annual financial statements?

3.

a. Your roommate says, "Value-added taxes are reported as an expense in the income statement." Do you agree? Explain.

b. Miaoli Company has cash proceeds from sales of NT$8,400 (amounts in thousands). This amount includes NT$400 of sales taxes. Give the entry to record the proceeds.

4. South Ulsan University sold 15,000 season football tickets at NT$80 (in thousands) each for its six-game home schedule. What entries should be made (a) when the tickets were sold, and (b) after each game?

5. What is liquidity? What are two measures of liquidity?

6. What is a provision? Give an example of a provision.

7. What is the difference between gross pay and net pay? Which amount should a company record as wages and salaries expense?

8. Which payroll tax is generally levied on both employers and employees?

9. Are the income taxes withheld from employee paychecks a payroll tax expense for the employer? Explain your answer.

10. How does working capital differ from the current ratio? How are they similar?

11. When should liabilities for each of the following items be recorded on the books of a company? (1) Warranty, (2) acquisition of goods by purchase on credit, and (3) profit-sharing bonus.

Brief Exercises

Identify whether obligations are current liabilities.

BE10.1 (LO 1) Jamison Company has the following obligations at December 31: (a) a note payable for $100,000 due in 2 years, (b) a 10-year mortgage payable of $300,000 payable in ten $30,000 annual payments, (c) interest payable of $15,000 on the mortgage, and (d) accounts payable of $60,000. For each obligation, indicate whether it should be classified as a current liability. (Assume an operating cycle of less than one year.)

Prepare entries for an interest-bearing note payable.

BE10.2 (LO 1) Pom Computers borrows HK$60,000 on July 1 from the bank by signing a HK$60,000, 10%, one-year note payable (amounts in thousands).

a. Prepare the journal entry to record the proceeds of the note.

b. Prepare the journal entry to record accrued interest at December 31, assuming adjusting entries are made only at the end of the year.

Compute and record sales taxes payable.

BE10.3 (LO 1) Coghlan Auto Supply does not segregate sales and sales taxes at the time of its cash sales. The register total for March 16 is €16,380. All sales are subject to a 5% sales tax. Compute sales taxes payable, and make the entry to record sales taxes payable and sales revenue.

Prepare entry for value-added taxes.

BE10.4 (LO 1) Dillons AS made credit sales of €30,000 which are subject to 6% VAT. The company also made cash sales which totaled €20,670 including the 6% VAT. (a) Prepare the entry to record Dillons' credit sales. (b) Prepare the entry to record Dillons' cash sales.

Prepare entries for liabilities related to salaries and wages.

BE10.5 (LO 1) Lexington AG's weekly payroll of €24,000 included Social Security taxes withheld of €1,920, income taxes withheld of €2,990, and insurance premiums withheld of €250. Prepare the journal entry to record Lexington's payroll.

Prepare entries for unearned revenues.

BE10.6 (LO 1) Sport Pro Magazine sold 12,000 annual subscriptions of its monthly magazine on August 1, 2025, for €18 each. Prepare Sport Pro's August 1, 2025, journal entry and the December 31, 2025, annual adjusting entry.

Prepare entries for unearned revenues.

BE10.7 (LO 1) Derby University sells 4,000 season basketball tickets at $210 each for its 12-game home schedule. Give the entry to record (a) the sale of the season tickets and (b) the revenue recognized by playing the first home game.

Prepare entries for liabilities related to salaries and wages.

BE10.8 (LO 1) Mayaguez Ltd. provides its officers with bonuses based on net income. For 2025, the bonuses total £350,000 and are paid on February 15, 2026. Prepare Mayaguez's December 31, 2025, adjusting entry and the February 15, 2026, entry.

Compute gross earnings and net pay.

BE10.9 (LO 1) Rachel Shinnar's gross earnings for the week are €800. Rachel's income tax withholding is €95, she has no voluntary deductions, and the Social Security tax rate is 6%. Compute Rachel's net pay for the pay period.

Record a payroll and the payment of wages.

BE10.10 (LO 1) Data for Rachel Shinnar are presented in BE10.9. Prepare the journal entries to record (a) Rachel's pay for the period and (b) the payment of Rachel's wages. Use January 15 for the end of the pay period and the payment date.

Record employer payroll taxes.

BE10.11 (LO 1) In January, gross earnings in Lugo Company totaled $80,000. All earnings are subject to 7.65% Social Security taxes and income taxes at 20%. Prepare the entry to record January payroll tax expense for the employer.

Prepare adjusting entry for warranty costs.

BE10.12 (LO 2) On December 1, New Belgium Appliances introduces a new product that includes a one-year warranty on parts. In December, 1,000 units are sold. Management believes that 5% of the units will be defective and that the average warranty costs will be €90 per unit. Prepare the adjusting entry at December 31 to accrue the estimated warranty cost.

Prepare entries related to provisions.

BE10.13 (LO 2) Scorcese A.Ş. is involved in a lawsuit at December 31, 2025. (a) Prepare the December 31 entry assuming it is probable that Scorcese will be liable for ₺900,000 as a result of this suit. (b) Prepare the December 31 entry, if any, assuming it is *not* probable that Scorcese will be liable for any payment as a result of this suit.

Analyze liquidity.

BE10.14 (LO 2) Yahoo! Inc.'s (USA) recent financial statements contain the following selected data (in thousands).

Current assets	$ 4,594,772	Current liabilities	$1,717,728
Total assets	14,936,030	Total liabilities	2,417,394

Compute (a) working capital and (b) current ratio.

DO IT! Exercises

Answer questions about current liabilities.

DO IT! 10.1 (LO 1) You and several classmates are studying for the next accounting exam. They ask you to answer the following questions:

1. If cash is borrowed on a €70,000, 9-month, 6% note on August 1, how much interest expense would be incurred by December 31?
2. The cash register total including sales taxes is €42,000, and the sales tax rate is 5%. What is the sales taxes payable?
3. If €45,000 is collected in advance on November 1 for 6-month magazine subscriptions, what amount of subscription revenue should be recognized by December 31?

Prepare current liabilities section and compute liquidity measures.

DO IT! 10.2 (LO 2) Eslite Company, has the following account balances at December 31, 2025 (amounts in thousands).

Notes payable (NT$60,000 due after 12/31/26)	NT$100,000
Unearned service revenue	70,000
Other long-term debt (NT$90,000 due in 2026)	250,000
Salaries and wages payable	32,000
Accounts payable	63,000

In addition, Eslite is involved in a lawsuit. Legal counsel feels it is probable Eslite will pay damages of NT$25,000 in 2026.

a. Prepare the current liabilities section of Eslite's December 31, 2025, statement of financial position.

b. Eslite's current assets are NT$570,000. Compute Eslite's working capital and current ratio.

Exercises

Prepare entries for interest-bearing notes.

E10.1 (LO 1) Ang Hsu Enterprises had the following transactions involving notes payable (amounts in thousands).

July 1, 2025	Borrows NT$50,000 from First Taiwan Bank by signing a 9-month, 8% note.
Nov. 1, 2025	Borrows NT$60,000 from Nantou City Bank by signing a 3-month, 6% note.
Dec. 31, 2025	Prepares adjusting entries.
Feb. 1, 2026	Pays principal and interest to Nantou City Bank.
Apr. 1, 2026	Pays principal and interest to First Taiwan Bank.

Instructions

Prepare journal entries for each of the transactions.

Prepare entries for interest-bearing notes.

E10.2 (LO 1) On June 1, Merando Company borrows $90,000 from First Bank on a 6-month, $90,000, 8% note.

Instructions

a. Prepare the entry on June 1.

b. Prepare the adjusting entry on June 30.

c. Prepare the entry at maturity (December 1), assuming monthly adjusting entries have been made through November 30.

d. What was the total financing cost (interest expense)?

Journalize sales and related taxes.

E10.3 (LO 1) In performing accounting services for small businesses, you encounter the following situations pertaining to cash sales.

1. Poole Suppliers enters sales and sales taxes separately on its cash register. On April 10, the register totals are sales £30,000 and sales taxes £1,500.
2. Waterman Aquatics does not segregate sales and sales taxes. Its register total for April 15 is £25,680, which includes a 7% sales tax.

Instructions

Prepare the entry to record the sales transactions and related taxes for each client.

Prepare entries for sales and value-added taxes.

E10.4 (LO 1) During the month of June, Danielle's Boutique had cash sales of £265,000 and credit sales of £153,700, both of which include the 6% sales tax that must be remitted to the government by July 15.

Instructions

a. Prepare the adjusting entry that should be recorded to fairly present the June 30 financial statements.

b. How would the adjusting entry change if the 6% tax was a VAT rather than a sales tax?

Journalize unearned subscription revenue.

E10.5 (LO 1) Moorehead Communications publishes a monthly sports magazine, *Walkabout Preview*. Subscriptions to the magazine cost €20 per year. During November 2025, Moorehead sells

15,000 subscriptions beginning with the December issue. Moorehead prepares financial statements quarterly and recognizes subscription revenue at the end of the quarter. The company uses the accounts Unearned Subscription Revenue and Subscription Revenue.

Instructions

a. Prepare the entry in November for the receipt of the subscriptions.

b. Prepare the adjusting entry at December 31, 2025, to record sales revenue recognized in December 2025.

c. Prepare the adjusting entry at March 31, 2026, to record sales revenue recognized in the first quarter of 2026.

Prepare entries related to salaries and wages.

E10.6 (LO 1) The payroll of Kee Ltd. for September 2025 is as follows (amounts in thousands): total payroll was ¥340,000; income taxes in the amount of ¥80,000 were withheld, as was ¥9,000 in union dues; and the current Social Security tax is 8% of an employee's wages. The employer must also remit 8% for employees' wages for Social Security taxes.

Instructions

Prepare the journal entries to record (a) salaries and wages payable, (b) salaries and wages paid, and (c) employer payroll taxes.

Prepare entries related to salaries and wages.

E10.7 (LO 1) Allison Hardware Ltd.'s payroll for November 2025 is €200,000. The Social Security rate is 8% on an employee's wages. Income tax withheld amounts to €29,000.

Instructions

Prepare the journal entries to record (a) salaries and wages payable and (b) Allison Hardware Ltd.'s payroll tax expense.

Prepare entries for warranties.

E10.8 (LO 2) Soundgarden Ltd. sold 200 color laser copiers on July 10, 2025, for £4,000 apiece, together with a 1-year warranty. Maintenance on each copier during the warranty period is estimated to be £330.

Instructions

Prepare entries to record the sale of the copiers, the related warranty costs, and any accrual on December 31, 2025. Actual warranty costs (inventory) incurred in 2025 were £17,000.

Record estimated liability and expense for warranties.

E10.9 (LO 2) Ting Manufacturing sells its products with a 75-day warranty for defective merchandise. Based on past experience, Ting estimates that 3% of the units sold will become defective during the warranty period. Management estimates that the average cost of replacing or repairing a defective unit is NT$15 (amounts in thousands). The units sold and units defective that occurred during the last 2 months of 2025 are as follows.

Month	Units Sold	Units Defective Prior to December 31
November	30,000	600
December	32,000	400

Instructions

a. Prepare the journal entries to record the provision for warranties and the costs incurred in honoring 1,000 warranty claims. (Assume actual costs of NT$15,000.)

b. Determine the estimated warranty liability at December 31 for the units sold in November and December.

c. Give the entry to record the honoring of 500 warranty contracts in January at an average cost of NT$15.

Record expense for warranties.

E10.10 (LO 2) Streep Factory provides a 2-year warranty with one of its products which was first sold in 2025. Streep sold $1,000,000 of products subject to the warranty. Streep expects $125,000 of warranty costs over the next 2 years. In 2025, Streep spent $70,000 servicing warranty claims. Prepare Streep's journal entries in 2025 to record the sales of its products, the costs incurred in honoring the warranties (assume expenditures are for repair costs), and the estimated liability for warranties at December 31, 2025.

Compute and record net pay.

E10.11 (LO 1) Gabrielle Osmon's hourly wage is €14. She receives a wage of €21 for work in excess of 40 hours. During a March weekly pay period, Gabrielle worked 46 hours. Gabrielle's income tax withholding is €135.

Instructions

a. Compute the following amounts for Gabrielle's wages for the current period: (1) gross earnings, (2) Social Security taxes (assume a 7.65% rate), and (3) net pay.

b. Record Gabrielle's pay.

Compute missing payroll amounts and record payroll.

E10.12 (LO 1) Selected data from a February payroll register for Saputra Group are presented below. Some amounts are intentionally omitted.

Gross earnings:		Medical insurance premium	Rp(3)
Regular	Rp9,100	Union dues	100
Overtime	(1)	Total deductions	(4)
Total	(2)	Net pay	Rp7,595
Deductions:		Account debited:	
Social Security taxes	Rp 765	Salaries and Wages Expense	(5)
Income taxes	1,140		

Social Security taxes are 7.65%. Medical insurance premium is 4% of gross earnings.

Instructions

a. Fill in the missing amounts.

b. Journalize (1) the February payroll and (2) the payment of the payroll.

Record and disclose provisions

E10.13 (LO 2) Gallardo Industries is involved in a lawsuit as a result of an accident that took place September 5, 2025. The lawsuit was filed on November 1, 2025, and claims damages of NT$1,000,000.

Instructions

a. Assume that at December 31, 2025, Gallardo's attorneys feel that there is a greater than 50% chance that Gallardo will lose the lawsuit and be required to pay NT$1,000,000. How should the company account for this lawsuit?

b. Assume instead that at December 31, 2025, Gallardo's attorneys feel that there is a less than 50% chance that Gallardo could lose the lawsuit and be required to pay NT$1,000,000. How

should the company account for this lawsuit?

Prepare the current liabilities section of the statement of financial position.

E10.14 (LO 2) Younger Online Company has the following liability accounts after posting adjusting entries: Accounts Payable $73,000, Unearned Ticket Revenue $24,000, Warranty Liability $18,000, Interest Payable $8,000, Mortgage Payable $120,000, Notes Payable $80,000, and Value-Added Taxes Payable $10,000. Assume the company's operating cycle is less than 1 year, ticket revenue will be recognized within 1 year, warranty costs are expected to be incurred within 1 year, and the notes mature in 3 years.

Instructions

a. Prepare the current liabilities section of the statement of financial position, assuming $30,000 of the mortgage is payable next year.

b. Comment on Younger Online Company's liquidity, assuming total current assets are $300,000.

Calculate current ratio and working capital before and after paying accounts payable.

E10.15 (LO 2) Suppose the following financial data were reported by **3M Company** (USA) for 2024 and 2025 (dollars in millions).

3M Company
Statement of Financial Position (partial)

	2025	2024
Current assets		
Cash and cash equivalents	$ 3,040	$1,849
Accounts receivable, net	3,250	3,195
Inventories	2,639	3,013
Other current assets	1,866	1,541
Total current assets	$10,795	$9,598
Current liabilities	$ 4,897	$5,839

Instructions

a. Calculate the current ratio and working capital for 3M for 2024 and 2025.

b. Suppose that at the end of 2025, 3M management used $200 million cash to pay off $200 million of accounts payable. How would its current ratio and working capital have changed?

Problems

Prepare current liability entries, adjusting entries, and current liabilities section.

P10.1 (LO 1, 2) On January 1, 2025, the ledger of Chuan-Kwang Luggage contains the following liability accounts (amounts in thousands).

Accounts Payable	NT$52,000
Sales Taxes Payable	7,700
Unearned Service Revenue	16,000

During January, the following selected transactions occurred.

Jan.	5	Sold merchandise for cash totaling NT$20,520, which includes 8% sales taxes.
	12	Performed services for customers who had made advance payments of NT$10,000. (Credit Service Revenue.)
	14	Paid revenue department for sales taxes collected in December 2024 (NT$7,700).
	20	Sold 900 units of a new product on credit at NT$50 per unit, plus 8% sales tax. This new product is subject to a 1-year warranty.
	21	Borrowed NT$27,000 from First National Bank on a 3-month, 8%, NT$27,000 note.
	25	Sold merchandise for cash totaling NT$12,420, which includes 8% sales taxes.

Instructions

a. Journalize the January transactions.

b. Journalize the adjusting entries at January 31 for (1) the outstanding notes payable, and (2) estimated warranty liability, assuming warranty costs are expected to equal 7% of sales of the new product. (*Hint:* Use one-third of a month for the First National Bank note.)

c. Prepare the current liabilities section of the statement of financial position at January 31, 2025. Assume no change in accounts payable.

c. Current liability total NT$94,250

Journalize and post note transactions; show statement of financial position presentation.

P10.2 (LO 1) The following are selected transactions of Deok-moon Group. Deok-moon prepares financial statements **quarterly** (amounts in thousands).

Jan.	2	Purchased merchandise on account from Nan Company, ₩30,000, terms 2/10, n/30. (Deok-moon uses the perpetual inventory system.)
Feb.	1	Issued a 9%, 2-month, ₩30,000 note to Nan in payment of account.
Mar.	31	Accrued interest for 2 months on Nan note.
Apr.	1	Paid face value and interest on Nan note.
July	1	Purchased equipment from Ji-yoo Equipment paying ₩11,000 in cash and signing a 10%, 3-month, ₩60,000 note.
Sept.	30	Accrued interest for 3 months on Ji-yoo note.
Oct.	1	Paid face value and interest on Ji-yoo note.
Dec.	1	Borrowed ₩24,000 from the Wonju Bank by issuing a 3-month, 8% note with a face value of ₩24,000.
Dec.	31	Recognized interest expense for 1 month on Wonju Bank note.

Instructions

a. Prepare journal entries for the listed transactions and events.

b. Post to the accounts Notes Payable, Interest Payable, and Interest Expense.

c. Show the statement of financial position presentation of notes and interest payable at December 31.

d. What is total interest expense for the year?

d. ₩2,110

Record payroll expense.

P10.3 (LO 1) Cedarville Company pays its office employee payroll monthly. Below is a list of employees and their payroll data for August.

Employee	Earnings for August
Mark Hamill	$4,200
Karen Robbins	3,500
Brent Kirk	2,700
Alec Guinness	7,400
Ken Sprouse	8,000

Assume that the income tax withheld is 10% of wages. Union dues withheld are 2% of wages. The Social Security rate is 8% on employee and employer.

Instructions

Make the journal entries necessary for the August payroll (assume the payroll is paid in August). The entries for the payroll and the company's payroll tax liability are made separately.

Cash credit $20,640

Record payroll expense.

P10.4 (LO 1) Below is a payroll sheet for Otis Import plc for the month of September 2025. Assume a 10% income tax rate for all employees and an 8% Social Security tax on employee and employer.

Name	Earnings to Aug. 31	September Earnings	Income Tax Withholding	Social Security
B.D. Williams	£ 6,800	£ 800		
D. Raye	6,500	700		
K. Baker	7,600	1,100		
F. Lopez	13,600	1,900		
A. Daniels	105,000	13,000		
B. Kingston	112,000	16,000		

Instructions

a. Make the necessary entries to record (1) salaries and wages expense and (2) the payment of the payroll.

a. Salaries and Wages Payable £27,470

b. Make the entry to record the payroll tax expenses of Otis Import.

Determine financial statement impact of current liabilities.

P10.5 (LO 1, 2) Presented below is a list of possible transactions.

1. Purchased inventory for €80,000 on account (assume perpetual system is used).
2. Issued an €80,000 note payable in payment on account (see item 1 above).
3. Recorded accrued interest on the note from item 2.
4. Recorded cash sales of €75,260, which includes 10% VAT.
5. Recorded wage expense of €35,000. The cash paid was €25,000; the difference was due to various amounts withheld.
6. Recorded employer's payroll taxes.
7. Recorded bonuses due to employees.
8. Recorded sales of product.

9. Honored warranty contracts in the period of sale, reducing the asset repair parts.
10. Recorded a liability on a lawsuit that the company will probably lose.

Instructions

Set up a table using the format shown below and analyze the effect of the above transactions on the financial statement categories indicated.

#	Assets	Liabilities	Equity	Net Income
1				

Use the following code:

I: Increase D: Decrease NE: No net effect

Compute current ratio and working capital.

P10.6 (LO 2) Chen Group has been operating for several years, and on December 31, 2025, presented the following statement of financial position (amounts in thousands).

Chen Group
Statement of Financial Position
December 31, 2025

Plant assets (net)	¥220,000	Share capital—ordinary	¥220,000
Inventory	95,000	Mortgage payable	140,000
Receivables	75,000	Accounts payable	70,000
Cash	40,000		
	¥430,000		¥430,000

The mortgage payable is due in 2028.

Instructions

Compute the current ratio and the working capital.

Comprehensive Accounting Cycle Review

ACR10 Morgan Fashions' statement of financial position at December 31, 2024, is presented below.

Morgan Fashions
Statement of Financial Position
December 31, 2024

Equipment	€ 38,000	Share Capital—Ordinary	€ 20,750
Inventory	30,750	Retained Earnings	20,000
Prepaid Insurance	6,000	Accounts Payable	13,750
Cash	30,000	Interest Payable	250
		Notes Payable (long-term)	50,000
	€104,750		€104,750

During January 2025, the following transactions occurred. (Morgan uses the perpetual inventory system.)

1. Morgan paid €250 accrued interest on the note payable on January 1, 2025. The note is due December 31, 2026.
2. Morgan purchased €261,100 of inventory on account.

3. Morgan sold for €440,000 cash, inventory which cost €265,000. Morgan also collected €28,600 in sales taxes.
4. Morgan paid €230,000 in accounts payable.
5. Morgan paid €17,000 in sales taxes to the taxing authority.
6. Paid other operating expenses of €30,000.
7. On January 31, 2025, the payroll for the month consists of salaries and wages of €60,000. All salaries and wages are subject to 7.65% Social Security taxes. A total of €8,900 income taxes are withheld. The salaries and wages are paid on February 1.

Adjustment data:

8. Interest expense of €250 has been incurred on the notes payable.
9. The insurance for the year 2025 was prepaid on December 31, 2024.
10. The equipment was acquired on December 31, 2024, and will be depreciated on a straight-line basis over 5 years with a €2,000 residual value.
11. Employer's payroll taxes include 7.65% Social Security taxes.

Instructions

(You may need to set up T-accounts to determine ending balances.)

a. Prepare journal entries for the transactions listed above and the adjusting entries.

b. Prepare an adjusted trial balance at January 31, 2025.

c. Prepare an income statement and a retained earnings statement for the month ending January 31, 2025, and a classified statement of financial position as of January 31, 2025.

Expand Your Critical Thinking

Financial Reporting Problem: TSMC, Ltd. (TWN)

CT10.1 The financial statements of **TSMC** appear in Appendix A. The complete annual report, including the notes to the financial statements, is available at the company's website.

Instructions

Refer to TSMC's financial statements and answer the following questions about liabilities.

a. What were TSMC's total current liabilities at December 31, 2020? What was the increase/decrease in TSMC's total current liabilities from the prior year?

b. What were the components of total current liabilities on December 31, 2020?

c. What was TSMC's total non-current liabilities at December 31, 2020? What was the increase/decrease in total non-current liabilities from the prior year? What were the components of total non-current liabilities on December 31, 2020?

Comparative Analysis Problem: Nestlé SA (CHE) vs. Delfi Limited (SGP)

CT10.2 **Nestlé**'s financial statements are presented in Appendix B. Financial statements of **Delfi Limited** are presented in Appendix C.

Instructions

a. At the end of the most recent fiscal year reported, what was Nestlé's largest current liability account? What were its total current liabilities? What was Delfi Limited's largest current liability account? What were its total current liabilities?

b. Based on information contained in those financial statements, compute the following for each company for the most recent fiscal year reported.

1. Working capital.

2. Current ratio.

c. What conclusions concerning the relative liquidity of these companies can be drawn from these data?

Decision-Making Across the Organization

CT10.3 Cunningham Processing performs word-processing services for business clients and students in a university community. The work for business clients is fairly steady throughout the year. The work for students peaks significantly in December and May as a result of term papers, research project reports, and dissertations.

Two years ago, the company attempted to meet the peak demand by hiring part-time help. This led to numerous errors and much customer dissatisfaction. A year ago, the company hired four experienced employees on a permanent basis in place of part-time help. This proved to be much better in terms of productivity and customer satisfaction. But, it has caused an increase in annual payroll costs and a significant decline in annual net income.

Recently, Melissa Braun, a sales representative of Banister Services, has made a proposal to the company. Under her plan, Banister will provide up to four experienced workers at a daily rate of $80 per person for an 8-hour workday. Banister workers are not available on an hourly basis. Cunningham would have to pay only the daily rate for the workers used.

The owner of Cunningham Processing, Carol Holt, asks you, as the company's accountant, to prepare a report on the expenses that are pertinent to the decision. If the Banister plan is adopted, Carol will terminate the employment of two permanent employees and will keep two permanent employees. At the moment, each employee earns an annual income of $22,000. Cunningham pays 7.65% Social Security taxes. In addition, Cunningham pays $40 per month for each employee for medical and dental insurance. Carol indicates that if the Banister Services plan is accepted, her needs for temporary workers will be as follows.

Months	Number of Employees	Working Days per Month
January–March	2	20
April–May	3	25
June–October	2	18
November–December	3	23

Instructions

With the class divided into groups, answer the following.

a. Prepare a report showing the comparative payroll expense of continuing to employ permanent workers compared to adopting the Banister Services plan.

b. What other factors should Carol consider before finalizing her decision?

Communication Activity

CT10.4 Sammo Cheung, president of the Mui Consultants, has recently hired a number of additional employees. He recognizes that additional payroll tax will be due as a result of this hiring, and that the company will serve as the collection agent for other taxes.

Instructions

In an email to Sammo Cheung, explain each of the taxes, and identify the tax that results in payroll tax expense to Mui Consultants.

Ethics Case

CT10.5 Joko Saputra owns and manages Joko's Restaurant, a 24-hour restaurant near the city's medical complex. Joko employs 9 full-time employees and 16 part-time employees. He pays all of the full-time employees by check, the amounts of which are determined by Joko's public accountant,

Acha Uwais. Joko pays all of his part-time employees in currency. He computes their wages and withdraws the cash directly from his cash register.

Acha has repeatedly urged Joko to pay all employees by check. But as Joko has told his competitor and friend, Iko Mahaffey, who owns the Senang Diner, "My part-time employees prefer the currency over a check. Also, I don't withhold or pay any taxes on those cash wages because they go totally unrecorded and unnoticed."

Instructions

a. Who are the stakeholders in this situation?

b. What are the legal and ethical considerations regarding Joko's handling of his payroll?

c. Acha Uwais is aware of Joko's payment of the part-time payroll in currency. What are her ethical responsibilities in this case?

d. What internal control principle is violated in this payroll process?

Considering Environmental, Social, and Governance Reporting

CT10.6 Microfinance is the process of lending small amounts of money to low-income or unemployed people who would otherwise not have access to banking services. It enables many of these people to operate small businesses. Recent challenges for microfinance are discussed in the *Economist* article, "For Microfinance Lenders, Covid-19 Is an Existential Threat."

Instructions

Read the article and then answer the following questions. (The article can be accessed by doing an online search that includes the title of the article and the magazine.)

a. Under normal circumstances, what is the default rate on small loans at **Dvara Trust** (IND)? What percent of borrowers were unable to pay their loans during the pandemic? Why were many borrowers unable to pay their loans even if they had money?

b. According to the World Bank, what percentage of the total number of global businesses do "MSMEs" represent? What percentage of employment does this represent? How many customers do microfinance institutions (MFIs) serve?

c. People who lack access to banking services are referred to as unbanked. What was the global change in the number of unbanked people between 2011 and 2017?

d. What is one step that could significantly reduce the default rate of loans (and thus sustain the businesses as well as lenders) during a pandemic?

A Look at U.S. GAAP

> **LEARNING OBJECTIVE 3**
>
> Compare the accounting for current liabilities under IFRS and U.S. GAAP.

IFRS and GAAP have similar definitions of liabilities. The general recording procedures for payroll are similar, although differences occur depending on the types of benefits that are provided in different countries. For example, companies in other countries often have different forms of pensions, unemployment benefits, welfare payments, and so on.

Key Points

Following are the key similarities and differences between GAAP and IFRS related to current liabilities and payroll.

Similarities

- The basic definition of a liability under GAAP and IFRS is very similar. In a more technical way, liabilities are defined by the IASB as a present obligation of the entity arising from past events, the settlement of which is expected to result in an outflow from the entity of resources embodying economic benefits.
- The accounting for current liabilities such as notes payable, unearned revenue, and payroll taxes payable are similar between IFRS and GAAP.
- Under both GAAP and IFRS, liabilities are classified as current if they are expected to be paid within 12 months or the operating cycle, whichever is longer.
- Both GAAP and IFRS require accrual of liabilities even when there is some uncertainty related to the liability as to its existence or amount. Specifically, both require that a liability should be accrued when it is probable that an outflow will occur and a reliable estimate can be made of the obligation.

Differences

- Companies using GAAP show assets before liabilities. Also, they will show current liabilities before non-current liabilities.
- While both GAAP and IFRS agree that when there is uncertainty about the existence of a liability, if it is probable that an outflow will occur, the liability should be accrued. However, while IFRS indicates that probable means more likely than not to occur, GAAP standards using the term probable are often interpreted as having a greater than 70% chance of occurring.
- Under GAAP, some contingent liabilities are recorded in the financial statements, others are disclosed, and in some cases no disclosure is required. IFRS uses the term **contingent liability** to refer only to possible obligations that are **not** recognized in the financial statements but may be disclosed if certain criteria are met.

GAAP Practice

GAAP Self-Test Questions

1. Which of the following is **false**?

a. Under GAAP, current liabilities are presented before non-current liabilities.

b. Under GAAP, an item is a current liability if it will be paid within the next 12 months.

c. Under GAAP, current liabilities are sometimes netted against current assets on the statement of financial position.

d. Under GAAP, a liability is only recognized if it is a present obligation.

Answer

2. How are contingent liabilities accounted for under GAAP?

a. Disclosed in the notes if it is probable that the company will incur a loss but the amount cannot be reasonably estimated.

b. Reported on the face of the financial statements if it is possible a loss will occur.

c. The same as a provision.

d. Defined in the same way as under IFRS.

Answer

3. Under GAAP, obligations related to warranties are considered:

a. contingent liabilities.

b. provisions.

c. possible obligations.

d. None of the answer choices is correct.

Answer

4. The joint projects of the FASB and IASB could potentially:

a. change the definition of liabilities.

b. change the definition of equity.

c. change the definition of assets.

d. All of the answer choices are correct.

Answer

GAAP Exercises

GAAP10.1 Define a contingent liability and give an example.

GAAP10.2 Briefly describe some of the similarities and differences between GAAP and IFRS with respect to the accounting for liabilities.

GAAP Financial Reporting Problem: Apple Inc. (USA)

GAAP10.3 The financial statements of **Apple** are presented in Appendix D. The complete annual report, including the notes to the financial statements, is available at the company's website.

Instructions

Refer to Apple's financial statements and answer the following questions about current and contingent liabilities and payroll costs.

a. What were Apple's total current liabilities at September 26, 2020? What was the increase/decrease in Apple's total current liabilities from the prior year?

b. In Apple's Note 10, the company explains the nature of its contingencies. Under what conditions does Apple recognize (record and report) liabilities for contingencies?

c. What were the components of total current liabilities on September 26, 2020?

Note

1 In a VAT system, as the loaves of bread move from the manufacturer to the wholesaler, to the retailer, and finally the consumer, a VAT is incurred at each point. However, the cost to the end user (normally a consumer) is similar to the sales tax.

2 This abbreviated and somewhat simplified discussion of payroll costs and deductions is not indicative of the volume of records and clerical work that may be involved in maintaining a sound and accurate payroll system.

CHAPTER 12
Corporations: Organization, Share Transactions, and Equity



Vetta/Getty Images

Chapter Preview

Corporations like **adidas** (DEU) have substantial resources at their disposal. In fact, the corporation is the dominant form of business organization in the world in terms of sales, earnings, and number of employees. In this chapter, we will explain the essential features of a corporation and the accounting for a corporation's share capital transactions.

Feature Story

To the Victor Go the Spoils

You never know where a humble start might take you. One of the most recognized brands in the world began in 1924 when Adolf "Adi" Dassler became committed to the idea of providing high-quality, sport-specific shoes to athletes. He and his brother stitched together canvas and whatever else he could find in post-World War I Germany to create his shoes. They were so dedicated to their company that they sometimes ran their equipment with electricity generated by riding an exercise bicycle.

Just like today, success in the early years of the **Dassler Brothers Shoe Company** (DEU) hinged on affiliations with famous athletes. So it was very fortunate for the brothers that in the 1936 Olympics, their shoes were worn by the famous African-American runner Jesse Owens. After World War II, as a result of a family quarrel, Adi's brother left and formed his own shoe company, **Puma** (DEU). Adi renamed his company using a combination of his nickname "Adi" and the first part of his last name, Dassler, to create

the now famous name **adidas** (DEU). In the 1990s, adidas became a publicly traded company for the first time when its shares began to trade on both German and French exchanges.

By becoming a public company, adidas increased its ability to raise funds. It would need these funds in order to compete in the increasingly competitive world of sports apparel. Within two years of going public, adidas AG acquired the **Salomon Group** (FRA). This acquisition brought in the brands Salomon, TaylorMade, Mavic, and Bonfire. Less than 10 years later, adidas acquired **Reebok** (GBR). The combination of Reebok and adidas created a company with a global footprint large enough to compete with **Nike** (USA).

The shoe market is fickle, with new styles becoming popular almost daily and vast international markets still lying untapped. Whether one of these two giants does eventually take control of the pedi-planet remains to be seen. Meanwhile, the shareholders of each company sit anxiously in the stands as this Olympic-size drama unfolds.

Chapter Outline

LEARNING OBJECTIVES	REVIEW	PRACTICE
LO 1 Discuss the major characteristics of a corporation.	• Characteristics of a corporation • Forming a corporation • Shareholder rights • Share issue considerations • Corporate capital	DO IT! 1a Corporate Organization 1b Corporate Capital
LO 2 Explain how to account for ordinary, preference, and treasury shares.	• Accounting for ordinary shares • Accounting for preference shares • Accounting for treasury shares	DO IT! 2a Issuance of Shares 2b Treasury Shares
LO 3 Explain how to account for cash dividends, share dividends, and share splits.	• Accounting for cash dividends • Dividend preferences • Accounting for share dividends • Accounting for share splits	DO IT! 3a Dividends on Preference and Ordinary Shares 3b Share Dividends and Share Splits
LO 4 Discuss how equity is reported and analyzed.	• Retained earnings • Presentation of statement of financial position • Analysis	DO IT! 4a Equity Section 4b Return on Shareholders' Equity

Go to the Review and Practice section at the end of the chapter for a review of key concepts and practice applications with solutions.
Additional tutorials and practice opportunities are available in the Wiley online course.

12.1 The Corporate Form of Organization

> **LEARNING OBJECTIVE 1**
>
> Discuss the major characteristics of a corporation.

Many years ago, a noted scholar defined a corporation as "an artificial being, invisible, intangible, and existing only in contemplation of law." This definition is the foundation for the prevailing legal interpretation in many countries that a corporation is an **entity separate and distinct from its owners**.

A corporation is created by law, and its continued existence depends upon the statutes of the jurisdiction in which it is incorporated.

- As a legal entity, a corporation has most of the rights and privileges of a person.
- The major exceptions relate to privileges that only a living person can exercise, such as the right to vote or to hold public office.
- A corporation is subject to the same duties and responsibilities as a person. For example, it must abide by the laws, and it must pay taxes.

Two common ways to classify corporations are by **purpose** and by **ownership**. A corporation may be organized for the purpose of making a profit, or it may be not-for-profit.

- For-profit corporations include such well-known companies as **BHP Billiton** (AUS), **Hyundai Motors** (KOR), **LUKOIL** (RUS), and **Microsoft** (USA).
- Not-for-profit corporations are organized for charitable, medical, or educational purposes. Examples are the **International Committee of the Red Cross** (CHE) and the **Bill & Melinda Gates Foundation** (USA).

Classification by ownership differentiates publicly held and privately held corporations.

- A **publicly held corporation** may have thousands of shareholders. Its shares are regularly traded on a national securities exchange such as the **São Paùlo Stock Exchange** (BRA). Examples are **Toyota** (JPN), **Siemens** (DEU), **Sinopec** (CHN), and **General Electric** (USA).
- In contrast, a **privately held corporation** usually has only a few shareholders, and does not offer its shares for sale to the general public (see **Alternative Terminology**).

> **ALTERNATIVE TERMINOLOGY**
>
> **Privately held corporations are also referred to as *closely held corporations.***

Privately held companies are generally much smaller than publicly held companies, although some notable exceptions exist. **Cargill Inc.** (USA), a private corporation that trades in grain and other commodities, is one of the largest companies in the world.

Characteristics of a Corporation

A number of characteristics distinguish corporations from proprietorships and partnerships. However, since corporations are created by national laws, corporations in each country will have their own unique characteristics. We explain the most important characteristics that are common or typical of corporations around the world in this section.



Separate Legal Existence

In most countries, a corporate entity is separate and distinct from its owners. The corporation acts under its own name rather than in the name of its shareholders. **Volvo** (SWE) may buy, own, and sell property. It may borrow money, and it may enter into legally binding contracts in its own name. It may also sue or be sued, and it pays its own taxes.

In a partnership, the acts of the owners (partners) bind the partnership. In contrast, the acts of its owners (shareholders) do not bind the corporation unless such owners are **agents** of the corporation. For example, if you owned shares of Volvo, you would not have the right to purchase inventory for the company unless you were designated as an agent of the corporation.

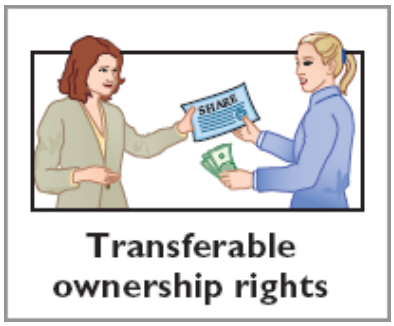


Limited Liability of Shareholders

Since a corporation is a separate legal entity, in most countries creditors have recourse only to corporate assets to satisfy their claims. The liability of shareholders is normally limited to their investment in the corporation. Creditors have no legal claim on the personal assets of the owners unless fraud has occurred. Even in the event of bankruptcy, shareholders' losses are generally limited to their capital investment in the corporation.

Transferable Ownership Rights

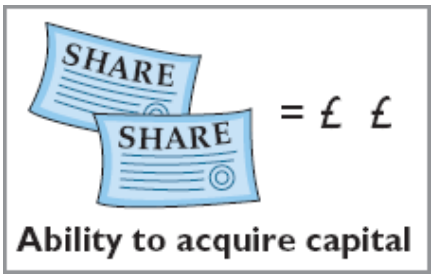
Ordinary shares give ownership in a corporation. These shares are transferable units. Shareholders may dispose of part or all of their interest in a corporation simply by selling their shares. The transfer of an ownership interest in a partnership requires the consent of each owner. In contrast, the transfer of shares is entirely at the discretion of the shareholder. It does not require the approval of either the corporation or other shareholders.



The transfer of ownership rights between shareholders normally has no effect on the daily operating activities of the corporation. Nor does it affect the corporation's assets, liabilities, and total equity. The transfer of these ownership rights is a transaction between individual owners. The company does not participate in the transfer of these ownership rights after the original sale of the ordinary shares.

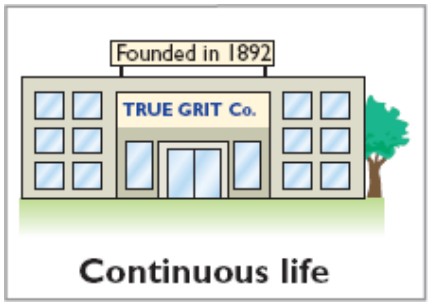
Ability to Acquire Capital

It is relatively easy for a corporation to obtain capital through the issuance of shares. Investors buy shares in a corporation to earn money over time as the share price grows. Investors also like to invest in shares because they have limited liability and shares are readily transferable. Also, individuals can become shareholders by investing relatively small amounts of money. In sum, the ability of a successful corporation to obtain capital is virtually unlimited.



Continuous Life

The life of a corporation is stated in its charter. The life may be perpetual, or it may be limited to a specific number of years. If it is limited, the company can extend the life through renewal of the charter. Since a corporation is a separate legal entity, its continuance as a going concern is not affected by the withdrawal, death, or incapacity of a shareholder, employee, or officer. As a result, a successful company can have a continuous and perpetual life.



Corporation Management

Shareholders legally own the corporation. However, they manage the corporation indirectly through a board of directors they elect. The board, in turn, formulates the operating policies for the company. The board also selects officers, such as a president and one or more vice presidents, to execute policy and to perform daily management functions.

Illustration 12.1 presents a typical organization chart showing the delegation of responsibility. The chief executive officer (CEO) has overall responsibility for managing the business. As the organization chart shows, the CEO delegates responsibility to other officers. The chief accounting officer is the **controller**. The controller's responsibilities include:

1. Maintaining the accounting records.
2. Ensuring an adequate system of internal control.

3. Preparing financial statements, tax returns, and internal reports.

The **treasurer** has custody of the corporation's financial resources and is responsible for maintaining the company's cash position.

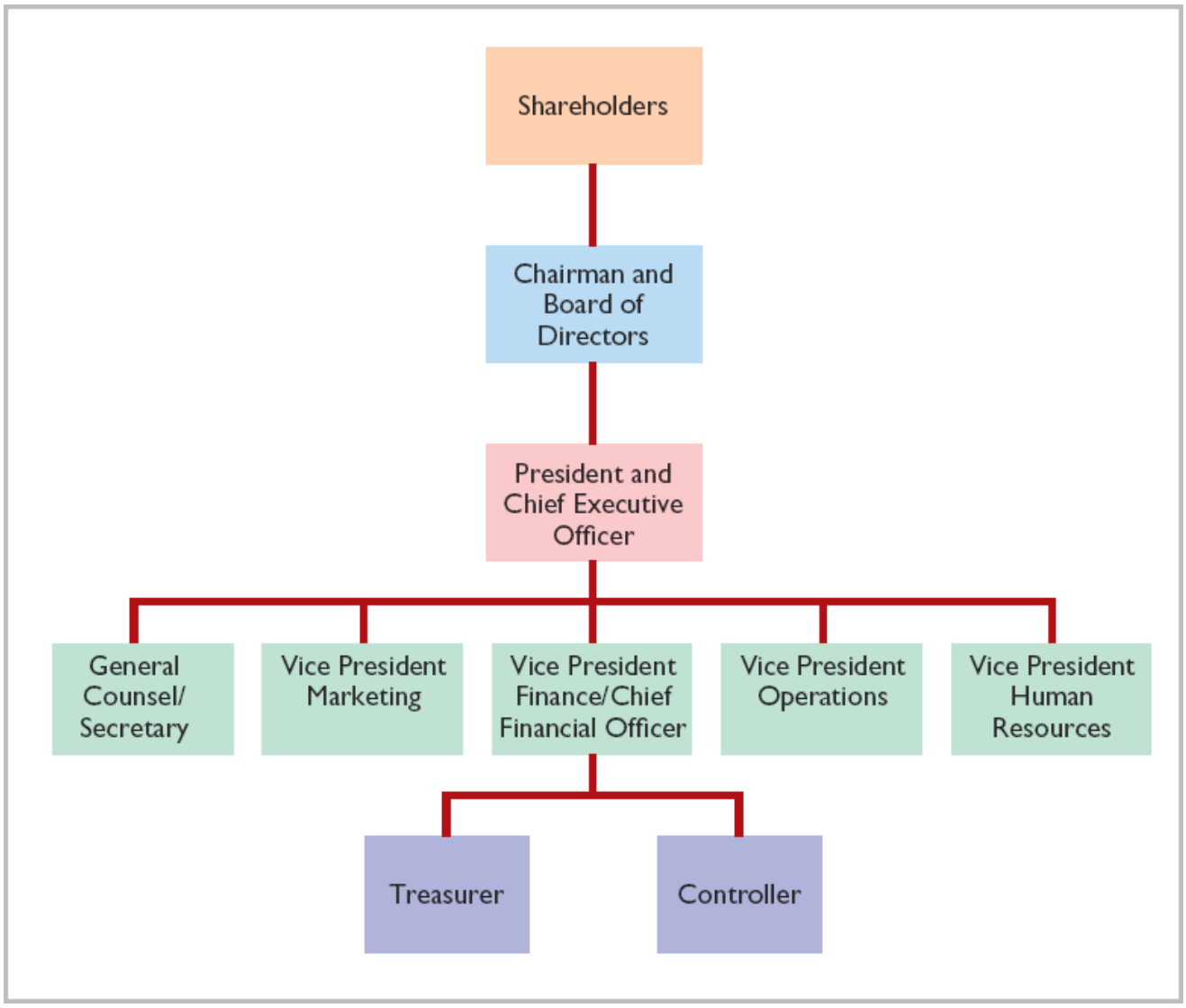
The organizational structure of a corporation enables a company to hire professional managers to run the business (see Ethics Note). On the other hand, the separation of ownership and management often reduces an owner's ability to actively manage the company.

> **ETHICS NOTE**
>
> **Managers who are not owners are often compensated based on the performance of the firm. They thus may be tempted to exaggerate firm performance by inflating income figures.**

Government Regulations

A corporation is subject to governmental regulations. Laws prescribe the requirements for issuing shares, the distributions of earnings permitted to shareholders, and the effects of retiring shares. Securities laws govern the sale of shares to the general public. Also, most publicly held corporations are required to make extensive disclosure of their financial affairs to securities regulators through quarterly and annual reports. In addition, when a corporation lists its shares on organized securities exchanges, it must comply with the reporting requirements of these exchanges. Government regulations are designed to protect the owners of the corporation.

ILLUSTRATION 12.1 Corporation organization chart



Additional Taxes

In most countries, owners of proprietorships and partnerships report their share of earnings on their personal income tax returns. The individual owner then pays taxes on this amount. Corporations, on the other hand, must pay government taxes **as a separate legal entity**. These taxes can be substantial.



In addition, shareholders must pay taxes on cash dividends (pro rata distributions of net income). Thus, many argue that the government taxes corporate income **twice (double taxation)**—once at the corporate level, and again at the individual level.

In summary, Illustration 12.2 shows the advantages and disadvantages of a corporation compared to a proprietorship and a partnership.

ILLUSTRATION 12.2 Advantages and disadvantages of a corporation

Advantages	Disadvantages
Separate legal existence	Corporation management—separation
Limited liability of shareholders	of ownership and management
Transferable ownership rights	Government regulations
Ability to acquire capital	Additional taxes
Continuous life	
Corporation management—professional managers	

Other Forms of Business Organization

A variety of "hybrid" organizational forms—forms that combine different attributes of partnerships and corporations—now exist. For example, one type of corporate form allows for legal treatment as a corporation but tax treatment as a partnership—that is, no double taxation. Other hybrid forms blend different aspects of taxation, legal treatment, and governance. You may find it interesting to do an online search to discover the various types of business organizations that are possible in your country.

Forming a Corporation

The steps for forming a corporation vary somewhat across countries. A common initial step in forming a corporation is to file an application with the appropriate governmental agency in the jurisdiction in which incorporation is desired.

- The application describes the name and purpose of the corporation, the types and number of shares that are authorized to be issued, the names of the individuals that formed the company, and the number of shares that these individuals agreed to purchase.
- Regardless of the number of jurisdictions in which a corporation has operating divisions, it is typically incorporated in only one state or country.

It is to the company's advantage to incorporate in a state or country whose laws are favorable to the corporate form of business organization. For example, **Gulf Oil** (USA) changed its state of incorporation to Delaware to thwart possible unfriendly takeovers. There, certain defensive tactics against takeovers can be approved by the board of directors alone, without a vote by shareholders.

After the government approves the application, it grants a **charter** (see **Alternative Terminology**). The charter may be an approved copy of the application form, or it may be a separate document containing the same basic data. Upon receipt of its charter, the corporation establishes **by-laws**.

> **ALTERNATIVE TERMINOLOGY**
>
> **The charter is often referred to as the *articles of incorporation.***

- The by-laws establish the internal rules and procedures for conducting the affairs of the corporation.
- Corporations engaged in commerce outside their state or country must also obtain a **license** from each of those governments in which they do business. The license subjects the corporation's operating activities to the general corporation laws of that state or country.

Costs incurred in the formation of a corporation are called **organization costs**. These costs include legal and government fees, and promotional expenditures involved in the organization of the business.

- **Corporations expense organization costs as incurred**.
- Determining the amount and timing of future benefits is so difficult that it is standard procedure to take a conservative approach of expensing these costs immediately.

Shareholder Rights

When chartered, the corporation may begin selling ownership rights in the form of shares. When a corporation has only one class of shares, it is **ordinary shares**. Each ordinary share gives the shareholder the ownership rights pictured in **Illustration 12.3**. The articles of incorporation or the by-laws state the ownership rights of a share.

Proof of share ownership is evidenced by a form known as a **share certificate**. As **Illustration 12.4** shows, the face of the certificate shows the name of the corporation, the shareholder's name, the class and special features of the share, the number of shares owned, and the signatures of authorized corporate officials. Prenumbered certificates facilitate accountability. They may be issued for any quantity of shares.

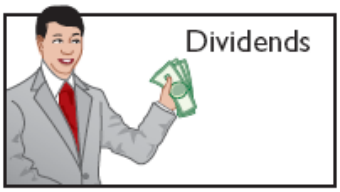
ILLUSTRATION 12.3 Ownership rights of shareholders

Shareholders have the right to:

1. Vote in election of board of directors at annual meeting and vote on actions that require shareholder approval.



2. Share the corporate earnings through receipt of dividends.



3. Keep the same percentage ownership when new shares are issued (**preemptive right**[1]).



4. Share in assets upon liquidation in proportion to their holdings. This is called a **residual claim** because owners are paid with assets that remain after all other claims have been paid.

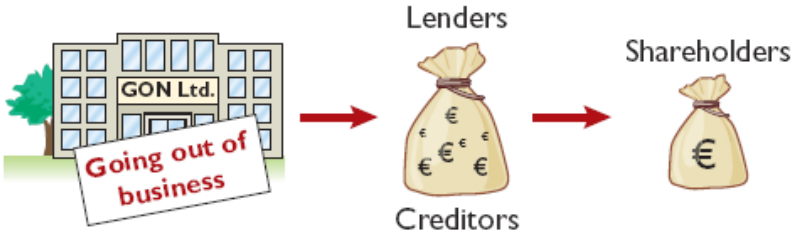
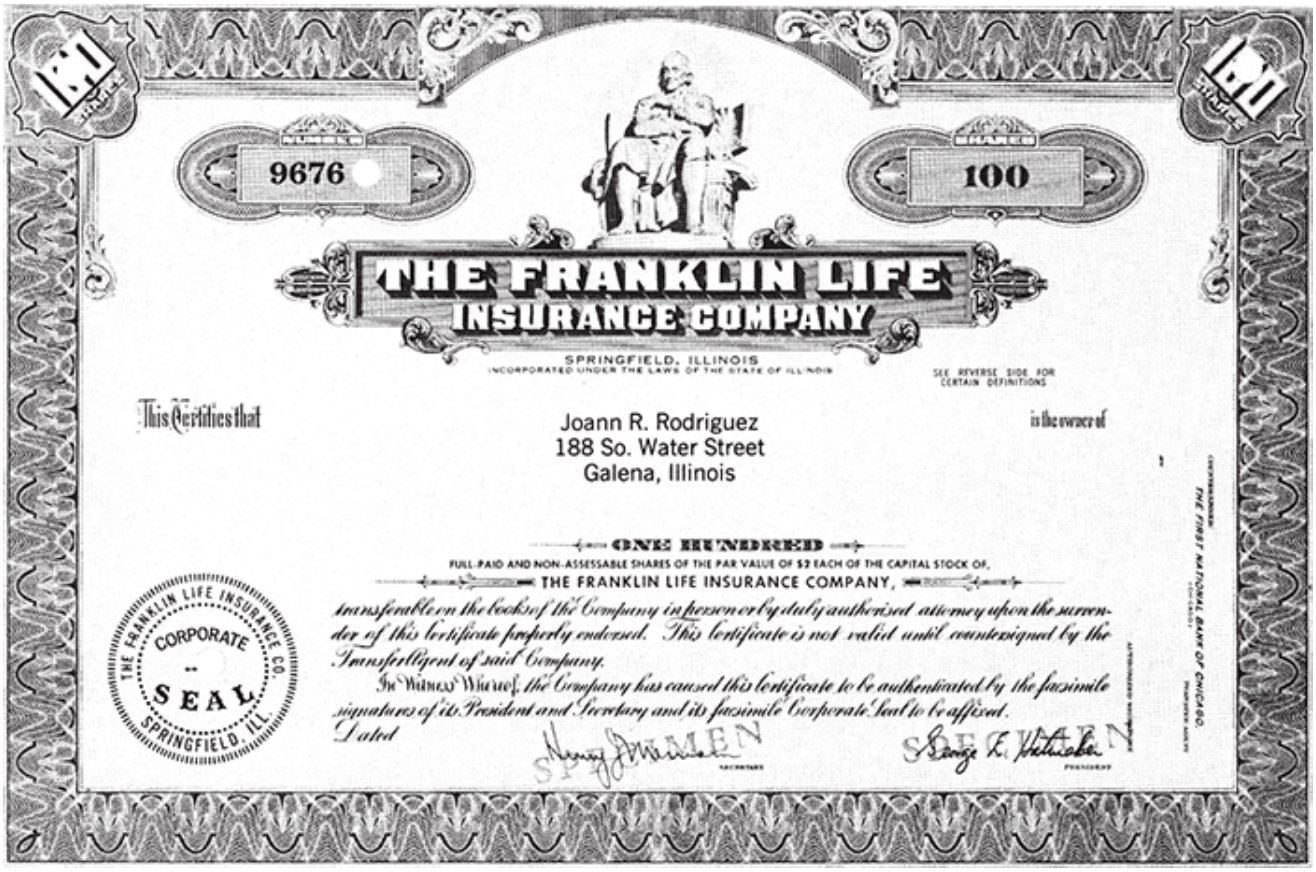


ILLUSTRATION 12.4 A share certificate



Environmental, Social, and Governance Insight

The Impact of Company Social Responsibility



Rawpixel.com/Adobe Stock

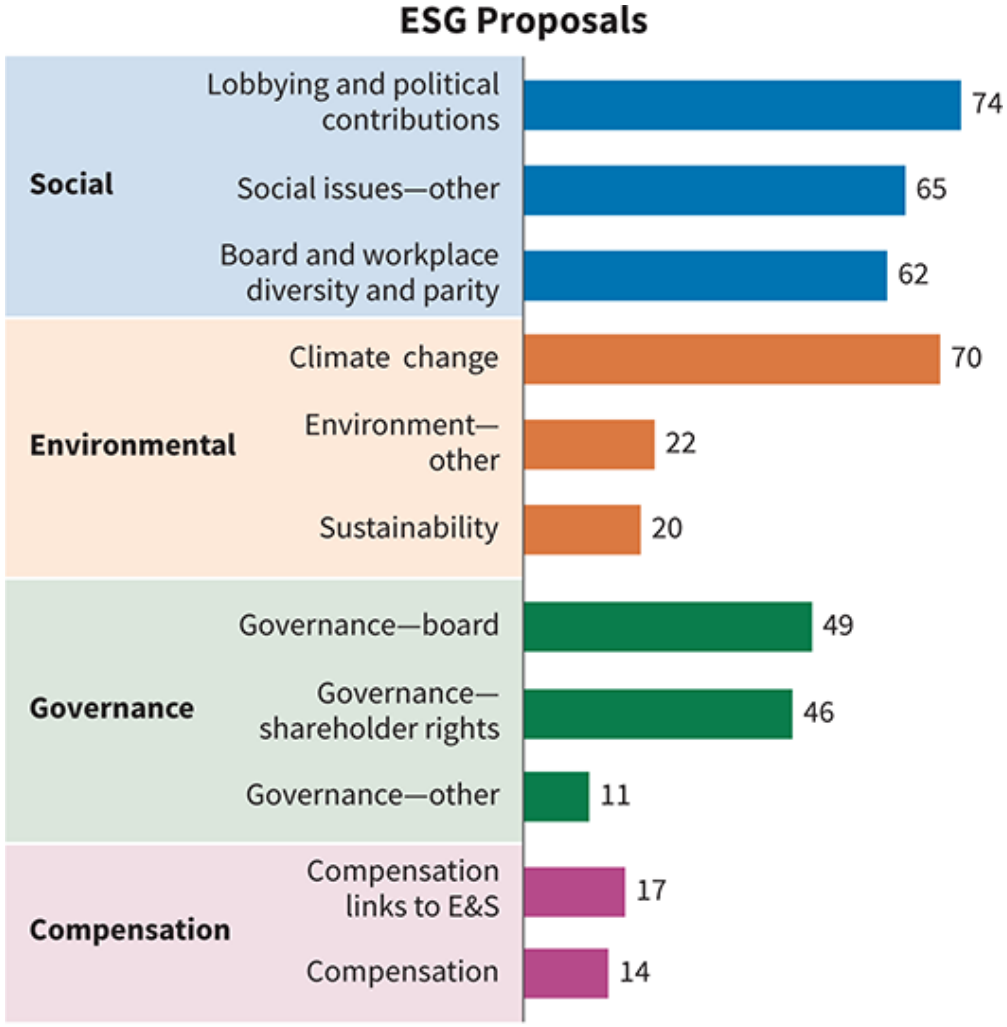
A survey conducted by **Institutional Shareholder Services**, a U.S. proxy advisory firm, found that 83% of investors now believe environmental, social, and governance (ESG) factors can significantly impact shareholder value over the long term. This belief is clearly visible in the rising level of support for shareholder proposals requesting action related to these issues.

The chart shows that the number of shareholder proposals related to social and environmental responsibility exceeds proposals related to governance and compensation.

Sources: Based on Investor Responsibility Research Center, Ernst & Young, *Seven Questions CEOs and Boards Should Ask About: "Triple Bottom Line" Reporting;* and Subodh Mishra, "An Overview of U.S. Shareholder Proposal Filings," *Harvard Law School Forum on Corporate Governance* (February 28, 2018).

Why are ESG-related shareholder proposals increasing?

Answer



Share Issue Considerations

In considering the issuance of shares, a corporation must resolve a number of basic questions:

- How many shares should it authorize for sale?
- How should it issue the shares?
- At what price should it issue the shares?
- What value should the corporation assign to the shares?

These questions are addressed in the following sections.

Authorized Shares

The charter indicates the amount of shares that a corporation is **authorized** to sell. The total amount of authorized shares at the time of incorporation normally anticipates both initial and subsequent capital needs.

- As a result, the number of shares authorized generally exceeds the number initially sold.
- If it sells all authorized shares, a corporation must obtain consent of the jurisdiction to amend its charter before it can issue additional shares.

The authorization of ordinary shares does not result in a formal accounting entry. The reason is that the event has no immediate effect on either corporate assets or equity.

However, the number of authorized shares is often reported in the equity section. It is then simple to determine the number of unissued shares that the corporation can issue without amending the charter: subtract the total shares issued from the total authorized. For example, if **Quanta Computer** (TWN) was authorized to sell 100,000 ordinary shares and issued 80,000 shares, 20,000 shares would remain unissued.

Issuance of Shares

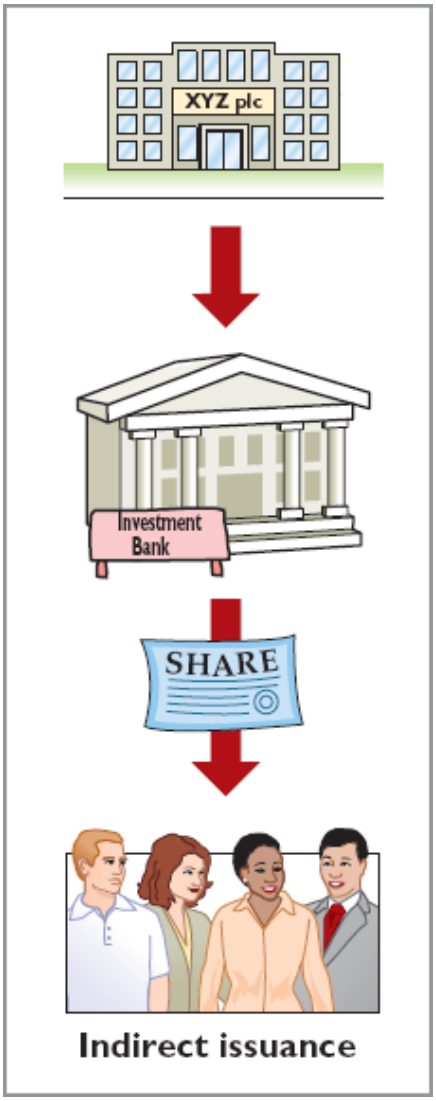
A corporation can issue ordinary shares **directly** to investors. Alternatively, it can issue the shares **indirectly** through an investment banking firm that specializes in bringing securities to the attention of prospective investors. Direct issue is typical in closely held companies. Indirect issue is customary for a publicly held corporation.

In an indirect issue, the investment banking firm may agree to **underwrite** the entire share issue. In this arrangement, the investment banker buys the shares from the corporation at a stipulated price and resells them to investors. The corporation thus avoids any risk of being unable to sell the shares. Also, it obtains immediate use of the cash received from the underwriter. The investment banking firm, in turn, assumes the risk of reselling the shares, in return for an underwriting fee.[2] For example, **Google** (USA) (the world's number-one Internet search engine) used underwriters when it issued a highly successful initial public offering, raising $1.67 billion. The underwriters charged a 3% underwriting fee (approximately $50 million) on Google's share offering.

How does a corporation set the price for a new issue of shares? Among the factors to be considered are:

1. The company's anticipated future earnings.
2. Its expected dividend rate per share.
3. Its current financial position.
4. The current state of the economy.
5. The current state of the securities market.

The calculation can be complex and is properly the subject of a finance course.



Indirect issuance

Market Price of Shares

The shares of publicly held companies are traded on organized exchanges. The interaction between buyers and sellers determines the prices per share. In general, the prices set by the marketplace tend to follow the trend of a company's earnings and dividends. But, factors beyond a company's control, such as an oil embargo, changes in interest rates, or the outcome of a presidential election, may cause day-to-day fluctuations in market prices.

Investor Insight

adidas

How to Read Share Quotes



pidjoe/Getty Images

Organized exchanges trade the shares of publicly held companies at prices per share established by the interaction between buyers and sellers. For each listed security, the financial press reports the high and low prices of the shares during the year, the total volume of shares traded on a given day, the high and low prices for the day, and the closing market price, with the net change for the day.

adidas (DEU) is listed on a number of exchanges. Here is a listing for adidas (prices are in euros).

	52 Weeks						
Company	**High**	**Low**	**Volume**	**High**	**Low**	**Close**	**Net Change**
adidas	113.38	70.61	61,753	113.38	111.18	113.07	1.20

These numbers indicate the following. The high and low market prices for the previous 52 weeks were €113.38 and €70.61. The trading volume for the day was 61,753 shares. The high, low, and closing prices for that date were €113.38, €111.18, and €113.07, respectively. The net change for the day was an increase of €1.20 per share.

For shares traded on organized exchanges, how are the prices per share established? What factors might influence the price of shares in the marketplace?

Answer

The trading of ordinary shares on securities exchanges involves the transfer of **already issued shares** from an existing shareholder to another investor. These transactions have **no impact** on a corporation's equity.

Par and No-Par Value Shares

Par value shares (or **nominal value shares**) are ordinary shares to which the charter has assigned a value per share. Years ago, par value determined the **legal capital** per share that a company must retain in the business for the protection of corporate creditors; that amount was not available for withdrawal by shareholders. Thus, in the past, most governments required the corporation to sell its shares at par or above.

However, par value was often immaterial relative to the value of the company's shares—even at the time of issue. Thus, its usefulness as a protective device to creditors was questionable. For example, one

French company's par value is €1 per share, yet a new issue in 2022 would have sold at a **market price** in the €27 per share range. Thus, par has no relationship with market price. In the vast majority of cases, it is an immaterial amount. As a consequence, today many governments do not require a par value. Instead, they use other means to protect creditors.

No-par value shares are ordinary shares to which the charter has not assigned a value. No-par value shares are fairly common today. For example, **Carrefour** (FRA) and **Anheuser-Busch InBev** (BEL) both have no-par shares. In many countries, the board of directors assigns a **stated value** to no-par shares.

DO IT! 1a

Corporate Organization

Indicate whether each of the following statements is true or false. If false, indicate how to correct the statement.

____ **1.** Similar to partners in a partnership, shareholders of a corporation have unlimited liability.

____ **2.** It is relatively easy for a corporation to obtain capital through the issuance of shares.

____ **3.** The separation of ownership and management is an advantage of the corporate form of business.

____ **4.** The journal entry to record the authorization of ordinary shares includes a credit to the appropriate share capital account.

ACTION PLAN

- **Review the characteristics of a corporation and understand which are advantages and which are disadvantages.**
- **Understand that corporations raise capital through the issuance of shares, which can be par or no-par.**

Solution

Related exercise material: **BE12.1, DO IT! 12.1a, E12.1, and E12.2**.

Corporate Capital

Equity is identified by various names: **stockholders' equity**, **shareholders' equity**, or **corporate capital**. The equity section of a corporation's statement of financial position consists of two parts:

1. Share capital.
2. Retained earnings (earned capital).

The distinction between **share capital** and **retained earnings** is important from both a legal and a financial point of view. Legally, corporations can make distributions of earnings (declare dividends) out of retained earnings in most countries. However, they often cannot declare dividends out of share capital. Management, shareholders, and others often look to retained earnings for the continued existence and growth of the corporation.

Share Capital

Share capital is the total amount of cash and other assets paid in to the corporation by shareholders in exchange for shares. As noted earlier, when a corporation has only one class of shares, they are **ordinary shares**.

Retained Earnings

Retained earnings is net income that a corporation retains for future use. Net income is recorded in Retained Earnings by a closing entry that debits Income Summary and credits Retained Earnings. For

example, assuming that net income for Delta Robotics in its first year of operations is HK$1,300,000, the closing entry is:

Income Summary	1,300,000	
Retained Earnings		1,300,000
(To close Income Summary and transfer net income to Retained Earnings)		

A	=	L	+	E
				−1,300,000 Inc
				+1,300,000 RE

Cash Flows
no effect

If Delta Robotics has a balance of HK$8,000,000 in Share Capital—Ordinary at the end of its first year, its equity section is as shown in Illustration 12.5.

ILLUSTRATION 12.5 Equity section

Delta Robotics
Statement of Financial Position (partial)

Equity		
Share capital—ordinary	HK$8,000,000	
Retained earnings	1,300,000	
Total equity		**HK$9,300,000**

Illustration 12.6 compares the equity accounts reported on a statement of financial position for a proprietorship and a corporation.

ILLUSTRATION 12.6 Comparison of equity accounts





Proprietorship

Owner's Capital

	Normal bal.

Corporation

Share Capital—Ordinary

	Normal bal.

Retained Earnings

	Normal bal.

DO IT! 1b

Corporate Capital

At the end of its first year of operation, Doral AG has €750,000 of ordinary shares and net income of €122,000. Prepare (a) the closing entry for net income and (b) the equity section at year-end.

ACTION PLAN

- **Record net income in Retained Earnings by a closing entry in which Income Summary is debited and Retained Earnings is credited.**
- **In the equity section, show (1) share capital—ordinary and (2) retained earnings.**

Solution

Related exercise material: **DO IT! 12.1b**.

12.2 Accounting for Share Transactions

LEARNING OBJECTIVE 2

Explain how to account for ordinary, preference, and treasury shares.

Accounting for Ordinary Shares

Let's now look at how to account for issues of ordinary shares. The primary objective in accounting for the issuance of ordinary shares is to identify the specific sources of capital.

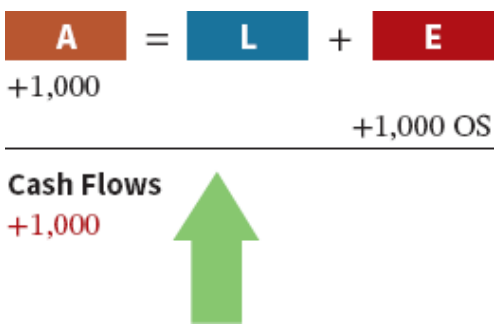
Issuing Par Value Ordinary Shares for Cash

As discussed earlier, par value does not indicate a share's market price. Therefore, the cash proceeds from issuing par value shares may be equal to, greater than, or less than par value.

- When the company records issuance of ordinary shares for cash, it credits the par value of the shares to Share Capital—Ordinary.
- It records in a separate account the portion of the proceeds that is above or below par value.

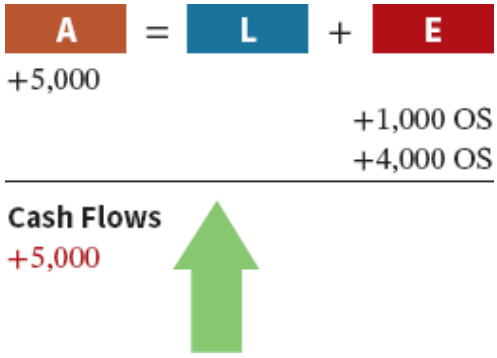
To illustrate, assume that Hydro-Slide SA issues 1,000 shares of €1 par value ordinary shares at par for cash. The entry to record this transaction is:

Cash	1,000	
Share Capital—Ordinary		1,000
(To record issuance of 1,000 €1 par ordinary shares at par)		



Now assume that Hydro-Slide issues an additional 1,000 shares of the €1 par value ordinary shares for cash at €5 per share. The amount received above the par value, in this case €4 (€5 – €1), is credited to Share Premium—Ordinary. The entry is:

Cash	5,000	
Share Capital—Ordinary		1,000
Share Premium—Ordinary		4,000
(To record issuance of 1,000 €1 par ordinary shares)		



The total capital from these two transactions is €6,000, and the legal capital is €2,000. Assuming Hydro-Slide has retained earnings of €27,000, Illustration 12.7 shows the company's equity section.

ILLUSTRATION 12.7 Share premium

Hydro-Slide SA
Statement of Financial Position (partial)

Equity	
Share capital—ordinary	€ 2,000
Share premium—ordinary	**4,000**
Retained earnings	27,000
Total equity	€33,000

When a corporation issues shares for less than par value, it debits the account Share Premium—Ordinary if a credit balance exists in this account. If a credit balance does not exist, then the corporation debits to Retained Earnings the amount less than par. This situation occurs only rarely. Most jurisdictions do not permit the sale of ordinary shares below par value because shareholders may be held personally liable for the difference between the price paid upon original sale and par value.

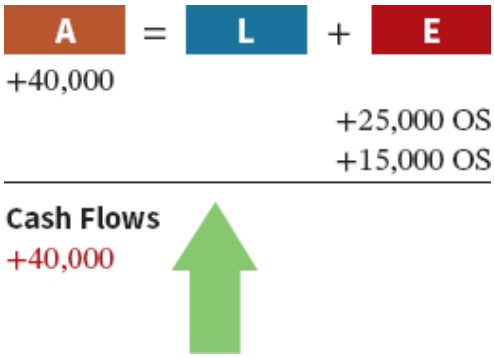
Issuing No-Par Ordinary Shares for Cash

When no-par ordinary shares have a stated value, the entries are similar to those illustrated for par value shares.

- The corporation credits the stated value to Share Capital—Ordinary.
- Also, when the selling price of no-par shares exceeds stated value, the corporation credits the excess to Share Premium—Ordinary.

For example, assume that instead of €1 par value shares, Hydro-Slide SA has €5 stated value no-par shares and the company issues 5,000 shares at €8 per share for cash. The entry is:

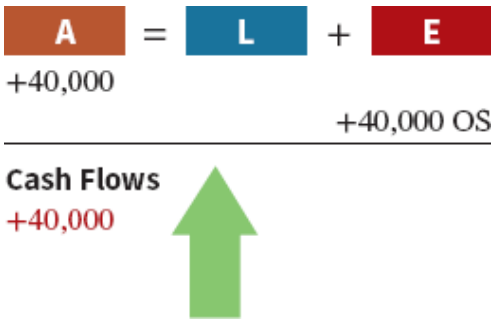
Cash	40,000	
Share Capital—Ordinary		25,000
Share Premium—Ordinary		15,000
(To record issuance of 5,000 €5 stated value no-par shares)		



Hydro-Slide reports Share Premium—Ordinary below Share Capital—Ordinary in the equity section.

What happens when no-par shares do not have a stated value? In that case, the corporation credits the entire proceeds to Share Capital—Ordinary. Thus, if Hydro-Slide does not assign a stated value to its no-par shares, it records the issuance of the 5,000 shares at €8 per share for cash as follows.

Cash	40,000	
Share Capital—Ordinary		40,000
(To record issuance of 5,000 no-par shares)		



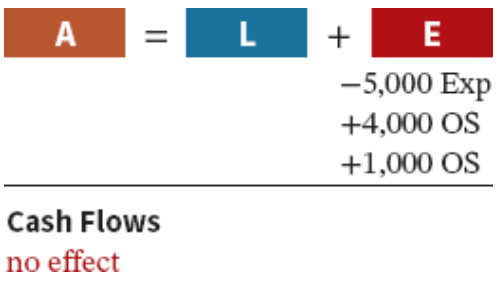
Issuing Ordinary Shares for Services or Non-Cash Assets

Corporations also may issue shares for services (compensation to attorneys or consultants) or for non-cash assets (land, buildings, and equipment). In such cases, what cost should be recognized in the exchange transaction?

- To comply with the **historical cost basis,** in a non-cash transaction **cost is the cash equivalent price**.
- Thus, **cost is either the fair value of the consideration given up or the fair value of the consideration received**, whichever is more clearly determinable.

To illustrate, assume that attorneys have helped Jordan Company incorporate. They have billed the company €5,000 for their services. They agree to accept 4,000 shares of €1 par value ordinary shares in payment of their bill. At the time of the exchange, there is no established market price for the shares. In this case, the fair value of the consideration received, €5,000, is more clearly evident. Accordingly, Jordan makes the following entry.

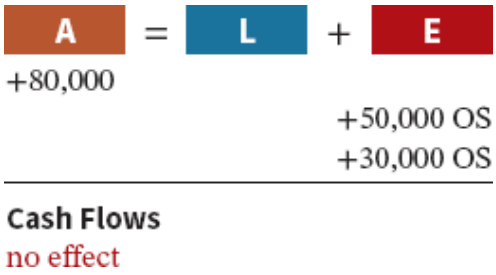
Organization Expense	5,000	
Share Capital—Ordinary		4,000
Share Premium—Ordinary		1,000
(To record issuance of 4,000 €1 par value shares to attorneys)		



As explained previously, organization costs are expensed as incurred.

In contrast, assume that Athletic Research AG is an existing publicly held corporation. Its €5 par value shares are actively traded at €8 per share. The company issues 10,000 shares to acquire land recently advertised for sale at €90,000. The most clearly evident value in this non-cash transaction is the market price of the consideration given, €80,000. The company records the transaction as follows.

Land	80,000	
Share Capital—Ordinary		50,000
Share Premium—Ordinary		30,000
(To record issuance of 10,000 €5 par value shares for land)		



As illustrated in these examples, **the par value of the shares is never a factor in determining the cost of the assets received**. This is also true of the stated value of no-par shares.

Accounting for Preference Shares

To appeal to more investors, a corporation may issue an additional class of shares, called preference shares. **Preference shares** have contractual provisions that give them some preference or priority over ordinary shares. Typically, preference shareholders have a priority as to (1) distributions of earnings (dividends) and (2) assets in the event of liquidation. However, they generally do not have voting rights.

Like ordinary shares, corporations may issue preference shares for cash or for non-cash assets.

- The entries for these transactions are similar to the entries for ordinary shares.
- When a corporation has more than one class of shares, each capital account title should identify the shares to which it relates. A company might have the following accounts: Share Capital—Preference, Share Capital—Ordinary, Share Premium—Preference, and Share Premium—Ordinary.

For example, if Florence SpA issues 10,000 shares of €10 par value preference shares for €12 cash per share, the entry to record the issuance is:

Cash	120,000	
Share Capital—Preference		100,000
Share Premium—Preference		20,000
(To record issuance of 10,000 €10 par value preference shares)		

Preference shares may have either a par value or no-par value. In the equity section of the statement of financial position, companies list preference shares first because of their dividend and liquidation preferences over ordinary shares.

DO IT! 2a

Issuance of Shares

Hefei Ltd. begins operations on March 1 by issuing 1,000,000 of ¥10 par value ordinary shares for cash at ¥12 per share. On March 15, it issues 50,000 ordinary shares to attorneys in settlement of their bill of ¥600,000 for organization costs. On March 28, Hefei issues 15,000 shares of ¥100 par value preference shares for cash at ¥250 per share. Journalize the issuance of the shares, assuming the shares are not publicly traded.

ACTION PLAN

- **In issuing shares for cash, credit Share Capital—Ordinary (Preference) for par value per share.**
- **Credit any additional proceeds in excess of par to Share Premium—Ordinary (Preference).**
- **When shares are issued for services, use the cash equivalent price.**
- **For the cash equivalent price, use either the fair value of what is given up or the fair value of what is received, whichever is more clearly determinable.**

Solution

Related exercise material: **BE12.2**, **BE12.3**, **BE12.4**, **BE12.6**, **DO IT! 12.2a**, **E12.3**, **E12.4**, **and E12.7**.

Accounting for Treasury Shares

Treasury shares are a corporation's own shares that it has issued and subsequently reacquired from shareholders but not retired (see **Helpful Hint**). A corporation may acquire treasury shares for various reasons:

1. To reissue the shares to officers and employees under bonus and share compensation plans.
2. To signal to the securities market that management believes the shares are underpriced, in the hope of enhancing its market price.
3. To have additional shares available for use in the acquisition of other companies.
4. To reduce the number of shares outstanding and thereby increase earnings per share.

HELPFUL HINT

Treasury shares do not have dividend rights or voting rights.

Another infrequent reason for purchasing treasury shares is that management may want to eliminate hostile shareholders by buying them out.

Many corporations have treasury shares. As examples, **adidas** (DEU) and **Lenovo** (CHN) report purchasing treasury shares in recent years.

Purchase of Treasury Shares

Companies generally account for treasury shares by **the cost method**. This method uses the cost of the shares purchased to value the treasury shares.

- Under the cost method, the company debits **Treasury Shares** for the **price paid to reacquire the shares**.
- When the company disposes of the shares, it credits to Treasury Shares **the same amount** it paid to reacquire the shares.

To illustrate, assume that on January 1, 2025, the equity section of Mead, Ltd. has 100,000 HK$50 par value ordinary shares outstanding (all issued at par value) and Retained Earnings of HK$2,000,000. The equity section before purchase of treasury shares is as shown in **Illustration 12.8**.

ILLUSTRATION 12.8 Equity section with no treasury shares

Mead, Ltd. Statement of Financial Position (partial)	
Equity	
Share capital—ordinary, HK$50 par value,	
100,000 shares issued and outstanding	HK$5,000,000
Retained earnings	2,000,000
Total equity	HK$7,000,000

On February 1, 2025, Mead acquires 4,000 of its shares at HK$80 per share. The entry is:

Feb. 1	Treasury Shares	320,000	
	Cash		320,000
	(To record purchase of 4,000 treasury shares at HK$80 per share)		

Mead debits Treasury Shares for the cost of the shares purchased. Is the original Share Capital—Ordinary account affected? No, because **the number of issued shares does not change**.

- In the equity section of the statement of financial position, Mead deducts treasury shares after retained earnings to determine total equity.
- Treasury Shares is a **contra equity account**.
- Thus, the acquisition of treasury shares reduces equity.

The equity section of Mead after purchase of treasury shares is as shown in **Illustration 12.9**.

ILLUSTRATION 12.9 Equity section with treasury shares

Mead, Ltd. Statement of Financial Position (partial)	
Equity	
Share capital—ordinary, HK$50 par value, 100,000	
shares issued and 96,000 shares outstanding	HK$5,000,000
Retained earnings	2,000,000
	7,000,000
Less: Treasury shares (4,000 shares)	**320,000**
Total equity	HK$6,680,000

Mead discloses in the statement of financial position both the number of shares issued (100,000) and the number in the treasury (4,000). The difference is the number of shares outstanding (96,000). The term **outstanding shares** means the number of issued shares that are being held by shareholders.

Some maintain that companies should report treasury shares as an asset because they can be sold for cash. But under this reasoning, companies would also show unissued shares as an asset, which is clearly incorrect. Rather than being an asset, treasury shares reduce shareholder claims on corporate assets (see **Ethics Note**). This effect is correctly shown by reporting treasury shares as a deduction from equity.

ETHICS NOTE

The purchase of treasury shares reduces the cushion for creditors and preference shareholders. A restriction for the cost of treasury shares purchased is often required. The restriction is usually applied to retained earnings.

Disposal of Treasury Shares

Treasury shares are usually sold or retired. The accounting for their sale differs when treasury shares are sold above cost than when they are sold below cost (see Helpful Hint).

HELPFUL HINT

Treasury share transactions are classified as equity transactions. As in the case when shares are issued, the income statement is not involved.

Sale of Treasury Shares Above Cost

If the selling price of the treasury shares is equal to their cost, the company records the sale of the shares by a debit to Cash and a credit to Treasury Shares. When the selling price of the shares is greater than their cost, the company credits the difference to Share Premium—Treasury.

To illustrate, assume that on July 1, Mead, Ltd. sells for HK$100 per share 1,000 of the 4,000 treasury shares previously acquired at HK$80 per share. The entry is as follows.

July 1	Cash	100,000	
	Treasury Shares		80,000
	Share Premium—Treasury		20,000
	(To record sale of 1,000 treasury shares above cost)		

Mead does not record a HK$20,000 gain on sale of treasury shares.

1. Gains on sales occur when **assets** are sold, and treasury shares are not an asset.
2. A corporation does not realize a gain or suffer a loss from share transactions with its own shareholders.

Thus, companies should **not** include in net income any capital arising from the sale of treasury shares. Instead, they report Share Premium—Treasury separately on the statement of financial position, as a part of equity.

Sale of Treasury Shares Below Cost

When a company sells treasury shares below their cost, it usually debits to Share Premium—Treasury the excess of cost over selling price. Thus, if Mead sells an additional 800 treasury shares on October 1 at HK$70 per share, it makes the following entry.

Oct. 1	Cash (800 × HK$70)	56,000	
	Share Premium—Treasury	8,000	
	Treasury Shares		64,000
	(To record sale of 800 treasury shares below cost)		

Observe the following from the two sales entries.

1. Mead credits Treasury Shares at cost in each entry.

2. Mead uses Share Premium—Treasury for the difference between cost and the resale price of the shares.
3. The original Share Capital—Ordinary account is not affected.

The sale of treasury shares increases both total assets and total equity.

After posting the foregoing entries, the treasury share accounts will have the balances as shown in Illustration 12.10 on October 1.

ILLUSTRATION 12.10 Treasury share accounts

Treasury Shares

Feb. 1	320,000	July 1	80,000
		Oct. 1	64,000
Oct. 1 Bal.	176,000		

Share Premium—Treasury

Oct. 1	8,000	July 1	20,000
		Oct. 1 Bal.	12,000

When a company fully depletes the credit balance in Share Premium—Treasury, it debits to Retained Earnings any additional excess of cost over selling price. To illustrate, assume that Mead sells its remaining 2,200 shares at HK$70 per share on December 1. The excess of cost over selling price is HK$22,000 [2,200 × (HK$80 − HK$70)]. In this case, Mead debits HK$12,000 of the excess to Share Premium—Treasury. It debits the remainder to Retained Earnings. The entry is:

Dec. 1	Cash (2,200 × HK$70)	154,000	
	Share Premium—Treasury	12,000	
	Retained Earnings	10,000	
	Treasury Shares		176,000
	(To record sale of 2,200 treasury shares at HK$70 per share)		

Accounting Across the Organization

Reebok

Why Would a Company Buy Its Own Shares?

In a bold (and some would say risky) move, **Reebok** (DEU) at one time bought back nearly a third of its shares. This repurchase of shares dramatically reduced Reebok's available cash. In fact, the company borrowed significant funds to accomplish the repurchase.

In a press release, management stated that it was repurchasing the shares because it believed its shares were severely underpriced. The repurchase of so many shares was meant to signal management's belief in good future earnings.

Skeptics, however, suggested that Reebok's management was repurchasing shares to make it less likely that another company would acquire Reebok (in which case Reebok's top managers would likely lose their jobs). By depleting its cash, Reebok became a less likely acquisition target. Acquiring companies like to purchase companies with large cash balances so they can pay off debt used in the acquisition.

As noted in the Feature Story, Reebok was eventually acquired by **adidas** (DEU). In 2014, adidas announced a program to buy back up to 10% of its shares. This was done to appease shareholders who were disappointed with the company's results in recent years.

What signal might a large share repurchase send to investors regarding management's belief about the company's growth opportunities?

Answer

DO IT! 2b

Treasury Shares

Salvador SA purchases 3,000 shares of its R$50 par value ordinary shares for R$180,000 cash on July 1. It will hold the shares in the treasury until resold. On November 1, the corporation sells 1,000 treasury shares for cash at R$70 per share. Journalize the treasury share transactions.

ACTION PLAN

- **Record the purchase of treasury shares at cost.**
- **When treasury shares are sold above cost, credit the excess of the selling price over cost to Share Premium—Treasury.**
- **When treasury shares are sold below cost, debit the excess of cost over selling price to Share Premium—Treasury.**

Solution

Related exercise material: **BE12.5**, **DO IT! 12.2b**, **E12.5**, **E12.6**, **and E12.8**.

12.3 Accounting for Dividends and Splits

LEARNING OBJECTIVE 3

Explain how to account for cash dividends, share dividends, and share splits.

A dividend is a corporation's distribution of cash or shares to its shareholders on a pro rata (proportional to ownership) basis. Pro rata means that if you own 10% of the ordinary shares, you

will receive 10% of the dividend.

- Dividends can take four forms: cash, property, scrip (a promissory note to pay cash), or shares.
- Cash dividends predominate in practice although companies also declare share dividends with some frequency.

These two forms of dividends are therefore the focus of discussion in this chapter.

Investors are very interested in a company's dividend practices. In the financial press, **dividends are generally reported quarterly as a currency amount per share**. (Sometimes they are reported on an annual basis.) For example, in a recent year, **BASF**'s (DEU) dividend rate was €1.95 a share. **The Hershey Company**'s (USA) was $1.19, and **Marks and Spencer plc**'s (GBR) was 22.5p.

Accounting for Cash Dividends

A **cash dividend** is a pro rata distribution of cash to shareholders. Cash dividends are not paid on treasury shares. For a corporation to pay a cash dividend, it must have the following.

1. **Retained earnings.** The legality of a cash dividend depends on the laws of the country in which the company is incorporated. Payment of cash dividends from retained earnings is legal in all jurisdictions. In general, cash dividend distributions from only the balance in share capital—ordinary (legal capital) are illegal.

   A dividend declared out of share capital or share premium is termed a **liquidating dividend**. Such a dividend reduces or "liquidates" the amount originally paid in by shareholders.

2. **Adequate cash.** The legality of a dividend and the ability to pay a dividend are two different things. For example, **adidas** (DEU), with retained earnings of over €5.0 billion, could legally declare a dividend of at least €5.0 billion. But adidas's cash balance is only €1.6 billion.

   Before declaring a cash dividend, a company's board of directors must carefully consider both current and future demands on the company's cash resources. In some cases, current liabilities may make a cash dividend inappropriate. In other cases, a major plant expansion program may warrant only a relatively small dividend.

3. **Declaration of dividends.** A company does not pay dividends unless its board of directors decides to do so, at which point the board "declares" the dividend. The board of directors has full authority to determine the amount of income to distribute in the form of a dividend and the amount to retain in the business. Dividends do not accrue like interest on a note payable, and they are not a liability until declared.

The amount and timing of a dividend are important issues for management to consider. The payment of a large cash dividend could lead to liquidity problems for the company. On the other hand, a small dividend or a missed dividend may cause unhappiness among shareholders.

Many shareholders expect to receive a reasonable cash payment from the company on a periodic basis. Many companies declare and pay cash dividends quarterly. On the other hand, a number of high-growth companies pay no dividends, preferring to conserve cash to finance future capital expenditures.

Entries for Cash Dividends

Three dates are important in connection with dividends:

1. The declaration date.
2. The record date.
3. The payment date.

Normally, there are two to four weeks between each date. Companies make accounting entries on the declaration date and the payment date.

On the **declaration date**, the board of directors formally declares (authorizes) the cash dividend and announces it to shareholders. The declaration of a cash dividend **commits the corporation to a legal obligation**. The company must make an entry to recognize the increase in Cash Dividends and the increase in the liability Dividends Payable.

To illustrate, assume that on December 1, 2025, the directors of Media General declare a €0.50 per share cash dividend on 100,000 shares of €10 par value ordinary shares. The dividend is €50,000 (100,000 × €0.50). The entry to record the declaration is as follows.

Declaration Date

Dec. 1	Cash Dividends	50,000	
	Dividends Payable		50,000
	(To record declaration of cash dividend)		

Cash dividends decrease retained earnings. We use the specific title Cash Dividends to differentiate it from other types of dividends, such as share dividends. Dividends Payable is a current liability. It will normally be paid within the next several months. *For homework problems, you should use the Cash Dividends account for recording cash dividend declarations.*

At the **record date**, the company determines ownership of the outstanding shares for dividend purposes (see **Helpful Hint**). The shareholders' records maintained by the corporation supply this information. In the interval between the declaration date and the record date, the corporation updates its share ownership records. For Media General, the record date is December 22. No entry is required on this date because the corporation's liability recognized on the declaration date is unchanged.

> **HELPFUL HINT**
>
> **The purpose of the record date is to identify the persons or entities that will receive the dividend, not to determine the amount of the dividend liability.**

Record Date

Dec. 22	No entry		

On the **payment date**, the company makes cash dividend payments to the shareholders of record (as of December 22) and records the payment of the dividend. If January 20 is the payment date for Media General, the entry on that date is as follows.

Payment Date

Jan. 20	Dividends Payable	50,000	
	Cash		50,000
	(To record payment of cash dividend)		

- Note that payment of the dividend reduces both current assets and current liabilities. It has no effect on equity.
- The cumulative effect of the declaration and payment of a cash dividend is to **decrease both equity and total assets**.

Illustration 12.11 summarizes the three important dates associated with dividends for Media General.

ILLUSTRATION 12.11 Key dividend dates

When using a Cash Dividends account, Media General should transfer the balance of the Cash Dividends account to Retained Earnings at the end of the year by a closing entry. The entry for Media General at closing is as follows.

Retained Earnings	50,000	
Cash Dividends		50,000
(To close Cash Dividends to Retained Earnings)		

Investor Insight

Dividend Aristocrats

Many shares pay regular and sometimes increasing dividends. For example, in a recent post, 30 different European companies, called the **dividend aristocrats**, were identified that had paid either sustained or increased dividends over the past 20 years. Think of that—these companies have gone through both the global recession of 2008–2009 and the global Covid-19 pandemic that began in 2019 without decreasing their dividend payments. Sounds like a solid return for the shareholders.

This kind of return can really add up. In a review of data from 1927 to 2014, dividend payers outperformed non-dividend payers, averaging 10.4% annual growth versus 8.5%. If you do not think that difference is much, the following table indicates how an annual investment of €10,000 would grow at each of these rates.

Growth Over	8.5% Annual Growth Rate	10.4% Annual Growth Rate
10 years	€ 161,000	€ 179,400
20 years	524,900	661,800
30 years	1,300,000	2,000,000

The dividend aristocrats included **Air Liquide** (FRA), **SAP** (DEU), and **Unilever** (GBR). Happy investing!

Sources: Adapted from "30 Real European Dividend Aristocrats in 2021," *The European Dividend Growth Investor* (May 20, 2021); and Selena Maranjian, "Dividend Stocks in 2017: 7 Stats Everyone Should Know," *The Motley Fool* (December 14, 2016).

Why is a company's dividend policy so important to shareholders?

Answer

Dividend Preferences

Preference shareholders have the right to receive dividends before ordinary shareholders. For example, if the dividend rate on preference shares is £5 per share, ordinary shareholders cannot receive any dividends in the current year until preference shareholders have received £5 per share. The first claim to dividends does not, however, **guarantee** the payment of dividends.

- Dividends depend on many factors, such as adequate retained earnings and availability of cash.
- If a company does not pay dividends to preference shareholders, it cannot pay dividends to ordinary shareholders.

For preference shares, companies state the per share dividend amount as a percentage of the par value or as a specified amount. For example, **Henkel** (DEU) specifies a €0.04 dividend on each preference share. If the dividend is not paid for any reason in a particular year, no dividends can be paid on ordinary shares in that year. **Rostelecom** (RUS) specifies preference dividends as the higher of 10% of net income or the dividend paid to ordinary shareholders.

Most preference shares also have a preference on corporate assets if the corporation fails. This feature provides security for the preference shareholder. The preference to assets may be for the par value of the shares or for a specified liquidating value. For example, **Commonwealth Edison**'s (USA) preference shares entitles its holders to receive $31.80 per share, plus accrued and unpaid dividends, in the event of liquidation. The liquidation preference establishes the respective claims of creditors and preference shareholders in litigation involving bankruptcy lawsuits.

Cumulative Dividend

Preference shares often contain a **cumulative dividend** feature.

- This feature stipulates that preference shareholders must be paid both current-year dividends and any unpaid prior-year dividends before ordinary shareholders are paid dividends.
- When preference shares are cumulative, preference dividends not declared in a given period are called **dividends in arrears**.

To illustrate, assume that Scientific Leasing has 5,000 shares of 7%, €100 par value, cumulative preference shares outstanding. Each €100 share pays a €7 dividend (.07 × €100). The annual dividend is €35,000 (5,000 × €7 per share). If dividends are two years in arrears, preference shareholders are entitled to receive the dividends shown in **Illustration 12.12**.

ILLUSTRATION 12.12 Computation of total dividends to preference shares

Dividends in arrears (€35,000 × 2)	€ 70,000
Current-year dividends	35,000
Total preference dividends	**€105,000**

The company cannot pay dividends to ordinary shareholders until it pays the entire preference dividend. In other words, companies cannot pay dividends to ordinary shareholders while any preference dividends are in arrears.

- Dividends in arrears are not considered a liability. **No obligation exists until the board of directors formally declares that the corporation will pay a dividend.**
- However, companies should disclose in the notes to the financial statements the amount of dividends in arrears. Doing so enables investors to assess the potential impact of this commitment on the corporation's financial position.

The investment community does not look favorably on companies that are unable to meet their dividend obligations. As a financial officer noted in discussing one company's failure to pay its cumulative preference dividend for a period of time, "Not meeting your obligations on something like that is a major black mark on your record."

Allocating Cash Dividends between Preference and Ordinary Shares

As indicated, preference shares have priority over ordinary shares in regard to dividends. Holders of cumulative preference shares must be paid any unpaid prior-year dividends and their current year's dividend before ordinary shareholders receive dividends.

To illustrate, assume that at December 31, 2024, IBR Industries has 1,000 shares of 8%, €100 par value cumulative preference shares. It also has 50,000 shares of €10 par value ordinary shares outstanding. The dividend per share for preference shares is €8 (€100 par value × 8%). The required annual dividend for preference shares is therefore €8,000 (1,000 shares × €8). At December 31, 2024, the directors declare a €6,000 cash dividend. In this case, the entire dividend amount goes to preference shareholders because of their dividend preference. The entry to record the declaration of the dividend is as follows.

Dec. 31	Cash Dividends	6,000	
	Dividends Payable		6,000
	(To record €6 per share cash dividend to preference shareholders)		

Because of the cumulative feature, dividends of €2 (€8 − €6) per share are in arrears on preference shares for 2024. IBR must pay these dividends to preference shareholders before it can pay any future dividends to ordinary shareholders. IBR should disclose dividends in arrears in the financial statements.

At December 31, 2025, IBR declares a €50,000 cash dividend. The allocation of the dividend to the two classes of shares is as shown in **Illustration 12.13**.

ILLUSTRATION 12.13 Allocating dividends to preference and ordinary shares

Total dividend		€50,000
Allocated to preference shares		
Dividends in arrears, 2024 (1,000 × €2)	**€2,000**	
2025 dividend (1,000 × €8)	**8,000**	**10,000**
Remainder allocated to ordinary shares		€40,000

The entry to record the declaration of the dividend is as follows.

Dec. 31	Cash Dividends	50,000	
	Dividends Payable		50,000
	(To record declaration of cash dividends of €10,000 to preference shares and €40,000 to ordinary shares)		

If IBR's preference shares are not cumulative, preference shareholders receive only €8,000 in dividends in 2025. Ordinary shareholders receive €42,000.

DO IT! 3a

Dividends on Preference and Ordinary Shares

MasterMind Gaming has 2,000 shares of 6%, ¥100 par value preference shares outstanding at December 31, 2025 (¥ in thousands). At December 31, 2025, the company declared a ¥60,000 cash dividend. Determine the dividend paid to preference shareholders and ordinary shareholders under each of the following scenarios.

1. The preference shares are non-cumulative, and the company has not missed any dividends in previous years.
2. The preference shares are non-cumulative, and the company did not pay a dividend in each of the two previous years.
3. The preference shares are cumulative, and the company did not pay a dividend in each of the two previous years.

ACTION PLAN

- **Determine dividends on preference shares by multiplying the dividend rate times the par value of the share times the number of preference shares.**
- **Understand the cumulative feature. If preference shares are cumulative, then any missed dividends (dividends in arrears) and the current year's dividend must be paid to preference shareholders before dividends are paid to ordinary shareholders.**

Solution

Related exercise material: **BE12.7**, **BE12.8**, **DO IT! 12.3a**, **E12.10**, **and E12.11**.

Accounting for Share Dividends

A **share dividend** is a pro rata (proportional to ownership) distribution to shareholders of the corporation's own shares. Whereas a company pays cash in a cash dividend, a company issues shares in a share dividend.

- **A share dividend results in a decrease in retained earnings and an increase in share capital and share premium.**
- Unlike a cash dividend, a share dividend does not decrease total equity or total assets.

To illustrate, assume that you have a 2% ownership interest in Cetus Group. That is, you own 20 of its 1,000 ordinary shares. If Cetus declares a 10% share dividend, it would issue 100 shares (1,000 × 10%). You would receive two shares (20 × 10%). Would your ownership interest change? No, it would remain at 2% (22 ÷ 1,100). **You now own more shares, but your ownership interest has not changed.**

Cetus has disbursed no cash and has assumed no liabilities. What, then, are the purposes and benefits of a share dividend? Corporations issue share dividends generally for one or more of the following reasons.

1. To satisfy shareholders' dividend expectations without using up cash.
2. To increase the marketability of the corporation's shares. When the number of shares outstanding increases, the market price per share decreases. Decreasing the market price of the shares makes it easier for smaller investors to purchase the shares.
3. To emphasize that a portion of equity has been permanently reinvested in the business (and is unavailable for cash dividends).

When the dividend is declared, the board of directors determines the size of the share dividend and the value assigned to each dividend.

IFRS is silent regarding the accounting for share dividends. One approach used in some countries is that if the company issues a **small share dividend** (less than 20–25% of the corporation's issued shares), the value assigned to each share is the fair value (market price) per share. This treatment is based on the assumption that a small share dividend will have little effect on the market price of the shares previously outstanding. Thus, many shareholders consider small share dividends to be distributions of earnings equal to the market price of the shares distributed.

If a company issues a **large share dividend** (greater than 20–25%), the price assigned to the dividend is the par or stated value. Small share dividends predominate in practice. Thus, we will illustrate only entries for small share dividends.

Entries for Share Dividends

To illustrate the accounting for small share dividends, assume that Danshui Ltd. has a balance of NT$3,000,000 in retained earnings. It declares a 10% share dividend on its 50,000 shares of NT$100 par value ordinary shares. The current fair value of its shares is NT$150 per share. The number of shares to be issued is 5,000 (10% × 50,000). Therefore, the total amount to be debited to Share Dividends is NT$750,000 (5,000 × NT$150). The entry to record the declaration of the share dividend is as follows.

Share Dividends	750,000	
Ordinary Share Dividends Distributable		500,000
Share Premium—Ordinary		250,000
(To record declaration of 10% shares dividend)		

Danshui debits Share Dividends for the fair value of the shares issued (NT$150 × 5,000). (Similar to cash dividends, share dividends decrease retained earnings.) Danshui also credits Ordinary Share Dividends Distributable for the par value of the dividend shares (NT$100 × 5,000) and credits Share Premium—Ordinary for the excess over par (NT$50 × 5,000).

- Ordinary Share Dividends Distributable is an **equity account**.
- It is not a liability because assets will not be used to pay the dividend.

If the company prepares a statement of financial position before it issues the dividend shares, it reports the distributable account as shown in **Illustration 12.14**.

ILLUSTRATION 12.14 Statement presentation of ordinary share dividends distributable

Share capital—ordinary	NT$5,000,000
Ordinary share dividends distributable	**500,000**
	NT$5,500,000

When Danshui issues the dividend shares, it debits Ordinary Share Dividends Distributable and credits Share Capital—Ordinary as follows.

Ordinary Share Dividends Distributable	500,000	
Share Capital—Ordinary		500,000
(To record issuance of 5,000 shares in a share dividend)		

Effects of Share Dividends

How do share dividends affect equity? They **change the composition of equity** because they transfer a portion of retained earnings to share capital and share premium. However, **total equity remains the same**. Share dividends also have no effect on the par or stated value per share, but the number of shares outstanding increases. **Illustration 12.15** shows these effects for Danshui.

ILLUSTRATION 12.15 Share dividend effects

	Before Dividend	Change	After Dividend
Equity			
Share capital—ordinary	NT$5,000,000	NT$500,000	NT$5,500,000
Share premium—ordinary	—	250,000	250,000
Total share capital	5,000,000	+750,000	5,750,000
Retained earnings	3,000,000	−750,000	2,250,000
Total equity	**NT$8,000,000**	**NT$ 0**	**NT$8,000,000**
Outstanding shares	**50,000**	**+5,000**	**55,000**
Par value per share	**NT$100.00**	**NT$0.00**	**NT$100.00**

In this example, the total of share capital—ordinary and share premium—ordinary increases by NT$750,000 (50,000 shares × 10% × NT$150) and retained earnings decreases by the same amount. Note also that total equity remains unchanged at NT$8,000,000. The number of shares increases by 5,000 (50,000 × 10%).

Accounting for Share Splits

A **share split**, like a share dividend, involves issuance of additional shares to shareholders according to their percentage ownership. **However, a share split results in a reduction in the par or stated value per share** (see **Helpful Hint**).

- The purpose of a share split is to increase the marketability of the shares by lowering the market price per share.
- This, in turn, makes it easier for the corporation to issue additional shares.

> **HELPFUL HINT**
>
> **A share split changes the par value per share but does not affect any balances in equity.**

The effect of a split on market price is generally **inversely proportional** to the size of the split.

For example, after a 2-for-1 share split, the market price of **Nike**'s (USA) shares fell from $111 to approximately $55. The lower market price stimulated market activity. Within one year, the shares were trading above $100 again. **Illustration 12.16** shows the effect of a 4-for-1 share split for shareholders.

ILLUSTRATION 12.16 Effect of share split for shareholders

In a share split, the company increases the number of shares in the same proportion that par or stated value per share decreases. For example, in a 2-for-1 split, the company exchanges one $10 par value share for two $5 par value shares.

- **A share split does not have any effect on share capital, share premium, retained earnings, or total equity.**
- However, the number of shares outstanding increases, and par value per share decreases.

Illustration 12.17 shows these effects for Danshui Ltd., assuming that it splits its 50,000 ordinary shares on a 2-for-1 basis.

ILLUSTRATION 12.17 Share split effects

	Before Share Split	Change	After Share Split
Equity			
Share capital—ordinary	NT$5,000,000	NT$ –0–	NT$5,000,000
Share premium—ordinary	–0–	–0–	–0–
Retained earnings	3,000,000	–0–	3,000,000
Total equity	**NT$8,000,000**	**NT$ –0–**	**NT$8,000,000**
Outstanding shares	**50,000**	**+50,000**	**100,000**
Par value per share	**NT$100.00**	**–NT$50.00**	**NT$50.00**

A share split does not affect the balances in any equity accounts. Therefore, **a company does not need to journalize a share split**.

Illustration 12.18 summarizes the differences between share dividends and share splits.

ILLUSTRATION 12.18 Differences between the effects of share dividends and share splits

Item	Share Dividend	Share Split
Total retained earnings	Decrease	No change
Total par value (ordinary shares)	Increase	No change
Par value per share	No change	Decrease
Outstanding shares	Increase	Increase
Total equity	No change	No change

Investor Insight

Berkshire Hathaway

Split or Not?

Warren Buffett's **Berkshire Hathaway Inc.** (USA) Class A shares closed above $250,000 recently. Given the high price, Mr. Buffett is often asked why the shares have never been split. One reason given is pride, as Berkshire Hathaway's share price is the second-highest per share price in the world. What company wouldn't like to be able to make that claim?

A second reason is that Mr. Buffett wants to attract sophisticated investors to his company, who recognize that splitting the shares does nothing to increase value. He worries that splitting the shares will lead to speculation and hurt the stability of the share price. He also notes that an alternative now exists for shareholders who would like to own Berkshire Hathaway, called Class B shares.

Class B shares are $1/30^{th}$ the value of the Class A shares. Class B shares were created because various financial companies were attempting to replicate the Class A shares by creating mutual funds for smaller investors for a substantial fee. Mr. Buffett objected to these companies charging high fees to smaller investors and therefore created the Class B shares to accommodate these individuals.

One thing is certain—it is a great investment. The shares are up three million percent since Mr. Buffett bought shares in the company!

Source: Based on Erik Holm, "Three Reasons Berkshire Never Split A Shares," *The Wall Street Journal* (February 16, 2017), p. B13.

Why does Warren Buffett oppose share splits?

Answer

DO IT! 3b

Share Dividends and Share Splits

Sing CD has had five years of record earnings. Due to this success, the market price of its 500,000 shares of £2 par value ordinary shares has tripled from £15 per share to £45. During this period, the sum of share capital and share premium remained the same at £2,000,000. Retained earnings increased from £1,500,000 to £10,000,000. CEO Joan Elbert is considering either a 10% share dividend or a 2-for-1 share split. She asks you to show the before-and-after effects of each option on retained earnings, total equity, shares outstanding, and par value per share.

ACTION PLAN

- **Calculate the share dividend's effect on retained earnings by multiplying the number of new shares times the market price of the shares (or par value for a large share dividend).**
- **Recall that a share dividend increases the number of shares without affecting total equity.**
- **Recall that a share split only increases the number of shares outstanding and decreases the par value per share.**

Solution

Related exercise material: **BE12.9**, **BE12.10**, **DO IT! 12.3b**, **E12.12**, **E12.13**, **E12.14**, **and E12.15**.

12.4 Reporting and Analyzing Equity

> **LEARNING OBJECTIVE 4**
>
> Discuss how equity is reported and analyzed.

Retained Earnings

Recall that retained earnings is net income that a company retains in the business.

- The balance in retained earnings is part of the shareholders' claim on the total assets of the corporation.
- It does not, however, represent a claim on any specific asset.
- Nor can the amount of retained earnings be associated with the balance of any asset account.

For example, a NT$10,000,000 balance in retained earnings does not mean that there should be NT$10,000,000 in cash. The reason is that the company may have used the cash resulting from the excess of revenues over expenses to purchase buildings, equipment, and other assets.

To demonstrate that retained earnings and cash may be quite different, Illustration 12.19 shows recent amounts of retained earnings and cash in selected companies.

ILLUSTRATION 12.19 Retained earnings and cash balances

	(in millions)	
Company	**Retained Earnings**	**Cash**
Stora Ensa (FIN)	€3,197	€2,065
Cathay Pacific (HKG)	HK$40,320	HK$12,359
Orion (KOR)	₩457,219	₩223,179
China Mobile Limited (CHN)	¥44,931	¥786,631

- When a company has net income, it closes net income to retained earnings. The closing entry is a debit to Income Summary and a credit to Retained Earnings (see Helpful Hint).
- When a company has a **net loss** (expenses exceed revenues), it also closes this amount to retained earnings. The closing entry is a debit to Retained Earnings and a credit to Income Summary.

> **HELPFUL HINT**
>
> **Remember that Retained Earnings is an equity account, whose normal balance is a credit.**

To illustrate, assume that Chen Company has a net loss of HK$400,000 in 2025. The closing entry to record this loss is as follows.

Retained Earnings	400,000	
Income Summary		400,000
(To close net loss to Retained Earnings)		

This closing entry is prepared even if it results in a debit balance in Retained Earnings. **Companies do not debit net losses to Share Capital or Share Premium**. If cumulative losses exceed cumulative income over a company's life, a debit balance in Retained Earnings results. A debit balance in Retained Earnings is identified as a deficit. A company reports a deficit as a deduction in the equity section, as shown in Illustration 12.20.

ILLUSTRATION 12.20 Equity with deficit

Statement of Financial Position (partial)	
Equity	
Share capital—ordinary	€800,000
Retained earnings (deficit)	**(50,000)**
Total equity	€750,000

The balance in retained earnings is generally available for dividend declarations. In some cases, however, there may be **retained earnings restrictions**.

- Retained earnings restrictions make a portion of the retained earnings balance currently unavailable for dividends.
- Companies generally disclose **retained earnings restrictions** in the notes to the financial statements.

For example, as shown in **Illustration 12.21**, **Tektronix Inc.** (USA), a manufacturer of electronic measurement devices, had total retained earnings of $774 million, but the unrestricted portion was only $223.8 million.

ILLUSTRATION 12.21 Disclosure of restriction

Tektronix Inc. Notes to the Financial Statements
Certain of the Company's debt agreements require compliance with debt covenants. Management believes that the Company is in compliance with such requirements. The Company had unrestricted retained earnings of $223.8 million after meeting those requirements.

A retained earnings statement for Graber SA, based on assumed data, is shown in **Illustration 12.22**.

ILLUSTRATION 12.22 Retained earnings statement

Graber SA Retained Earnings Statement For the Year Ended December 31, 2025		
Balance, January 1, as reported		€1,050,000
Add: Net income		410,000
		1,460,000
Less: Cash dividends	€100,000	
Share dividends	200,000	300,000
Balance, December 31		€1,160,000

Presentation of Statement of Financial Position

Illustration 12.23 presents the equity section of Graber SA's statement of financial position. Note the following.

1. "Ordinary share dividends distributable" is shown under "Share capital—ordinary."
2. A note (Note R) discloses a retained earnings restriction.

Note that instead of presenting a detailed equity section in the statement of financial position and a retained earnings statement, many companies prepare a **statement of changes in equity**. This statement shows the changes (1) in each equity account and (2) in total that occurred during the year.

ILLUSTRATION 12.23 Comprehensive equity section

Graber SA Statement of Financial Position (partial)		
Equity		
Share capital—preference, 9% €100 par value, cumulative, callable at €120, 10,000 shares authorized, 6,000 shares issued and outstanding		€ 600,000
Share capital—ordinary, no-par, €5 stated value, 500,000 shares authorized, 400,000 shares issued and 390,000 outstanding	€2,000,000	
Ordinary share dividends distributable	**50,000**	2,050,000
Share premium—preference	30,000	
Share premium—ordinary	1,050,000	1,080,000
Retained earnings (**see Note R**)		1,160,000
Less: Treasury shares (10,000 shares)		80,000
Total equity		€4,810,000
Note R: Retained earnings is restricted for the cost of treasury shares, €80,000.		

The equity section of Graber SA in Illustration 12.23 includes most of the accounts previously discussed. The disclosures pertaining to Graber's ordinary shares indicate that the company issued 400,000 shares; 100,000 shares are unissued (500,000 authorized less 400,000 issued); and 390,000 shares are outstanding (400,000 issued less 10,000 shares in treasury).

Under IFRS, companies often use the term "Reserves" for forms of equity other than that contributed by shareholders. Reserves sometimes includes retained earnings. More commonly, this line item is used to report the equity impact of comprehensive income items, such as the Revaluation Surplus that resulted from the revaluation of property, plant, and equipment.

DO IT! 4a

Equity Section

Jennifer NV has issued 300,000 shares of €3 par value ordinary shares. It authorized 600,000 shares. The share premium on the ordinary shares is €380,000. The corporation has reacquired 15,000 shares at a cost of €50,000 and is currently holding those shares. Treasury shares were reissued in prior years for €72,000 more than their cost.

The company also has 4,000 shares issued and outstanding of 8%, €100 par value preference shares. It authorized 10,000 shares. The share premium on the preference shares is €25,000. Retained earnings is €610,000.

Prepare the equity section of the statement of financial position.

ACTION PLAN

- **Present share capital first; list preference shares before ordinary shares.**
- **Present share premium after share capital.**
- **Report retained earnings after share capital and share premium.**

Solution

Related exercise material: **BE12.13**, **DO IT! 12.4a**, **E12.18**, **E12.19**, **E12.20**, **E12.21**, **and E12.22**.

Analysis

Analysts can measure profitability from the viewpoint of the investor in ordinary shares by the **return on ordinary shareholders' equity**.

- This ratio indicates how many euros of net income the company earned for each euro invested by the ordinary shareholders.
- It is computed by dividing **net income available to ordinary shareholders** (which is net income minus preference dividends) by average ordinary shareholders' equity.

To illustrate, **Carrefour**'s (FRA) beginning-of-the-year and end-of-the-year ordinary shareholders' equity was €8,047 and €8,597 million, respectively. Its net income was €1,263 million, and no preference shares were outstanding. The return on ordinary shareholders' equity is computed as shown in **Illustration 12.24**.

ILLUSTRATION 12.24 Return on ordinary shareholders' equity computation

Net Income minus Preference Dividends	÷	Average Ordinary Shareholders' Equity	=	Return on Ordinary Shareholders' Equity
(€1,263 − €0)	÷	$\frac{(€8,047 + €8,597)}{2}$	=	15.2%

As shown above, if a company has preference shares, we would deduct the amount of **preference dividends** from the company's net income to compute income available to ordinary shareholders. Also, the par value of preference shares is deducted from total shareholders' equity when computing the average ordinary shareholders' equity.

DO IT! 4b

Return on Shareholders' Equity

On January 1, 2025, Siena purchased 2,000 treasury shares. Other information regarding Siena is provided below.

	2024	2025
Net income	€110,000	€110,000
Dividends on preference shares	€10,000	€10,000
Dividends on ordinary shares	€2,000	€1,600
Weighted-average number of shares outstanding	10,000	8,000*
Ordinary shareholders' equity, beginning of year	€500,000	€400,000*
Ordinary shareholders' equity, end of year	€500,000	€400,000

*Adjusted for purchase of treasury shares.

Compute (a) return on ordinary shareholders' equity for each year and (b) discuss the changes in the amount of the ratio.

ACTION PLAN

- **Determine return on ordinary shareholders' equity by dividing net income available to ordinary shareholders by the average ordinary shareholders' equity.**

Solution

Related exercise material: **BE12.14**, **DO IT! 12.4b**, **E12.23**, **and E12.24**.

Appendix 12A Statement of Changes in Equity

LEARNING OBJECTIVE *5

Describe the use and content of the statement of changes in equity.

In addition to the statement of financial position and income statement, a statement of changes in equity is also presented each period.

- The statement shows the changes in **each** equity account and in **total** equity during the year.
- Disclosure of such changes is necessary to make the financial statements sufficiently informative for users.

As shown in Illustration 12A.1, the statement is prepared in columnar form. It contains columns for each account and for total equity. The transactions are then identified and their effects are shown in the appropriate columns.

In practice, additional columns are usually provided to show the number of issued shares and the number of treasury shares. **When a statement of changes in equity is presented, a retained earnings statement is not necessary** because the retained earnings column explains the changes in this account.

ILLUSTRATION 12A.1 Statement of changes in equity

Hampton AG
Statement of Changes in Equity
For the Year Ended December 31, 2025

	Share Capital (€5 Par)	Share Premium	Retained Earnings	Treasury Shares	Total
Balance January 1	€300,000	€200,000	€650,000	€(34,000)	€1,116,000
Issued 5,000 ordinary shares at €15	25,000	50,000			75,000
Declared a €40,000 cash dividend			(40,000)		(40,000)
Purchased 2,000 shares for treasury at €16				(32,000)	(32,000)
Net income for year			240,000		240,000
Balance December 31	€325,000	€250,000	€850,000	€(66,000)	€1,359,000

Appendix 12B Book Value—Another per Share Amount

LEARNING OBJECTIVE *6

Compute book value per share.

Book Value per Share

You have learned about a number of per share amounts in this chapter. Another per share amount of some importance is book value per share. It represents **the equity an ordinary shareholder has in**

the net assets of the corporation from owning one share. Remember that the net assets (total assets minus total liabilities) of a corporation must be equal to total equity. Therefore, the formula for computing book value per share when a company has only one class of shares outstanding is shown in **Illustration 12B.1**.

ILLUSTRATION 12B.1 Book value per share formula

Total Ordinary Shareholders' Equity	÷	Number of Ordinary Shares Outstanding	=	Book Value per Share

Thus, if Marlo Corporation has total ordinary shareholders' equity of $1,500,000 (share capital—ordinary $1,000,000 and retained earnings $500,000) and 50,000 shares of ordinary shares outstanding, book value per share is $30 ($1,500,000 ÷ 50,000).

When a company has both preference and ordinary shares, the computation of book value is more complex. Since preference shareholders have a prior claim on net assets over ordinary shareholders, their equity must be deducted from total equity. Then we can determine the equity that applies to the ordinary shares. The computation of book value per share involves the following steps.

1. **Compute the preference share equity.** This equity is equal to the sum of the call price of preference shares plus any cumulative dividends in arrears. If the preference shares do not have a call price, the par value of the shares is used.
2. **Determine the ordinary shareholders' equity.** Subtract the preference share equity from total equity.
3. **Determine book value per share.** Divide ordinary shareholders' equity by ordinary shares.

Example

We will use the equity section of Graber SA shown in Illustration 12.23. Graber's preference shares are callable at €120 per share and are cumulative. Assume that dividends on Graber's preference shares were in arrears for one year, €54,000 (6,000 × €9). The computation of preference share equity (Step 1 in the preceding list) is shown in **Illustration 12B.2**.

ILLUSTRATION 12B.2 Computation of preference share equity—Step 1

Call price (6,000 shares × €120)	€720,000
Dividends in arrears (6,000 shares × €9)	54,000
Preference share equity	**€774,000**

The computation of book value per share (Steps 2 and 3) is as shown in **Illustration 12B.3**.

ILLUSTRATION 12B.3 Computation of book value per share with preference shares—Steps 2 and 3

Total equity	€4,810,000
Less: **Preference share equity**	**774,000**
Ordinary shareholders' equity	**€4,036,000**
Ordinary shares outstanding	**390,000**
Book value per share (€4,036,000 ÷ 390,000)	**€10.35**

Note that we used the call price of €120 instead of the par value of €100. Note also that share premium—preference, €30,000, **is not assigned to the preference share equity**. Preference shareholders ordinarily do not have a right to amounts contributed in excess of par value. Therefore, such amounts are assigned to the ordinary shareholders' equity in computing book value.

Book Value versus Market Price

Be sure you understand that **book value per share may not equal market price per share**.

- Book value generally is based on recorded costs.
- Market price reflects the subjective judgments of thousands of shareholders and prospective investors about a company's potential for future earnings and dividends.
- Market price per share may exceed book value per share, but that fact does not necessarily mean that the shares are overpriced.

The correlation between book value and the annual range of a company's market price per share is often remote, as indicated in Illustration 12B.4 for some U.S. companies.

ILLUSTRATION 12B.4 Book value and market price compared

Company	Book Value (year-end)	Market Range (for the year)
The Limited, Inc.	$13.38	$22.89–$31.03
H. J. Heinz Company	$ 7.48	$34.53–$40.61
Cisco Systems	$ 3.66	$17.01–$21.24
Walmart Inc.	$12.79	$42.31–$50.87

Book value per share is useful in determining the trend of a shareholder's per share equity in a corporation. It is also significant in many contracts and in court cases where the rights of individual parties are based on cost information.

Review and Practice

Learning Objectives Review

1 Discuss the major characteristics of a corporation.

The major characteristics of a corporation are separate legal existence, limited liability of shareholders, transferable ownership rights, ability to acquire capital, continuous life, corporation management, government regulations, and additional taxes.

2 Explain how to account for ordinary, preference, and treasury shares.

When the issuance of ordinary shares for cash is recorded, the par value of the shares is credited to Share Capital—Ordinary. The portion of the proceeds that is above or below par value is recorded in a separate account. When no-par ordinary shares have a stated value, the entries are similar to those for par value shares. When no-par shares do not have a stated value, the entire proceeds are credited to Share Capital—Ordinary.

Preference shares have contractual provisions that give them priority over ordinary shares in certain areas. Typically, preference shareholders have a preference to (1) dividends and (2) assets in liquidation. They generally do not have voting rights.

The cost method is generally used in accounting for treasury shares. Under this approach, Treasury Shares is debited at the price paid to reacquire the shares. The same amount is credited to Treasury Shares when the shares are sold. The difference between the sales price and cost is recorded in equity accounts, not in income statement accounts.

3 Explain how to account for cash dividends, share dividends, and share splits.

Companies make entries for cash dividends at the declaration date and at the payment date. At the **declaration date**, the entry is debit Cash Dividends and credit Dividends Payable. At the **payment date**, the entry is debit Dividends Payable and credit Cash.

At the declaration date, the entry for a small share dividend is debit Share Dividends, credit Share Premium—Ordinary, and credit Ordinary Share Dividends Distributable.

At the payment (distribution) date, the entry for a small share dividend is debit Ordinary Share Dividends Distributable and credit Share Capital—Ordinary. A share split reduces the par or stated value per share and increases the number of shares but does not affect balances in equity accounts.

4 Discuss how equity is reported and analyzed.

Companies report each of the individual debits and credits to retained earnings in the retained earnings statement. Additions and deductions consist generally of net income or net loss, cash and share dividends, and some disposals of treasury shares.

A comprehensive equity section includes all equity accounts. It consists of two sections: share capital and retained earnings. It should also include notes to the financial statements that explain any restrictions on retained earnings and any dividends in arrears. One measure of profitability is the return on ordinary shareholders' equity. It is calculated by dividing net income minus preference share dividends by average ordinary shareholders' equity.

***5 Describe the use and content of the statement of changes in equity.**

Corporations must prepare a statement of changes in equity each period. This statement, prepared in columnar form, shows changes in each equity account and in total equity during the accounting period.

***6 Compute book value per share.**

Book value per share represents the equity an ordinary shareholder has in the net assets of a corporation from owning one share. When there are only ordinary shares outstanding, the formula for computing book value is: Total ordinary shareholders' equity ÷ Number of ordinary shares outstanding.

Glossary Review

Authorized shares
The amount of shares that a corporation is authorized to sell as indicated in its charter.

***Book value per share**
The equity an ordinary shareholder has in the net assets of the corporation from owning one share.

Cash dividend
A pro rata distribution of cash to shareholders.

Charter
A document that sets forth important terms and features regarding the creation of a corporation.

Corporation
A business organized as a legal entity separate and distinct from its owners under corporation law.

Cumulative dividend
A feature of preference shares entitling the shareholder to receive current and unpaid prior-year dividends before ordinary shareholders receive any dividends.

Declaration date
The date the board of directors formally declares the dividend and announces it to shareholders.

Deficit
A debit balance in retained earnings.

Dividend
A corporation's distribution of cash or shares to its shareholders on a pro rata (proportional) basis.

Liquidating dividend
A dividend declared out of share capital or share premium.

No-par value shares
Shares that have not been assigned a value in the corporate charter.

Organization costs
Costs incurred in the formation of a corporation.

Outstanding shares
Shares that have been issued and are being held by shareholders.

Par value shares
(or **nominal value shares**) Capital shares that have been assigned a value per share in the corporate charter.

Payment date
The date dividends are transferred to shareholders.

Preference shares
Shares that have some contractual preferences over ordinary shares.

Privately held corporation
A corporation that has only a few shareholders and whose shares are not available for sale to the general public.

Publicly held corporation
A corporation that may have thousands of shareholders and whose shares are regularly traded on a national securities exchange.

Record date
The date when ownership of outstanding shares is determined for dividend purposes.

Retained earnings
Net income that a corporation retains for future use.

Retained earnings restrictions
Circumstances that make a portion of retained earnings currently unavailable for dividends.

Return on ordinary shareholders' equity
A ratio that measures profitability from the shareholders' point of view. It is computed by dividing net income available to ordinary shareholders by average ordinary shareholders' equity.

Share capital
Cash and other assets paid into the corporation by shareholders in exchange for shares.

Share dividend
A pro rata distribution of the corporation's own shares to shareholders.

Share split
The issuance of additional shares to shareholders accompanied by a reduction in the par or stated value per share.

Stated value
The amount per share assigned by the board of directors to no-par shares that become legal capital per share.

Statement of changes in equity
A statement that shows the changes in each equity account and in total equity during the year.

Treasury shares
A corporation's own shares that the corporation has issued and reacquired but not retired.

Practice Multiple-Choice Questions

1. **(LO 1)** Which of the following is **not** a major advantage of the corporate form of organization?

   a. Separate legal existence.

   b. Continuous life.

   c. Government regulations.

   d. Transferable ownership rights.

Solution

2. (LO 1) A major disadvantage of a corporation is:

a. limited liability of shareholders.

b. additional taxes.

c. transferable ownership rights.

d. separate legal existence.

Solution

3. (LO 1) Which of the following statements is **false**?

a. Ownership of ordinary shares gives the owner a voting right.

b. The equity section begins with a share capital section.

c. The authorization of share capital does not result in a formal accounting entry.

d. Par value and market price of a company's shares are always the same.

Solution

4. (LO 2) ABC Industries issues 1,000 €10 par ordinary shares value at €12 per share. In recording the transaction, credits are made to:

a. Share Capital—Ordinary €10,000 and Share Premium—Ordinary €2,000.

b. Share Capital—Ordinary €12,000.

c. Share Capital—Ordinary €10,000 and Gain from Sale of Shares €2,000.

d. Share Capital—Ordinary €10,000 and Retained Earnings €2,000.

Solution

5. (LO 2) Lucroy AG issues 100 shares of €10 par value preference shares at €12 per share. In recording the transaction, credits are made to:

a. Share Capital—Preference €1,200.

b. Share Capital—Preference €1,000 and Retained Earnings €200.

c. Share Capital—Preference €1,000 and Share Premium—Ordinary €200.

d. Share Capital—Preference €1,000 and Share Premium—Preference €200.

Solution

6. (LO 2) Treasury shares may be repurchased:

a. to reissue the shares to officers and employees under bonus and share compensation plans.

b. to signal to the securities market that management believes the shares are underpriced.

c. to have additional shares available for use in the acquisition of other companies.

d. More than one of the answer choices is correct.

Solution

7. (LO 2) XYZ Ltd. sells 100 of its £5 par value treasury shares at £13 per share. If the cost of acquiring the shares was £10 per share, the entry for the sale should include credits to:

a. Treasury Shares 1,000 and Share Premium—Treasury 300.

b. Treasury Shares 500 and Share Premium—Treasury 800.

c. Treasury Shares 1,000 and Retained Earnings 300.

d. Treasury Shares 500 and Gain from Sale of Treasury Shares 800.

Solution

8. **(LO 2)** In the statement of financial position, the cost of treasury shares is deducted in:

a. expenses.

b. revenues.

c. equity.

d. liabilities.

Solution

9. **(LO 3)** Entries for cash dividends are required on the:

a. declaration date and the payment date.

b. record date and the payment date.

c. declaration date, record date, and payment date.

d. declaration date and the record date.

Solution

10. **(LO 3)** Preference shares may have priority over ordinary shares **except** in:

a. dividends.

b. assets in the event of liquidation.

c. cumulative dividend features.

d. voting.

Solution

11. **(LO 3)** Encore Ltd. declared an £80,000 cash dividend. It currently has 3,000 shares of 7%, £100 par value cumulative preference shares outstanding. It is one year in arrears on its preference shares. How much cash will Encore distribute to the ordinary shareholders?

a. £38,000.

b. £42,000.

c. £59,000.

d. None of the answer choices is correct.

Solution

12. **(LO 3)** Which of the following statements about small share dividends is **true**?

a. A debit to Retained Earnings should be made for the par value of the shares issued.

b. A small share dividend decreases total equity.

c. Market price per share should be assigned to the dividend shares.

d. A small share dividend ordinarily will have an effect on par value per share.

Solution

13. **(LO 3)** Which of the following statements about a 3-for-1 share split is **true**?

a. It will triple the market price of the share.

b. It will triple the amount of total equity.

c. It will have no effect on total equity.

d. It requires the company to distribute cash.

Solution

14. (LO 3) Raptor NV has retained earnings of €500,000 and total equity of €2,000,000. It has 100,000 shares of €8 par value ordinary shares outstanding, which is currently selling for €30 per share. If Raptor declares a 10% ordinary share dividend:

a. net income will decrease by €80,000.

b. retained earnings will decrease by €80,000 and total equity will increase by €80,000.

c. retained earnings will decrease by €300,000 and total equity will increase by €300,000.

d. retained earnings will decrease by €300,000 and total share capital will increase by €300,000.

Solution

15. (LO 4) All **but one** of the following is reported in a retained earnings statement. The exception is:

a. share dividends.

b. net income and net loss.

c. sales revenue.

d. cash dividends.

Solution

16. (LO 4) In the equity section, Ordinary Share Dividends Distributable is reported as a(n):

a. deduction from share capital and retained earnings.

b. addition to share premium.

c. deduction from retained earnings.

d. addition to share capital.

Solution

17. (LO 4) The return on ordinary shareholders' equity is defined as:

a. net income divided by total assets.

b. cash dividends divided by average ordinary shareholders' equity.

c. income available to ordinary shareholders divided by average ordinary shareholders' equity.

d. None of the answer choices is correct.

Solution

18. (LO 4) Katie Ltd. reported net income of NT$186,000 during 2025 and paid dividends of NT$26,000 on ordinary shares. It also has 10,000 shares of 6%, NT$100 par value, non-cumulative preference shares outstanding and paid dividends of NT$60,000 on preference shares. Ordinary shareholders' equity was NT$1,200,000 on January 1, 2025, and NT$1,600,000 on December 31, 2025 (amounts in thousands). The company's return on ordinary shareholders' equity for 2025 is:

a. 10.0%.

b. 9.0%.

c. 7.1%.

d. 13.3%.

Solution

***19. (LO 5)** Since a statement of changes in equity is required, it is **not** necessary to prepare a(n):

a. retained earnings statement.

b. statement of financial position.

c. income statement.

d. statement of cash flows.

Solution

*20. (LO 6) The ledger of JFK, plc shows share capital—ordinary, treasury shares—ordinary, and no preference shares. For this company, the formula for computing book value per share is:

a. total equity divided by the number of ordinary shares issued.

b. share capital—ordinary divided by the number of ordinary shares issued.

c. total equity divided by the number of ordinary shares outstanding.

d. share capital—ordinary divided by the number of ordinary shares outstanding.

Solution

Practice Brief Exercises

Prepare entries for issuance of shares.

1. (LO 2) On April 10, Leury SE issues 3,000 shares of €5 par value ordinary shares for cash at €14 per share. Journalize the issuance of the shares.

Solution

Prepare entries for treasury share transactions.

2. (LO 2) On June 1, Omar Group purchases 600 shares of its £5 par value ordinary shares for the treasury at a cash price of £10 per share. On August 15, it sells 400 treasury shares for cash at £13 per share. Journalize the two treasury share transactions.

Solution

Prepare entries for a cash dividend.

3. (LO 3) Teng Electronics has 70,000 ordinary shares outstanding. It declares a ¥2 per share cash dividend on November 15 to shareholders of record on December 15 (¥ in thousands). The dividend is paid on December 31. Prepare the entries on the appropriate dates to record the declaration and payment of the cash dividend.

Solution

Show the before-and-after effects of a share dividend.

4. (LO 3) The equity section of Ynoa plc consists of share capital—ordinary (£5 par) £3,000,000 and retained earnings £1,000,000. A 15% share dividend (90,000 shares) is declared when the market price per share is £11. Show the before-and-after effects of the dividend on the following.

a. The components of equity.

b. Shares outstanding.

c. Par value per share.

Solution

Prepare a retained earnings statement.

5. (LO 4) The balance in retained earnings on January 1, 2025, for ChrisBeck Ltd. was HK$400,000 (amounts in thousands). During the year, the company paid cash dividends of HK$50,000 and distributed a share dividend of HK$10,000. Net income for 2025 was HK$107,000. Prepare the retained earnings statement for 2025.

Solution

Prepare equity section.

6. (LO 4) Phoa Enterprises has the following accounts at December 31: Ordinary Shares, HK$2 par, 50,000 shares issued, HK$100,000; Share Premium—Ordinary HK$40,000; Retained Earnings HK$65,000; and Treasury Shares, 2,000 shares, HK$17,000 (HK$ in thousands). Prepare the equity section of the statement of financial position.

Solution

Practice Exercises

Journalize issuance of ordinary and preference shares and purchase of treasury shares.

1. (LO 2) Maci plc had the following transactions during the current period.

Mar.	2	Issued 5,000 shares of £5 par value ordinary shares to attorneys in payment of a bill for £35,000 for services performed in helping the company to incorporate.
June	12	Issued 60,000 shares of £5 par value ordinary shares for cash of £370,000.
July	11	Issued 1,000 shares of £100 par value preference shares for cash at £112 per share.
Nov.	28	Purchased 2,000 shares of treasury shares for £70,000.

Instructions

Journalize the transactions.

Solution

Journalize treasury share transactions.

2. (LO 2) Star Industries purchased from its shareholders 5,000 shares of its own previously issued shares for €250,000. It later resold 2,000 shares for €53 per share, then 2,000 more shares for €48 per share, and finally 1,000 shares for €43 per share.

Instructions

Prepare journal entries for the purchase of the treasury shares and the three sales of treasury shares.

Solution

Allocate cash dividends to preference and ordinary shares.

3. (LO 3) At December 31, 2025, Lebron Athletics distributes €50,000 of cash dividends. Its outstanding ordinary shares have a par value of €400,000, and its 6% preference shares have a par value of €100,000 at December 31, 2025.

Instructions

a. Show the allocation of dividends to each class of shares, assuming that the preference share dividend is 6% and not cumulative.

b. Show the allocation of the dividends to each class of shares, assuming the preference share dividend of 6% is cumulative and Lebron did not pay any dividends on the preference shares in the preceding 2 years.

c. Journalize the declaration of the cash dividend at December 31, 2025, assuming the requirements in part (b).

Solution

Journalize cash dividends; indicate statement presentation.

4. (LO 3, 4) On January 1, Chong Ltd. had 95,000 shares of no-par ordinary shares issued and outstanding. The shares have a stated value of NT$60 per share (amounts in thousands). During the year, the following occurred.

Apr.	1	Issued 25,000 additional ordinary shares for NT$170 per share.
June	15	Declared a cash dividend of NT$10 per share to shareholders of record on June 30.
July	10	Paid the NT$10 cash dividend.
Dec.	1	Issued 2,000 additional ordinary shares for NT$190 per share.
	15	Declared a cash dividend on outstanding shares of NT$12 per share to shareholders of record on December 31.

Instructions

a. Prepare the entries, if any, on each of the three dividend dates.

b. How are dividends and dividends payable reported in the financial statements prepared at December 31?

Solution

Prepare a retained earnings statement.

5. (LO 4) Rabb AG reported retained earnings of €400,000 and 200,000 shares outstanding at January 1, 2025.

The following transactions occurred during 2025.

1. A cash dividend of €0.50 per share was declared and paid.
2. A 5% share dividend was declared and distributed when the market price per share was €18 per share.
3. Net income was €340,000.

Instructions

Prepare a retained earnings statement for 2025.

Solution

Practice Problems

Journalize transactions and prepare equity section.

1. (LO 2, 4) Cabral SA is authorized to issue 1,000,000 R$5 par value ordinary shares. In its first year, the company has the following share transactions.

Jan.	10	Issued 400,000 ordinary shares at R$8 per share.
July	1	Issued 100,000 ordinary shares for land. The land had an asking price of R$900,000. The shares are currently selling on a national exchange at R$8.25 per share.
Sept.	1	Purchased 10,000 ordinary shares for the treasury at R$9 per share.
Dec.	1	Sold 4,000 treasury shares at R$10 per share.

Instructions

a. Journalize the transactions.

b. Prepare the equity section assuming the company had retained earnings of R$200,000 at December 31.

Solution

Prepare dividend entries and equity section.

2. (LO 3, 4) On January 1, 2025, Hayslett AG had the following equity accounts.

Share Capital—Ordinary (€10 par value, 260,000 shares issued and outstanding)	€2,600,000
Share Premium—Ordinary	1,500,000
Retained Earnings	3,200,000

During the year, the following transactions occurred.

April	1	Declared a €1.50 cash dividend per share to shareholders of record on April 15, payable May 1.
May	1	Paid the dividend declared in April.
June	1	Announced a 2-for-1 share split. Prior to the split, the market price per share was €24.
Aug.	1	Declared a 10% share dividend to shareholders of record on August 15, distributable August 31. On August 1, the market price of the shares was €10 per share.
	31	Issued the shares for the share dividend.
Dec.	1	Declared a €1.50 per share dividend to shareholders of record on December 15, payable January 5, 2026.
	31	Determined that net income for the year was €600,000.

Instructions

a. Journalize the transactions and the closing entries for net income, share dividends, and cash dividends.

b. Prepare an equity section at December 31.

Solution

Note: Asterisked Questions, Exercises, and Problems relate to material in the appendices to the chapter.

Questions

1. Mark Adler, a student, asks your help in understanding the following characteristics of a corporation: (a) separate legal existence, (b) limited liability of shareholders, and (c) transferable ownership rights. Explain these characteristics to Mark.

2.

a. Your friend Paula Leuck cannot understand how the characteristic of corporation management is both an advantage and a disadvantage. Clarify this problem for Paula.

b. Identify and explain two other disadvantages of a corporation.

3. The following terms pertain to the forming of a corporation: (1) charter, (2) by-laws, and (3) organization costs. Explain the terms.

4. What are the basic ownership rights of ordinary shareholders in the absence of restrictive provisions?

5. A corporation has been defined as an entity separate and distinct from its owners. In what ways is a corporation a separate legal entity?

6.

a. What are the two principal components of equity?

b. What is share capital? Give three examples.

7. The corporate charter of Keller Ltd. allows the issuance of a maximum of 100,000 ordinary shares. During its first two years of operations, Keller sold 70,000 shares and reacquired 7,000 of these shares. After these transactions, how many shares are authorized, issued, and outstanding?

8. Which is the better investment—ordinary shares with a par value of ₩5,000 per share, or ordinary shares with a par value of ₩20,000 per share? Why?

9. What factors help determine the market price of shares?

10. Why are ordinary shares usually not issued at a price that is less than par value?

11. Land appraised at £84,000 is purchased by issuing 1,000 £10 par value ordinary shares. The market price of the shares at the time of the exchange, based on active trading in the securities market, is £95 per share. Should the land be recorded at £10,000, £84,000, or £95,000? Explain.

12. For what reasons might a company like **Wesfarmers** (AUS) repurchase some of its shares (treasury shares)?

13. Luz A/S purchases 1,000 shares of its own previously issued €5 par value ordinary shares for €9,000. Assuming the shares are held in the treasury, what effect does this transaction have on (a) net income, (b) total assets, (c) retained earnings, and (d) total equity?

14. The treasury shares purchased in Question 13 are resold by Luz A/S for €13,000. What effect does this transaction have on (a) net income, (b) total assets, (c) retained earnings, and (d) total equity?

15. What are the principal differences between ordinary shares and preference shares?

16.

a. What is a dividend?

b. "Dividends must be paid in cash." Do you agree? Explain.

17. Tim Miotke maintains that adequate cash is the only requirement for the declaration of a cash dividend. Is Tim correct? Explain.

18.

a. Three dates are important in connection with cash dividends. Identify these dates, and explain their significance to the corporation and its shareholders.

b. Identify the accounting entries that are made for a cash dividend and the date of each entry.

19. Farley Farms declares a €55,000 cash dividend on December 31, 2025. The required annual dividend on preference shares is €10,000. Determine the allocation of the dividend to preference and ordinary shareholders assuming the preference shares are cumulative and dividends are 1 year in arrears.

20. Contrast the effects of a cash dividend and a share dividend on a company's statement of financial position.

21. Travis Mordica asks, "Since share dividends don't change anything, why declare them?" What is your answer to Travis?

22. Gorton Ltd. has 30,000 shares of £10 par value ordinary shares outstanding when it announces a 2-for-1 share split. Before the split, the shares had a market price of £120 per share. After the split, how many shares will be outstanding? What will be the approximate market price per share?

23. The board of directors is considering either a share split or a share dividend. They understand that total equity will remain the same under either action. However, they are not sure of the different effects of the two types of actions on other aspects of equity. Explain the differences to the directors.

24. How are retained earnings restrictions generally reported in the financial statements?

25. Rafy Furcal believes that both the beginning and ending balances in retained earnings are shown in the equity section. Is Rafy correct? Discuss.

26. Dean Percival, who owns many investments in ordinary shares, says, "I don't care what a company's net income is. The share price tells me everything I need to know!" How do you respond to Dean?

***27.** What is the formula for computing book value per share when a corporation has only ordinary shares?

***28.** Bihar Ltd.'s ordinary shares have a par value of Rs10, a book value of Rs240, and a current market price of Rs180. Explain why these amounts are all different (amounts in thousands).

Brief Exercises

List the advantages and disadvantages of a corporation.

BE12.1 (LO 1) Kari Home is studying for her accounting midterm examination. Identify for Kari the advantages and disadvantages of the corporate form of business organization.

Prepare entries for issuance of par value ordinary shares.

BE12.2 (LO 2) On May 10, Chen Co. issues 2,000 €6 par value ordinary shares for cash at €13 per share. Journalize the issuance of the shares.

Prepare entries for issuance of no-par value ordinary shares.

BE12.3 (LO 2) On June 1, Federia Ltd. issues 4,500 no-par ordinary shares at a cash price of HK$600 per share. Journalize the issuance of the shares assuming the shares have a stated value of HK$200 per share.

Prepare entries for issuance of shares in a non-cash transaction.

BE12.4 (LO 2) Alou Ltd.'s £10 par value ordinary shares are actively traded at a market price of £15 per share. Alou issues 5,000 shares to purchase land advertised for sale at £81,000. Journalize the issuance of the shares in acquiring the land.

Prepare entries for treasury share transactions.

BE12.5 (LO 2) On July 1, Pearl River Industries purchases 500 of its HK$20 par value ordinary shares for the treasury at a cash price of HK$80 per share. On September 1, it sells 350 treasury shares for cash at HK$90 per share. Journalize the two treasury share transactions.

Prepare entries for issuance of preference shares.

BE12.6 (LO 2) Chard Ltd. issues 5,000 £100 par value preference shares for cash at £118 per share. Journalize the issuance of the preference shares.

Prepare entries for a cash dividend.

BE12.7 (LO 3) Greenwood Enterprises has 80,000 ordinary shares outstanding. It declares a €1 per share cash dividend on November 1 to shareholders of record on December 1. The dividend is paid on December 31. Prepare the entries on the appropriate dates to record the declaration and payment of the cash dividend.

Determine dividends paid to ordinary shareholders.

BE12.8 (LO 3) M. Bot Ltd. has 10,000 shares of 8%, €100 par value, cumulative preference shares outstanding at December 31, 2025. No dividends were declared in 2023 or 2024. If M. Bot wants to pay €375,000 of dividends in 2025, what amount of dividends will ordinary shareholders receive?

Prepare entries for a share dividend.

BE12.9 (LO 3) Langley Ltd. has 50,000 shares of £10 par value ordinary shares outstanding. It declares a 15% share dividend on December 1 when the market price per share is £16. The dividend shares are issued on December 31. Prepare the entries for the declaration and issuance of the share dividend.

Show before-and-after effects of a share dividend.

BE12.10 (LO 3) The equity section of Pretzer plc consists of ordinary shares (£10 par) £2,000,000 and retained earnings £500,000. A 15% share dividend (30,000 shares) is declared when the market price per share is £16. Show the before-and-after effects of the dividend on the following.

a. The components of equity.

b. Shares outstanding.

c. Par value per share.

Prepare a retained earnings statement.

BE12.11 (LO 4) For the year ending December 31, 2025, Soto Ltd. reports net income ¥170,000 and dividends ¥85,000 (amounts in thousands). Prepare the retained earnings statement for the year assuming the balance in retained earnings on January 1, 2025, was ¥220,000.

Prepare a retained earnings statement.

BE12.12 (LO 4) The balance in retained earnings on January 1, 2025, for Palmer Cosmetic was €800,000. During the year, the company paid cash dividends of €90,000 and distributed a share dividend of €8,000. Net income for 2025 was €120,000. Prepare the retained earnings statement for 2025.

Prepare equity section.

BE12.13 (LO 4) Garcia Enterprises has the following accounts at December 31: Share Capital—Ordinary, €10 par, 5,000 shares issued, €50,000; Share Premium—Ordinary €32,000; Retained Earnings €45,000; and Treasury Shares, 500 shares, €9,000. Prepare the equity section of the statement of financial position.

Compute the return on ordinary shareholders' equity.

BE12.14 (LO 4) Whetzel Imports reported net income of NT$152,000, declared dividends on ordinary shares of NT$50,000, and had an ending balance in retained earnings of NT$360,000. Ordinary shareholders' equity was NT$700,000 at the beginning of the year and NT$820,000 at the end of the year. Compute the return on ordinary shareholders' equity.

Compute book value per share.

***BE12.15 (LO 6)** The statement of financial position for Lauren Ltd. shows the following: total equity £817,000, ordinary shares issued 44,000 shares, and ordinary shares outstanding 35,000 shares. Compute the book value per share. (No preference shares are outstanding.)

DO IT! Exercises

Analyze statements about corporate organization.

DO IT! 12.1a (LO 1) Indicate whether each of the following statements is true or false. If false, indicate how to correct the statement.

_____ **1.** The corporation is an entity separate and distinct from its owners.

_____ **2.** The liability of shareholders is normally limited to their investment in the corporation.

_____ **3.** The relative lack of government regulation is an advantage of the corporate form of business.

_____ **4.** There is no journal entry to record the authorization of ordinary shares.

_____ **5.** No-par value shares are quite rare today.

Close net income and prepare equity section.

DO IT! 12.1b (LO 1) At the end of its first year of operation, Jaeger Industries has €1,000,000 of ordinary shares and net income of €228,000. Prepare (a) the closing entry for net income and (b) the equity section at year-end.

Journalize issuance of shares.

DO IT! 12.2a (LO 2) Zermatt AG began operations on April 1 by issuing 50,000 of CHF2 par value ordinary shares for cash at CHF13 per share. On April 19, it issued 2,000 ordinary shares to attorneys in settlement of their bill of CHF27,100 for organization costs. On April 27, Zermatt issues 1,000 of CHF100 par value preference shares for cash at CHF110 per share. Journalize the issuance of shares, assuming the shares are not publicly traded.

Journalize treasury share transactions.

DO IT! 12.2b (LO 2) Delsman Limited purchased 2,000 of its £5 par value ordinary shares for £128,000 on August 1. It will hold these shares in the treasury until resold. On December 1, the corporation sold 1,200 treasury shares for cash at £72 per share. Journalize the treasury share transactions.

Determine dividends paid to preference and ordinary shareholders.

DO IT! 12.3a (LO 3) Herr Fashions has 2,000 shares of 7%, €100 par value preference shares outstanding at December 31, 2025. At December 31, 2025, the company declared a €110,000 cash dividend. Determine the dividend paid to preference shareholders and ordinary shareholders under each of the following scenarios.

1. The preference shares are non-cumulative, and the company has not missed any dividends in previous years.
2. The preference shares are non-cumulative, and the company did not pay a dividend in each of the two previous years.
3. The preference shares are cumulative, and the company did not pay a dividend in each of the two previous years.

Determine effects of share dividend and share split.

DO IT! 12.3b (LO 3) Jurgens AG has had 4 years of net income. Due to this success, the market price of its 400,000 shares of £2 par value ordinary shares has increased from £12 per share to £49. During this period, total share capital and share premium remained the same at £2,400,000. Retained earnings increased from £1,800,000 to £12,000,000. CEO E. Rife is considering either a 15% share dividend or a 2-for-1 share split. He asks you to show the before-and-after effects of each option on (a) retained earnings and (b) total equity.

Prepare equity section.

DO IT! 12.4a (LO 4) Anders SA has issued 100,000 shares of €5 par value ordinary shares. It authorized 500,000 shares. The share premium on the ordinary shares is €240,000. The corporation has reacquired 7,000 shares at a cost of €46,000 and is currently holding those shares. Treasury shares were reissued in prior years for €47,000 more than their cost.

The company also has 2,000 shares issued and outstanding of 7%, €100 par value preference shares. It authorized 10,000 shares. The share premium on the preference shares is €23,000. Retained earnings is €372,000.

Prepare the equity section of the statement of financial position.

Compute return on ordinary shareholders' equity.

DO IT! 12.4b (LO 4) On January 1, 2025, Vahsholtz Automotive purchased 5,000 treasury shares. Other information regarding Vahsholtz Automotive is provided as follows.

	2024	2025
Net income	€100,000	€110,000
Dividends on preference shares	€30,000	€30,000
Dividends on ordinary shares	€20,000	€25,000
Weighted-average number of ordinary shares outstanding	50,000	45,000
Ordinary shareholders' equity beginning of year	€600,000	€750,000
Ordinary shareholders' equity end of year	€750,000	€830,000

Compute return on ordinary shareholders' equity for each year.

Exercises

Identify characteristics of a corporation.

E12.1 (LO 1) Victoria has prepared the following list of statements about corporations.

1. A corporation is an entity separate and distinct from its owners.
2. As a legal entity, a corporation has most of the rights and privileges of a person.
3. Most of the largest corporations are privately held corporations.
4. Corporations may buy, own, and sell property; borrow money; enter into legally binding contracts; and sue and be sued.
5. The net income of a corporation is not taxed as a separate entity.
6. Creditors have a legal claim on the personal assets of the owners of a corporation if the corporation does not pay its debts.
7. The transfer of shares from one owner to another requires the approval of either the corporation or other shareholders.
8. The board of directors of a corporation legally owns the corporation.
9. The chief accounting officer of a corporation is the controller.
10. Corporations are subject to fewer regulations than partnerships or proprietorships.

Instructions

Identify each statement as true or false. If false, indicate how to correct the statement.

Identify characteristics of a corporation.

E12.2 (LO 1, 2) Victoria (see E12.1) has studied the information you gave her in that exercise and has come to you with more statements about corporations.

1. Corporation management is both an advantage and a disadvantage of a corporation compared to a proprietorship or a partnership.
2. Limited liability of shareholders, government regulations, and additional taxes are the major disadvantages of a corporation.
3. When a corporation is formed, organization costs are recorded as an asset.
4. Each ordinary share gives the shareholder the ownership rights to vote at shareholder meetings, share in corporate earnings, keep the same percentage ownership when new shares are issued, and share in assets upon liquidation.
5. The number of issued shares is always greater than or equal to the number of authorized shares.
6. A journal entry is required for the authorization of ordinary shares.
7. Publicly held corporations usually issue shares directly to investors.
8. The trading of shares on a securities exchange involves the transfer of already issued shares from an existing shareholder to another investor.

9. The market price of ordinary shares is usually the same as its par value.
10. Retained earnings is the total amount of cash and other assets paid in to the corporation by shareholders in exchange for shares.

Instructions

Identify each statement as true or false. If false, indicate how to correct the statement.

Journalize issuance of ordinary shares.

E12.3 (LO 2) During its first year of operations, Punjab Limited had the following transactions pertaining to its ordinary shares.

Jan.	10	Issued 70,000 shares for cash at Rs50 per share.
July	1	Issued 30,000 shares for cash at Rs70 per share.

Instructions

a. Journalize the transactions, assuming that the ordinary shares have a par value of Rs50 per share.
b. Journalize the transactions, assuming that the ordinary shares are no-par with a stated value of Rs10 per share.

Journalize issuance of ordinary shares.

E12.4 (LO 2) Luis SLU issued 1,000 ordinary shares.

Instructions

Prepare the entry for the issuance under the following assumptions.

a. The shares had a par value of €5 per share and were issued for a total of €48,000.
b. The shares had a stated value of €5 per share and were issued for a total of €48,000.
c. The shares had no par or stated value and were issued for a total of €48,000.
d. The shares had a par value of €5 per share and were issued to attorneys for services during incorporation valued at €48,000.
e. The shares had a par value of €5 per share and were issued for land worth €48,000.

Journalize treasury share transactions.

E12.5 (LO 2) Nanjing Ltd. purchased from its shareholders 5,000 shares of its own previously issued shares for ¥250,000. It later resold 1,300 shares for ¥54 per share, then 2,000 more shares for ¥49 per share, and finally 1,700 shares for ¥40 per share.

Instructions

Prepare journal entries for the purchase of the treasury shares and the three sales of treasury shares.

Journalize issuance of ordinary and preference shares and purchase of treasury shares.

E12.6 (LO 2) Sorocaba Co. had the following transactions during the current period.

Mar.	2	Issued 5,000 R$1 par value ordinary shares to attorneys in payment of a bill for R$44,000 for services performed in helping the company to incorporate.
June	12	Issued 60,000 R$1 par value ordinary shares for cash of R$468,000.
July	11	Issued 1,000 R$100 par value preference shares for cash at R$110 per share.
Nov.	28	Purchased 2,000 treasury shares for R$18,000.

Instructions

Journalize the transactions.

Journalize non-cash ordinary share transactions.

E12.7 (LO 2) As an auditor for the firm of Gratis and Goode, you encounter the following situations in auditing different clients.

1. JR SpA is a closely held corporation whose shares are not publicly traded. On December 5, the corporation acquired land by issuing 5,000 €10 par value ordinary shares. The owners' asking price for the land was €138,000, and the fair value of the land was €124,000.
2. Novak A/S is a publicly held corporation whose ordinary shares are traded on the securities markets. On June 1, it acquired land by issuing 20,000 €10 par value ordinary shares. At the time of the exchange, the land was advertised for sale at €250,000. The shares were selling at €11 per share.

Instructions

Prepare the journal entries for each of the situations above.

Journalize treasury share transactions.

E12.8 (LO 2) On January 1, 2025, the equity section of Bergin Stores shows share capital—ordinary (£5 par value) £1,500,000; share premium—ordinary £1,000,000; and retained earnings £1,200,000. During the year, the following treasury share transactions occurred.

Mar.	1	Purchased 50,000 shares for cash at £12 per share.
July	1	Sold 10,000 treasury shares for cash at £14 per share.
Sept.	1	Sold 8,000 treasury shares for cash at £10 per share.

Instructions

a. Journalize the treasury share transactions.

b. Restate the entry for September 1, assuming the treasury shares were sold at £9 per share.

Prepare correct entries for share capital transactions.

E12.9 (LO 2) Anya OAO recently hired a new accountant with extensive experience in accounting for partnerships. Because of the pressure of the new job, the accountant was unable to review his textbooks on the topic of corporation accounting. During the first month, the accountant made the following entries for the corporation's share capital.

May 2	Cash	130,000	
	Share Capital—Ordinary		130,000
	(Issued 10,000 €10 par value ordinary shares at €13 per share)		
10	Cash	580,000	
	Share Capital—Ordinary		580,000
	(Issued 10,000 €50 par value preference shares at €58 per share)		
15	Share Capital—Ordinary	18,000	
	Cash		18,000
	(Purchased 1,200 ordinary shares for the treasury at €15 per share)		
31	Cash	8,000	
	Share Capital—Ordinary		5,000
	Gain on Sale of Shares		3,000
	(Sold 500 treasury shares at €16 per share)		

Instructions

On the basis of the explanation for each entry, prepare the entry that should have been made for the share capital transactions.

Journalize cash dividends; indicate statement presentation.

E12.10 (LO 3, 4) On January 1, Chevon Enterprises had 95,000 no-par ordinary shares issued and outstanding. The shares have a stated value of €5 per share. During the year, the following occurred.

Apr.	1	Issued 25,000 additional ordinary shares for €17 per share.
June	15	Declared a cash dividend of €1 per share to shareholders of record on June 30.
July	10	Paid the €1 cash dividend.
Dec.	1	Issued 2,000 additional ordinary shares for €19 per share.
	15	Declared a cash dividend on outstanding shares of €1.20 per share to shareholders of record on December 31.

Instructions

a. Prepare the entries to record these transactions.

b. How are dividends and dividends payable reported in the financial statements prepared at December 31?

Allocate cash dividends to preference and ordinary shares.

E12.11 (LO 3) Knudsen Bakeries was organized on January 1, 2024. During its first year, the company issued 2,000 shares of HK$50 par value preference shares and 100,000 shares of HK$10 par value ordinary shares. At December 31, the company declared the following cash dividends: 2024, HK$5,000; 2025, HK$12,000; and 2026, HK$28,000 (HK$ in thousands).

Instructions

a. Show the allocation of dividends to each class of shares, assuming the preference share dividend is 6% and non-cumulative.

b. Show the allocation of dividends to each class of shares, assuming the preference share dividend is 7% and cumulative.

c. Journalize the declaration of the cash dividend at December 31, 2026, under part (b).

Journalize share dividends.

E12.12 (LO 3) On January 1, 2025, Lanie Limited had £1,000,000 of share capital—ordinary for shares issued at par. It also had retained earnings of £750,000. The company issued 40,000 ordinary shares at par on July 1 and earned net income of £400,000 for the year.

Instructions

Journalize the declaration of a 15% share dividend on December 10, 2025, for the following independent assumptions.

a. Par value is £10, and market price is £18.

b. Par value is £5, and market price is £20.

Compare effects of a share dividend and a share split.

E12.13 (LO 3) On October 31, the equity section of Lucerne AG consists of share capital—ordinary CHF500,000 and retained earnings CHF900,000. Lucerne is considering the following two courses of action: (1) declaring a 5% share dividend on the 50,000, CHF10 par value shares outstanding, or (2) effecting a 2-for-1 share split that will reduce par value to CHF5 per share. The current market price is CHF14 per share.

Instructions

Prepare a tabular summary of the effects of the alternative actions on the components of equity, outstanding shares, and par value per share. Use the following column headings: Before Action, After Share Dividend, and After Share Split.

Indicate account balances after a share dividend.

E12.14 (LO 3) On October 1, Little Bobby Company's equity is as follows.

Share capital—ordinary, €5 par value	€400,000
Share premium—ordinary	25,000
Retained earnings	155,000
Total equity	€580,000

On October 1, Little Bobby declares and distributes a 10% share dividend when the market price is €15 per share.

Instructions

a. Determine the par value per share (1) before the share dividend and (2) after the share dividend.

b. Indicate the balances in the three equity accounts after the share dividend shares have been distributed.

Prepare correcting entries for dividends and a share split.

E12.15 (LO 3) Before preparing financial statements for the current year, the chief accountant for Toso Shipping discovered the following errors in the accounts.

1. The declaration and payment of NT$50,000 cash dividend was recorded as a debit to Interest Expense NT$50,000 and a credit to Cash NT$50,000.
2. A 10% share dividend (1,000 shares) was declared on the NT$20 par value shares when the market price per share was NT$36. The only entry made was Share Dividends (Dr.) NT$20,000 and Dividend Payable (Cr.) NT$20,000. The shares have not been issued.
3. A 4-for-1 share split involving the issue of 400,000 shares of NT$5 par value ordinary shares for 100,000 shares of NT$20 par value ordinary shares was recorded as a debit to Retained Earnings NT$2,000,000 and a credit to Share Capital—Ordinary NT$2,000,000.

Instructions

Prepare the correcting entries at December 31.

Prepare a retained earnings statement.

E12.16 (LO 4) On January 1, 2025, Eddy Industries had retained earnings of £650,000. During the year, Eddy had the following selected transactions.

1. Declared cash dividends £120,000.
2. Earned net income £350,000.
3. Declared share dividends £90,000.

Instructions

Prepare a retained earnings statement for the year.

Prepare a retained earnings statement.

E12.17 (LO 4) Bindra A.Ş. reported retained earnings at December 31, 2024, of ₺310,000. Bindra had 200,000 shares outstanding at the beginning of 2025.

The following transactions occurred during 2025.

1. A cash dividend of ₺0.50 per share was declared and paid.
2. A 5% share dividend was declared and distributed when the market price per share was ₺15 per share.
3. Net income was ₺285,000.

Instructions

Prepare a retained earnings statement for 2025.

Prepare an equity section.

E12.18 (LO 4) Dirk SA reported the following balances at December 31, 2024: share capital—ordinary €500,000, share premium—ordinary €100,000, and retained earnings €250,000. During 2025, the following transactions affected equity.

1. Issued preference shares with a par value of €125,000 for €200,000.
2. Purchased treasury shares (ordinary) for €40,000.
3. Earned net income of €180,000.
4. Declared and paid cash dividends of €56,000.

Instructions

Prepare the equity section of Dirk SA's December 31, 2025, statement of financial position.

Prepare an equity section.

E12.19 (LO 4) The following accounts appear in the ledger of Tiger Ltd. after the books are closed at December 31 (¥ in thousands).

Share Capital—Ordinary, no par, ¥1 stated value, 400,000 shares authorized; 300,000 shares issued	¥ 300,000
Ordinary Share Dividends Distributable	30,000
Share Premium—Ordinary	1,200,000
Share Capital—Preference, ¥5 par value, 8%, 40,000 shares authorized; 30,000 shares issued	150,000
Retained Earnings	800,000
Treasury Shares—Ordinary (10,000 shares)	74,000
Share Premium—Preference	344,000

Instructions

Prepare the equity section at December 31, assuming retained earnings is restricted for plant expansion in the amount of ¥100,000.

Prepare an equity section.

E12.20 (LO 4) The equity section of Atrio Ltd. showed the following: share premium €6,101, share capital—ordinary €925, share capital—preference €58, retained earnings €7,420, and treasury shares €2,828. (All amounts are in millions.)

The preference shares have 577,740 shares authorized, with a par value of €100 and an annual €3.50 per share cumulative dividend preference. At December 31, 577,649 preference shares are issued and 546,024 shares are outstanding. There are 1.8 billion shares of €1 par value ordinary shares authorized, of which 924.6 million are issued and 844.8 million are outstanding at December 31.

Instructions

Prepare the equity section, including disclosure of all relevant data.

Prepare an equity section.

E12.21 (LO 4) The following equity accounts are in the ledger of Eudaley Group at December 31, 2025.

Share Capital—Ordinary (€5 stated value)	€1,500,000
Share Premium—Preference	280,000
Share Premium—Ordinary	900,000
Share Capital—Preference (8%, €100 par)	500,000
Retained Earnings	1,234,000
Treasury Shares (10,000 ordinary shares)	120,000

Instructions

Prepare the equity section of the statement of financial position at December 31, 2025.

Answer questions about equity section.

E12.22 (LO 2, 4) The equity section of Ahab SA at December 31 is as follows.

Ahab SA Statement of Financial Position (partial)	
Equity	
Share capital—preference, cumulative, 10,000 shares authorized, 5,000 shares issued and outstanding	€ 300,000
Share capital—ordinary, no par, 750,000 shares authorized, 600,000 shares issued	1,200,000
Retained earnings	1,858,000
Less: Treasury shares—ordinary (75,000 shares)	75,000
Total equity	€3,283,000

Instructions

From a review of the equity section, as chief accountant, write a memo to the president of the company answering the following questions.

a. How many ordinary shares are outstanding?

b. Assuming there is a stated value, what is the stated value of the ordinary shares?

c. What is the par value of the preference shares?

Calculate ratio to evaluate earnings performance.

E12.23 (LO 4) The following financial information is available for Plummer SA.

	2025	2024
Average ordinary shareholders' equity	€1,200,000	€900,000
Dividends paid to ordinary shareholders	50,000	30,000
Dividends paid to preference shareholders	20,000	20,000
Net income	290,000	200,000
Market price of ordinary shares	20	15

The weighted-average number of ordinary shares outstanding was 80,000 for 2024 and 100,000 for 2025.

Instructions

Calculate return on ordinary shareholders' equity for 2025 and 2024.

Compute return on equity.

E12.24 (LO 4) In 2025, Orasco SA had net sales of R$600,000 and cost of goods sold of R$360,000. Operating expenses were R$153,000, and interest expense was R$7,500. The corporation's tax rate is 30%. The corporation declared preference dividends of R$15,000 in 2025, and its average ordinary shareholders' equity during the year was R$200,000.

Instructions

Compute Orasco's return on ordinary shareholders' equity for 2025.

Prepare an equity section.

***E12.25 (LO 4, 6)** The equity section of Santano Group showed the following: share premium €6,101, share capital—ordinary €925, share capital—preference €58, retained earnings €7,420, and treasury shares €2,828. (All amounts are in millions.)

The preference shares have 577,740 shares authorized, with a par value of €100 and an annual €3.50 per share cumulative dividend preference. At December 31, 577,649 preference shares are issued and 546,024 shares are outstanding. There are 1.8 billion shares of €1 par value ordinary shares authorized, of which 924.6 million are issued and 844.8 million are outstanding at December 31.

Instructions

a. Compute the book value per share of ordinary shares, assuming there are no preference dividends in arrears. (Round to two decimals.)

b. Compute the book value per share of ordinary shares, assuming there is one year of preference dividends in arrears. (Round to two decimals.)

Compute book value per share with preference shares.

***E12.26 (LO 4, 6)** At December 31, Gorden Limited has total equity of £3,200,000. Included in this total are share capital—preference £500,000 and share premium—preference £50,000. There are 10,000 shares of £50 par value, 8% cumulative preference shares outstanding. At year-end, 200,000 ordinary shares are outstanding.

Instructions

Compute the book value per share of ordinary shares, under each of the following assumptions.

a. There are no preference dividends in arrears, and the preference shares do not have a call price.

b. Preference dividends are one year in arrears, and the preference shares have a call price of £60 per share.

Compute book value per share; indicate account balances after a share dividend.

***E12.27 (LO 3, 6)** On October 1, Venden Holdings' equity is as follows.

Share capital—ordinary, £5 par value	£400,000
Share premium—ordinary	25,000
Retained earnings	225,000
Total equity	£650,000

On October 1, Venden declares and distributes a 12% share dividend when the market price of the shares is £14 per share.

Instructions

a. Compute the book value per share (1) before the share dividend and (2) after the share dividend. (Round to two decimals.)

b. Indicate the balances in the three equity accounts after the dividend shares have been distributed.

Problems

Journalize share transactions, post, and prepare share capital section.

P12.1 (LO 2, 4) Gão Limited was organized on January 1, 2025. It is authorized to issue 10,000 8%, HK$1,000 par value preference shares, and 500,000 no-par ordinary shares with a stated value of HK$20 per share. The following share transactions were completed during the first year.

Jan.	10	Issued 100,000 ordinary shares for cash at HK$48 per share.
Mar.	1	Issued 5,000 preference shares for cash at HK$1,050 per share.
Apr.	1	Issued 18,000 ordinary shares for land. The asking price of the land was HK$980,000. The fair value of the land was HK$920,000.
May	1	Issued 80,000 ordinary shares for cash at HK$45 per share.
Aug.	1	Issued 10,000 ordinary shares to attorneys in payment of their bill of HK$320,000 for services provided in helping the company organize.
Sept.	1	Issued 10,000 ordinary shares for cash at HK$50 per share.
Nov.	1	Issued 1,000 preference shares for cash at HK$1,060 per share.

Instructions

a. Journalize the transactions.

b. Post to the equity accounts. (Use J5 as the posting reference.)

c. Prepare the share capital section of the statement of financial position at December 31, 2025.

c. Total equity HK$16,450,000

Journalize and post treasury share transactions, and prepare equity section.

P12.2 (LO 2, 4) Elston Limited had the following equity accounts on January 1, 2025: Share Capital—Ordinary (£5 par) £400,000, Share Premium—Ordinary £200,000, and Retained Earnings £100,000. In 2025, the company had the following treasury share transactions.

Mar.	1	Purchased 5,000 shares at £9 per share.
June	1	Sold 500 shares at £12 per share.
Sept.	1	Sold 2,500 shares at £10 per share.
Dec.	1	Sold 1,000 shares at £6 per share.

Elston uses the cost method of accounting for treasury shares. In 2025, the company reported net income of £34,000.

Instructions

a. Journalize the treasury share transactions, and prepare the closing entry at December 31, 2025, for net income.

b. Open accounts for (1) Share Premium—Treasury, (2) Treasury Shares, and (3) Retained Earnings. Post to these accounts using J10 as the posting reference.

b. Treasury Shares £9,000

c. Prepare the equity section for Elston Limited at December 31, 2025.

c. Total equity £726,000

Journalize and post transactions, prepare equity section.

P12.3 (LO 2, 4) The equity accounts of Terrell SE on January 1, 2025, were as follows.

Share Capital—Preference (9%, €50 par, cumulative, 10,000 shares authorized)	€ 400,000
Share Capital—Ordinary (€1 stated value, 2,000,000 shares authorized)	1,000,000
Share Premium—Preference	100,000
Share Premium—Ordinary	1,450,000
Retained Earnings	1,816,000
Treasury Shares—Ordinary (20,000 shares)	50,000

During 2025, the company had the following transactions and events pertaining to its equity.

Feb.	1	Issued 30,000 ordinary shares for €120,000.
Apr.	14	Sold 9,000 treasury shares—ordinary for €42,000.
Sept.	3	Issued 7,000 ordinary shares for a patent valued at €32,000.
Nov.	10	Purchased 1,000 ordinary shares for the treasury at a cost of €6,000.
Dec.	31	Determined that net income for the year was €452,000.

No dividends were declared during the year.

Instructions

a. Journalize the transactions and the closing entry for net income.

b. Enter the beginning balances in the accounts, and post the journal entries to the equity accounts. (Use J5 for the posting reference.)

c. Prepare an equity section at December 31, 2025, including the disclosure of the preference dividends in arrears.

c. Total equity €5,356,000

Prepare dividend entries and equity section.

P12.4 (LO 3, 4) On January 1, 2025, Prasad SpA had the following equity accounts.

Share Capital—Ordinary (€25 par value, 48,000 shares issued and outstanding)	€1,200,000
Share Premium—Ordinary	200,000
Retained Earnings	600,000

During the year, the following transactions occurred.

Feb.	1	Declared a €1 cash dividend per share to shareholders of record on February 15, payable March 1.
Mar.	1	Paid the dividend declared in February.
Apr.	1	Announced a 5-for-1 share split. Prior to the split, the market price per share was €36.
July	1	Declared a 10% share dividend to shareholders of record on July 15, distributable July 31. On July 1, the market price was €7 per share.
July	31	Issued the shares for the share dividend.
Dec.	1	Declared a €0.40 per share dividend to shareholders of record on December 15, payable January 5, 2026.
	31	Determined that net income for the year was €350,000.

Instructions

a. Journalize the transactions and the closing entries for net income and dividends.

b. Enter the beginning balances, and post the entries to the equity accounts. (*Note:* Open additional equity accounts as needed.)

c. Prepare an equity section at December 31.

c. Total equity €2,196,400

Prepare retained earnings statement and equity section, and allocation of dividends.

P12.5 (LO 3, 4) The post-closing trial balance of Russo SpA at December 31, 2025, contains the following equity accounts.

Share Capital—Preference (12,000 shares issued)	€ 600,000
Share Capital—Ordinary (250,000 shares issued)	2,500,000
Share Premium—Preference	250,000
Share Premium—Ordinary	425,000
Ordinary Share Dividends Distributable	250,000
Retained Earnings	1,078,000

A review of the accounting records reveals the following.

1. No errors have been made in recording 2025 transactions or in preparing the closing entry for net income.
2. Preference shares are €50 par, 8%, and cumulative; 12,000 shares have been outstanding since January 1, 2024.
3. Authorized shares are 20,000 preference shares, 500,000 ordinary shares with a €10 par value.
4. The January 1 balance in Retained Earnings was €1,158,000.
5. On July 1, 20,000 ordinary shares were issued for cash at €16 per share.
6. A cash dividend of €240,000 was declared and properly allocated to preference and ordinary shares on October 1. No dividends were paid to preference shareholders in 2024.
7. On December 31, a 10% ordinary share dividend was declared out of retained earnings on ordinary shares when the market price per share was €17.
8. Net income for the year was €585,000.

9. On December 31, 2025, the directors authorized disclosure of a €200,000 restriction of retained earnings for plant expansion. (Use Note X.)

Instructions

a. Reproduce the Retained Earnings account for 2025.

b. Prepare a retained earnings statement for 2025.

c. Prepare an equity section at December 31, 2025.

c. Total equity €5,103,000

d. Compute the allocation of the cash dividend to preference and ordinary shares.

Prepare entries for share transactions and prepare equity section.

P12.6 (LO 3, 4) Jude Limited has been authorized to issue 20,000 £100 par value, 10%, non-cumulative preference shares and 1,000,000 no-par ordinary shares. The company assigned a £2.50 stated value to the ordinary shares. At December 31, 2025, the ledger contained the following balances pertaining to equity.

Share Capital—Preference	£ 120,000
Share Premium—Preference	12,000
Share Capital—Ordinary	1,000,000
Share Premium—Ordinary	1,600,000
Treasury Shares—Ordinary (1,000 shares)	9,000
Share Premium—Treasury	1,000
Retained Earnings	82,000

The preference shares were issued for land having a fair value of £132,000. All ordinary shares issued were for cash. In November, 1,500 ordinary shares were purchased for the treasury at a per share cost of £9. In December, 500 treasury shares were sold for £11 per share. No dividends were declared in 2025.

Instructions

a. Prepare the journal entries for the:

1. Issuance of preference shares for land.
2. Issuance of ordinary shares for cash.
3. Purchase of treasury shares (ordinary) for cash.
4. Sale of treasury shares for cash.

b. Prepare the equity section at December 31, 2025.

b. Total equity £2,806,000

Prepare dividend entries and equity section.

P12.7 (LO 3, 4) On January 1, 2025, Primo plc had the following equity accounts.

Share Capital—Ordinary (£10 par value, 75,000 shares issued and outstanding)	£750,000
Share Premium—Ordinary	200,000
Retained Earnings	540,000

During the year, the following transactions occurred.

Jan.	15	Declared a £2 cash dividend per share to shareholders of record on January 31, payable February 15.
Feb.	15	Paid the dividend declared in January.
Apr.	15	Declared a 10% share dividend to shareholders of record on April 30, distributable May 15. On April 15, the market price of the shares was £15 per share.
May	15	Issued the shares for the share dividend.
July	1	Announced a 2-for-1 share split. The market price per share prior to the announcement was £15. (The new par value is £5.)
Dec.	1	Declared a £0.60 per share cash dividend to shareholders of record on December 15, payable January 10, 2026.
	31	Determined that net income for the year was £260,000.

Instructions

a. Journalize the transactions and the closing entries for net income and dividends.

b. Enter the beginning balances, and post the entries to the equity accounts. (*Note:* Open additional equity accounts as needed.)

c. Prepare an equity section at December 31.

c. Total equity £1,501,000

Prepare equity section; compute book value per share.

***P12.8 (LO 4, 6)** The following equity accounts are in the ledger of Westin SE at December 31, 2025.

Share Capital—Ordinary (€10 stated value)	€1,500,000
Share Premium—Treasury	6,000
Share Premium—Ordinary	690,000
Share Premium—Preference	42,400
Share Capital—Preference (8%, €100 par, non-cumulative)	360,000
Retained Earnings	776,000
Treasury Shares—Ordinary (7,000 shares)	92,000

Instructions

a. Prepare an equity section at December 31, 2025.

a. Total equity €3,282,400

b. Compute the book value per share of the ordinary shares, assuming the preference shares have a call price of €110 per share.

Prepare statement of changes in equity.

***P12.9 (LO 2, 3, 5)** On January 1, 2025, Chamblin AG had the following equity balances.

Share Capital—Ordinary (400,000 shares issued)	CHF800,000
Share Premium—Ordinary	500,000
Ordinary Share Dividends Distributable	120,000
Retained Earnings	600,000

During 2025, the following transactions and events occurred.

1. Issued 60,000 CHF2 par value ordinary shares as a result of 15% share dividend declared on December 15, 2024.
2. Issued 25,000 ordinary shares for cash at CHF4 per share.
3. Purchased 22,000 ordinary shares for the treasury at CHF5 per share.
4. Declared and paid a cash dividend of CHF111,000.

5. Sold 8,000 treasury shares for cash at CHF5 per share.
6. Earned net income of CHF360,000.

Instructions

Prepare a statement of changes in equity for the year.

Total equity CHF2,299,000

Accounting Cycle Review

ACR12 Voltaire SA's statement of financial position at December 31, 2024, is presented as follows.

Voltaire SA
Statement of Financial Position
December 31, 2024

Land	€ 40,000	Share capital—ordinary	
Buildings	130,000	(€1 par)	€ 50,000
Accumulated depreciation—buildings	(20,000)	Retained earnings	147,400
Supplies	4,400	Accounts payable	25,600
Accounts receivable	45,500		€223,000
Allowance for doubtful accounts	(1,500)		
Cash	24,600		
	€223,000		

During 2025, the following transactions occurred.

1. On January 1, 2025, Voltaire issued 1,500 €20 par, 6% preference shares for €33,000.
2. On January 1, 2025, Voltaire also issued 900 €1 par value ordinary shares for €6,300.
3. Voltaire performed services for €276,000 on account.
4. On April 1, 2025, Voltaire collected fees of €36,000 in advance for services to be performed from April 1, 2025, to March 31, 2026.
5. Voltaire collected €267,000 from customers on account.
6. Voltaire bought €26,100 of supplies on account.
7. Voltaire paid €32,200 on accounts payable.
8. Voltaire reacquired 400 ordinary shares on June 1, 2025, for €8 per share.
9. Paid other operating expenses of €188,200.
10. On December 31, 2025, Voltaire declared the annual preference share dividend and a €0.50 per share dividend on the outstanding ordinary shares, all payable on January 15, 2026.
11. An account receivable of €1,300 which originated in 2024 is written off as uncollectible.

Adjustment data:

1. A count of supplies indicates that €5,900 of supplies remain unused at year-end.
2. Recorded revenue recognized from item 4 above.
3. The allowance for doubtful accounts should have a balance of €3,500 at year-end.
4. Depreciation is recorded on the building on a straight-line basis based on a 30-year life and a residual value of €10,000.
5. The income tax rate is 30%. (*Hint:* Prepare the income statement up to income before taxes and multiply by 30% to compute the amount of taxes.)

Instructions

(You may want to set up T-accounts to determine ending balances.)

a. Prepare journal entries for the transactions listed above and adjusting entries.

b. Prepare an adjusted trial balance at December 31, 2025.

b. Totals €647,620

c. Prepare an income statement and a retained earnings statement for the year ending December 31, 2025, and a classified statement of financial position as of December 31, 2025.

c. Net income €58,030 Tot. assets €344,900

Data Analytics in Action

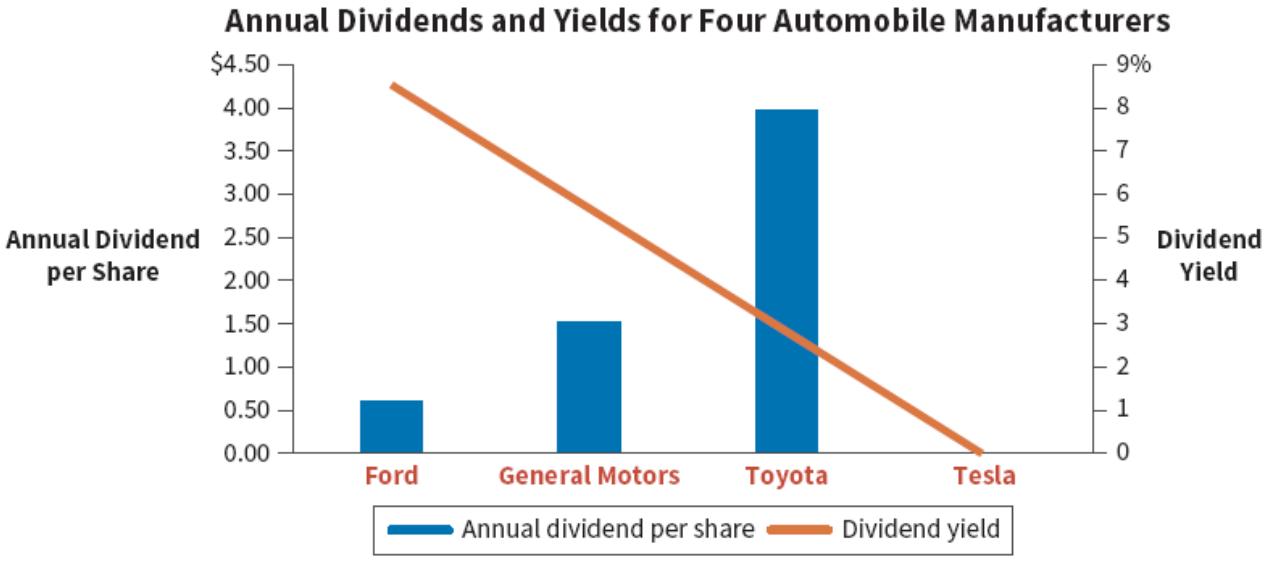
Using Data Visualization to Analyze Dividends

Excel

DA12.1 Data visualization can be used to compare dividends and share prices.

Example: The dividend yield ratio is the annual dividend per share divided by the market price per share. Two factors can contribute to a high dividend yield: (1) the payment of a large dividend, which causes the numerator to be large, or (2) having a low market share price, which causes the denominator to be small.

Ford Motor Company (USA) is considered to have a high dividend yield. But how does Ford's dividend yield compare to its competitors? Consider the following chart, which presents the dividends per share and dividend yields for Ford, **General Motors** (USA), **Toyota** (JPN), and **Tesla** (USA).



Source: Based on MarketBeat and Nasdaq.

If you examine the pattern of dividend yields, observe that both General Motors and Toyota have higher dividends than Ford, while Tesla currently pays no dividends. The dividend yields are much higher for Ford than those of General Motors and Toyota, while Tesla has a zero yield due to not paying dividends.

For this case, you will review data for these four companies to determine how the effect of market share prices can help explain the dividend yield. You will create and analyze a combo column and line chart to determine how an investor might balance share prices and dividend yields when deciding which shares to buy.

Go to the Wiley online course for complete case details and instructions.

Using Data Analytics to Compare the Effect of Share Splits

Excel

DA12.2 As noted in the chapter, Warren Buffet, the CEO of **Berkshire Hathaway** (USA), does not believe in share splits. On the other hand, **The Walt Disney Company** (USA) shares have been split a few times. For this case, you will use share prices from both companies to create and analyze a line chart and a combo clustered column and line chart.

Go to the Wiley online course for complete case details and instructions.

Expand Your Critical Thinking

Financial Reporting Problem: TSMC, Ltd. (TWN)

CT12.1 The equity section for **TSMC** is shown in Appendix A. The complete annual report, including the notes to the financial statements (use Note 22), is available at the company's website.

Instructions

a. What is the par or stated value per share of TSMC's ordinary shares?

b. What percentage of TSMC's authorized ordinary shares was issued at December 31, 2020?

c. How many ordinary shares were outstanding at December 31, 2020, and at December 31, 2019?

Comparative Analysis Problem: Nestlé SA (CHE) vs. Delfi Limited (SGP)

CT12.2 **Nestlé**'s financial statements are presented in Appendix B. Financial statements of **Delfi Limited** are presented in Appendix C. The complete annual reports of Nestlé and Delfi, including the notes to the financial statements, are available at each company's respective website.

Instructions

a. What is the par or stated value of Nestlé's (Note 17) and Delfi's (Note 28) ordinary shares?

b. How many shares were issued by Nestlé at December 31, 2020, and by Delfi at December 31, 2020?

c. How many treasury shares are held by Nestlé at December 31, 2020, and by Delfi at December 31, 2020?

d. How many Nestlé ordinary shares are outstanding at December 31, 2020? How many Delfi ordinary shares are outstanding at December 31, 2020?

Real-World Focus

CT12.3 Use the equity section of an annual report and identify the major components.

Instructions

Select a well-known company, search the Internet for its most recent annual report, and then answer the following questions.

a. What is the company's name?

b. What classes of share capital has the company issued?

c. For each class:

1. How many shares are authorized, issued, and/or outstanding?

2. What is the par value?

d. What are the company's retained earnings?

e. Has the company acquired treasury shares? How many?

Decision-Making Across the Organization

CT12.4 The shareholders' meeting for Kissinger SE has been in progress for some time. The chief financial officer for Kissinger is presently reviewing the company's financial statements and is explaining the items that comprise the equity section of the statement of financial position for the current year. The equity section of Kissinger at December 31, 2025, is as follows.

Kissinger SE Statement of Financial Position (partial) December 31, 2025	
Share capital—preference, authorized 1,000,000 shares cumulative, €100 par value, €8 per share, 6,000 shares issued and outstanding	€ 600,000
Share capital—ordinary, authorized 5,000,000 shares, €1 par value, 3,000,000 shares issued, and 2,700,000 outstanding	3,000,000
Share premium—preference	50,000
Share premium—ordinary	25,000,000
Retained earnings	900,000
Less: Treasury shares (300,000 shares)	9,300,000
Total equity	€20,250,000

At the meeting, shareholders have raised a number of questions regarding the equity section.

Instructions

With the class divided into groups, answer the following questions as if you were the chief financial officer for Kissinger SE.

a. "What does the cumulative provision related to the preference shares mean?"

b. "I thought the ordinary shares were presently selling at €29.75, but the company has the shares stated at €1 per share. How can that be?"

c. "Why is the company buying back its ordinary shares? Furthermore, the treasury shares have a debit balance because they are subtracted from equity. Why are treasury shares not reported as an asset if they have a debit balance?"

Communication Activity

CT12.5 Jerrod Platt, your uncle, is an inventor who has decided to incorporate. Uncle Jerrod knows that you are an accounting major at U.N.O. In a recent email to you, he ends with the question, "I'm filling out an incorporation application. Can you tell me the difference in the following terms: (1) authorized shares, (2) issued shares, (3) outstanding shares, and (4) preference shares?"

Instructions

In a brief email, differentiate for Uncle Jerrod among the four different share terms. Write the email to be friendly, yet professional.

Ethics Case

CT12.6 The R&D division of Hancock Chemical Ltd. has just developed a chemical for sterilizing the vicious Brazilian "killer bees" which are invading Mexico and the southern states of the United States. The president of Hancock is anxious to get the chemical on the market to boost the company's profits. He believes his job is in jeopardy because of decreasing sales and profits. Hancock has an opportunity to sell this chemical in Central American countries, where the laws are much more relaxed than in the United States.

The director of Hancock's R&D division strongly recommends further testing in the laboratory for side-effects of this chemical on other insects, birds, animals, plants, and even humans. He cautions the president, "We could be sued from all sides if the chemical has tragic side-effects that we didn't even test for in the labs." The president answers, "We can't wait an additional year for your lab tests. We can avoid losses from such lawsuits by establishing a separate wholly owned corporation to shield Hancock Ltd. from such lawsuits. We can't lose any more than our investment in the new corporation, and we'll invest in just the patent covering this chemical. We'll reap the benefits if the chemical works and is safe, and avoid the losses from lawsuits if it's a disaster." The following week, Hancock creates a new wholly owned corporation called Badell Ltd., sells the chemical patent to it for $10, and watches the spraying begin.

Instructions

a. Who are the stakeholders in this situation?

b. Are the president's motives and actions ethical?

c. Can Hancock shield itself against losses of Badell Ltd.?

A Look at U.S. GAAP

> **LEARNING OBJECTIVE 7**
>
> Compare the accounting for equity under IFRS and U.S. GAAP

The accounting for transactions related to equity, such as issuance of shares, purchase of treasury shares, and cash and share (stock) dividends, are similar under both IFRS and GAAP. Major differences relate to terminology used, introduction of items such as revaluation surplus, and presentation of equity information.

Key Points

Following are the key similarities and differences between IFRS and GAAP as related to equity.

Similarities

- Aside from terminology used, the accounting transactions for the issuance of shares and the purchase of treasury shares are similar.
- Like IFRS, GAAP does not allow a company to record gains or losses on purchases of its own shares.

Differences

- Under IFRS, the term **reserves** is used to describe all equity accounts other than those arising from contributed (paid-in) capital. This would include, for example, reserves related to retained earnings, asset revaluations, and fair value differences.
- Many countries have a different mix of investor groups than in the United States. For example, in Germany, financial institutions like banks are not only major creditors of corporations but often are the largest corporate shareholders as well. In the United States, Asia, and the United Kingdom, many companies rely on substantial investment from private investors.
- There are often terminology differences for equity accounts. The following summarizes some of the common differences in terminology.

GAAP	IFRS
Common stock	Share capital—ordinary
Stockholders	Shareholders
Par value	Nominal or face value
Authorized stock	Authorized share capital
Preferred stock	Share capital—preference
Paid-in capital	Issued/allocated share capital
Paid-in capital in excess of par—common stock	Share premium—ordinary
Paid-in capital in excess of par—preferred stock	Share premium—preference
Retained earnings	Retained earnings or Retained profits
Retained earnings deficit	Accumulated losses
Accumulated other comprehensive income	General reserve and other reserve accounts

As an example of how similar transactions use different terminology under GAAP, consider the accounting for the issuance of 1,000 shares of $1 par value share capital for $5 per share. Under GAAP, the entry is as follows.

Cash	5,000	
Common Stock		1,000
Paid-in Capital in Excess of Par		4,000

- A major difference between IFRS and GAAP relates to the account Revaluation Surplus. Revaluation surplus arises under IFRS because companies are permitted to revalue their property, plant, and equipment to fair value under certain circumstances. This account is part of general reserves under IFRS and is not considered contributed capital.
- IFRS often uses terms such as **retained profits** or **accumulated profit or loss** to describe retained earnings. The term **retained earnings** is also often used.
- Equity is given various descriptions under GAAP, such as shareholders' equity, owners' equity, and stockholders' equity.

GAAP Practice

GAAP Self-Test Questions

1. Which of the following is **true**?

a. In the United States, the primary corporate shareholders are financial institutions.

b. Share capital means total assets under GAAP.

c. Under both IFRS and GAAP, the accounting for the issuance of shares and the purchases of treasury shares are similar.

d. The accounting for treasury shares differs extensively between GAAP and IFRS.

Answer

2. Under GAAP, the amount of capital received in excess of par value would be credited to:

a. Retained Earnings.

b. Paid-in Capital in Excess of Par.

c. Share Premium.

d. Par value is not used under GAAP.

Answer

3. Which of the following is **false**?

a. Under GAAP, companies cannot record gains on transactions involving their own shares.

b. Under IFRS, companies cannot record gains on transactions involving their own shares.

c. Under IFRS, the statement of changes in equity is a required statement.

d. Under GAAP, a company records a revaluation surplus when it experiences an increase in the price of its ordinary shares.

Answer

4. Which of the following does **not** represent a pair of GAAP/IFRS-comparable terms?

a. Paid-in capital in excess of par/Share premium.

b. Treasury stock/Repurchase reserve.

c. Common stock/Share capital.

d. Preferred stock/Preference shares.

Answer

5. The basic accounting for cash dividends and share dividends:

a. is different under IFRS versus GAAP.

b. is the same under IFRS and GAAP.

c. differs only for the accounting for cash dividends between GAAP and IFRS.

d. differs only for the accounting for share dividends between GAAP and IFRS.

Answer

GAAP Exercises

GAAP12.1 On May 10, Jaurez Corporation issues 1,000 shares of $10 par value common stock for cash at $18 per share. Journalize the issuance of the shares.

GAAP12.2 Meenen Corporation has the following accounts at December 31, 2025: Common Stock, $10 par, 5,000 shares issued, $50,000; Paid-in Capital in Excess of Par, $10,000; Retained Earnings, $45,000; and Treasury Stock, 500 shares, $11,000. Prepare the stockholders' equity section of the balance sheet. For an example of a stockholders' equity section, see the **Apple** financial statements in Appendix D.

GAAP12.3 Overton Co. had the following transactions during the current period.

Mar.	2	Issued 5,000 shares of $1 par value common stock to attorneys in payment of a bill for $30,000 for services performed in helping the company to incorporate.
June	12	Issued 60,000 shares of $1 par value common stock for cash of $375,000.
July	11	Issued 1,000 shares of $100 par value preferred stock for cash at $110 per share.
Nov.	28	Purchased 2,000 treasury shares for $80,000.

Instructions

Journalize the above transactions.

GAAP Financial Reporting Problem: Apple Inc. (USA)

GAAP12.4 The financial statements of **Apple** are presented in Appendix D. The complete annual report, including the notes to its financial statements, is available at the company's website.

Instructions

Use the company's annual report to answer the following questions.

a. Determine the following amounts at September 26, 2020: (1) total stockholders' equity and (2) number of treasury shares.

b. Did the company declare and pay any dividends for the year ended September 26, 2020?

c. Examine the stockholders' equity section of the company's balance sheet. For each of the following, provide the comparable label that would be used under IFRS: (1) common stock and (2) additional paid-in capital.

Note

1 A number of companies have eliminated the preemptive right because they believe it makes an unnecessary and cumbersome demand on management. For example, by shareholder approval, **IBM** (USA) has dropped its preemptive right for shareholders.

2 Alternatively, the investment banking firm may agree only to enter into a **best-efforts contract** with the corporation. In such cases, the banker agrees to sell as many shares as possible at a specified price. The corporation bears the risk of unsold shares. Under a best-efforts arrangement, the banking firm is paid a fee or commission for its services.

Appendix F
Accounting for Partnerships

Appendix Preview

In this appendix, we discuss reasons why businesses select the partnership form of organization. We also explain the major issues in accounting for partnerships.

Appendix Outline

LEARNING OBJECTIVES	REVIEW
LO 1 Discuss and account for the formation of a partnership.	• Characteristics of partnerships • Organizations with partnership characteristics • Advantages and disadvantages of partnerships • The partnership agreement • Accounting for a partnership formation
LO 2 Explain how to account for net income or net loss of a partnership.	• Dividing net income or net loss • Partnership financial statements
LO 3 Explain how to account for the liquidation of a partnership.	• No capital deficiency • Capital deficiency
LO 4 Prepare journal entries when a partner is either admitted or withdraws.	• Admission of a partner • Withdrawal of a partner

F.1 Forming a Partnership

> **LEARNING OBJECTIVE 1**
>
> Discuss and account for the formation of a partnership.

A **partnership** is an association of two or more persons to carry on as co-owners of a business for profit. Partnerships are sometimes used in small retail, service, or manufacturing companies. Accountants, lawyers, and doctors also find it desirable to form partnerships with other professionals in the field.

Characteristics of Partnerships

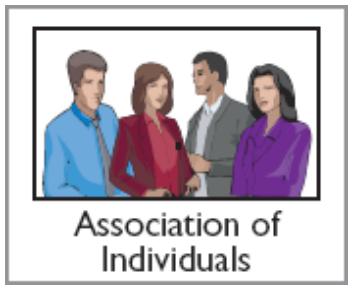
Partnerships are fairly easy to form. People form partnerships simply by a verbal agreement or more formally by written agreement.

- The formation of a business entity is determined by the laws of each country.
- As a result, each country determines the types of entities that can be formed and the legal rights of the owners.

The following sections explain partnership characteristics from a general perspective.

Association of Individuals

A partnership is a legal entity. A partnership can own property (land, buildings, equipment) and can sue or be sued. **A partnership also is an accounting entity.** Thus, the personal assets, liabilities, and transactions of the partners are excluded from the accounting records of the partnership.



The net income of a partnership is not taxed as a separate entity. But, a partnership must file an information tax return showing partnership net income and each partner's share of that net income. Each partner's share is taxable at **personal tax rates**, regardless of the amount of net income each withdraws from the business during the year.

Mutual Agency

Mutual agency means that each partner acts on behalf of the partnership when engaging in partnership business. The act of any partner is binding on all other partners. This is true even when partners act beyond the scope of their authority, so long as the act appears to be appropriate for the partnership.



For example, a partner of a grocery store who purchases a delivery truck creates a binding contract in the name of the partnership, even if the partnership agreement denies this authority. On the other hand, if a partner in a law firm purchased a snowmobile for the partnership, such an act would not be binding on the partnership. The purchase is clearly outside the scope of partnership business.

Limited Life

Corporations have unlimited life. Partnerships do not. A partnership may be ended voluntarily at any time through the acceptance of a new partner or the withdrawal of a partner. It may be ended involuntarily by the death or incapacity of a partner.



Partnership dissolution occurs whenever a partner withdraws or a new partner is admitted. Dissolution does not necessarily mean that the business ends. If the continuing partners agree, operations can continue without interruption by forming a new partnership.

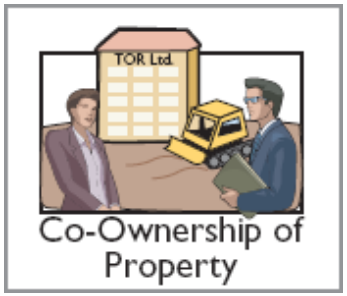
Unlimited Liability

Each partner is **personally and individually liable** for all partnership liabilities. Creditors' claims attach first to partnership assets. If these are insufficient, the claims then attach to the personal resources of any partner, irrespective of that partner's equity in the partnership. Because each partner is responsible for all the debts of the partnership, each partner is said to have **unlimited liability**.



Co-Ownership of Property

Partners jointly own partnership assets. If the partnership is dissolved, each partner has a claim on total assets equal to the balance in his or her respective capital account. This claim does not attach to **specific assets** that an individual partner contributed to the firm. Similarly, if a partner invests a building in the partnership valued at €100,000 and the building is later sold at a gain of €20,000, the partners all share in the gain.



Partnership net income (or net loss) is also co-owned. **If the partnership contract does not specify to the contrary, all net income or net loss is shared equally by the partners.** As you will see later, though, partners may agree to unequal sharing of net income or net loss.

Organizations with Partnership Characteristics

If you are starting a business with a friend, each of you has little capital, and your business is not risky, you probably want to use a partnership. As indicated above, the partnership is easy to establish and its cost is minimal. These types of partnerships are often called **regular partnerships**.

- However, if your business is risky—say, roof repair or performing some type of professional service—you will want to limit your liability and not use a regular partnership.
- As a result, special forms of business organizations with partnership characteristics are now often used to provide protection from unlimited liability for people who wish to work together in some activity.

The special partnership forms are limited partnerships, limited liability partnerships, and limited liability companies. These special forms use the same accounting procedures as those described for a regular partnership. In addition, for taxation purposes, all the profits and losses pass through these organizations (similar to the regular partnership) to the owners, who report their share of partnership net income or losses on their personal tax returns.

Limited Partnerships

In a **limited partnership**, one or more partners have **unlimited liability** and one or more partners have **limited liability** for the debts of the firm. Those with unlimited liability are **general partners**. Those with limited liability are **limited partners**. Limited partners are responsible for the debts of the partnership up to the limit of their investment in the firm.

The words "Limited Partnership," "Ltd.," or "LP" identify this type of organization. For the privilege of limited liability, the limited partner usually accepts less compensation than a general partner and exercises less influence in the affairs of the firm. If the limited partners get involved in management, they risk their liability protection.

Limited Liability Partnership

A **limited liability partnership** or "LLP" is designed to protect innocent partners from malpractice or negligence claims resulting from the acts of another partner (see **Helpful Hint**). LLPs generally carry large insurance policies as protection against malpractice suits. These professional partnerships vary in size from a medical partnership of three to five doctors, to 150 to 200 partners in a large law firm, to more than 2,000 partners in an international accounting firm.

> **HELPFUL HINT**
>
> **In an LLP, *all* partners have limited liability. There are no general partners.**

Limited Liability Companies

A hybrid form of business organization with certain features like a corporation and others like a limited partnership is the **limited liability company** or "LLC." An LLC usually has a limited life. The owners, called **members**, have limited liability like owners of a corporation. Whereas limited partners do not actively participate in the management of a limited partnership (LP), the members of a limited liability company (LLC) can assume an active management role. Most taxing authorities usually classify an LLC as a partnership.

Illustration F.1 summarizes different forms of organizations that have partnership characteristics.

ILLUSTRATION F.1 Different forms of organizations with partnership characteristics

	Major Advantages	Major Disadvantages
Regular Partnership  General Partners	Simple and inexpensive to create and operate.	Owners (partners) personally liable for business debts.
Limited Partnership  General Partner — Limited Partners	Limited partners have limited personal liability for business debts as long as they do not participate in management. General partners can raise cash without involving outside investors in management of business.	General partners personally liable for business debts. More expensive to create than regular partnership. Suitable mainly for companies that invest in real estate.
Limited Liability Partnership 	Mostly of interest to partners in old-line professions such as law, medicine, and accounting. Owners (partners) are not personally liable for the malpractice of other partners.	Unlike a limited liability company, owners (partners) remain personally liable for many types of obligations owed to business creditors, lenders, and landlords. Often limited to a short list of professions.
Limited Liability Company 	Owners have limited personal	More expensive to create



liability for business debts even if they participate in management.

than regular partnership.

Source: Based on Nolo website.

Advantages and Disadvantages of Partnerships

Why do people choose partnerships? One major advantage of a partnership is to combine the skills and resources of two or more individuals. In addition, partnerships are easily formed and are relatively free from government regulations and restrictions. A partnership does not have to contend with the "red tape" that a larger company must face. Also, partners generally can make decisions quickly on substantive business matters without having to consult a board of directors.

On the other hand, partnerships also have some major disadvantages. **Unlimited liability** is particularly troublesome. Many individuals fear they may lose not only their initial investment but also their personal assets if those assets are needed to pay partnership creditors.

Illustration F.2 summarizes the advantages and disadvantages of the regular partnership form of business organization. As indicated previously, different types of partnership forms have evolved to reduce some of the disadvantages.

ILLUSTRATION F.2 Advantages and disadvantages of a partnership

Advantages	Disadvantages
Combining skills and resources of two or more individuals	Mutual agency
Ease of formation	Limited life
Freedom from governmental regulations and restrictions	Unlimited liability
Ease of decision-making	

The Partnership Agreement

Ideally, the agreement of two or more individuals to form a partnership should be expressed in a written contract, called the **partnership agreement** or **articles of co-partnership**. The partnership agreement contains such basic information as the name and principal location of the firm, the purpose of the business, and date of inception. In addition, it should specify relationships among the partners, such as:

1. Names and capital contributions of partners.
2. Rights and duties of partners.

3. Basis for sharing net income or net loss.
4. Provision for withdrawals of assets.
5. Procedures for submitting disputes to arbitration.
6. Procedures for the withdrawal or addition of a partner.
7. Rights and duties of surviving partners in the event of a partner's death.

We cannot overemphasize the importance of a written contract. The agreement should attempt to anticipate all possible situations, contingencies, and disagreements (see **Ethics Note**). The help of a lawyer is highly desirable in preparing the agreement.

> **ETHICS NOTE**
>
> **A well-developed partnership agreement specifies in clear and concise language the process by which the partners will resolve ethical and legal problems. This issue is especially significant when the partnership experiences financial distress.**

Accounting for a Partnership Formation

We now turn to the basic accounting for partnerships. The major accounting issues relate to forming the partnership, dividing income or loss, and preparing financial statements.

- When forming a partnership, each partner's initial investment in a partnership is entered in the partnership records.
- The partnership should record these investments at the **fair value of the assets at the date of their transfer to the partnership**.
- All partners must agree to the values assigned.

To illustrate, assume that A. Lau and T. Song combine their proprietorships to start a partnership named Lau-Song Software. The firm will specialize in developing financial modeling software. Lau and Song have the assets listed in **Illustration F.3** prior to the formation of the partnership (amounts in thousands).

ILLUSTRATION F.3 Book and fair values of assets invested

	Book Value		Fair Value	
	A. Lau	T. Song	A. Lau	T. Song
Cash	¥ 8,000	¥ 9,000	**¥ 8,000**	**¥ 9,000**
Accounts receivable		4,000		**4,000**
Allowance for doubtful accounts		(700)		**(1,000)**
Equipment	5,000		**4,000**	
Accumulated depreciation—equipment	(2,000)			
	¥11,000	¥12,300	**¥12,000**	**¥12,000**

The partnership records the investments as follows.

Investment of A. Lau

Cash		8,000	
Equipment		4,000	
A. Lau, Capital			12,000
(To record investment of Lau)			

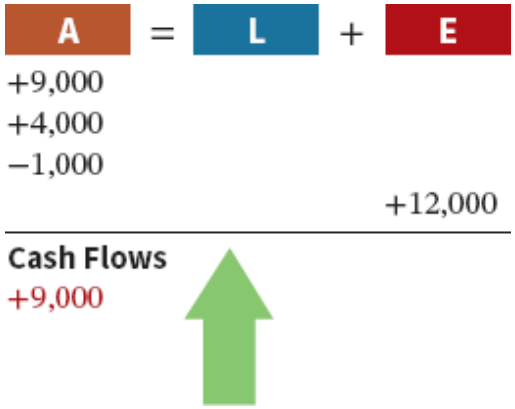
A	=	L	+	E
+8,000				
+4,000				
				+12,000

Cash Flows
+8,000



Investment of T. Song

Cash		9,000	
Accounts Receivable		4,000	
Allowance for Doubtful Accounts			1,000
T. Song, Capital			12,000
(To record investment of Song)			



Note that the partnership records neither the original cost of the equipment (¥5,000) nor its book value (¥5,000 − ¥2,000). It records the equipment at its fair value, ¥4,000. The partnership does not carry forward any accumulated depreciation from the books of previous entities (in this case, the two proprietorships).

In contrast, the gross claims on customers (¥4,000) are carried forward to the partnership. The partnership adjusts the allowance for doubtful accounts to ¥1,000, to arrive at a cash (net) realizable value of ¥3,000. A partnership may start with an allowance for doubtful accounts because it will continue to collect existing accounts receivable, some of which are expected to be uncollectible. In addition, this procedure maintains the control and subsidiary relationship between Accounts Receivable and the accounts receivable subsidiary ledger.

- After formation of the partnership, the accounting for transactions is similar to any other type of business organization. For example, the partners record all transactions with outside parties, such as the purchase or sale of inventory and the payment or receipt of cash, the same as for a corporation.
- The steps in the accounting cycle described in Chapter 4 also apply to a partnership. For example, the partnership prepares a trial balance and journalizes and posts adjusting entries. A worksheet may be used.

There are minor differences in journalizing and posting closing entries and in preparing financial statements, as we explain in the following sections.

F.2 Accounting for Net Income or Net Loss

> **LEARNING OBJECTIVE 2**
>
> Explain how to account for net income or net loss of a partnership.

Dividing Net Income or Net Loss

Partners equally share partnership net income or net loss unless the partnership contract indicates otherwise. The same basis of division usually applies to both net income and net loss. It is customary to refer to this basis as the **income ratio**, the **income and loss ratio**, or the **profit and loss (P&L) ratio**.

- Because of its wide acceptance, we use the term **income ratio** to identify the basis for dividing net income and net loss.
- The partnership recognizes a partner's share of net income or net loss in the accounts through closing entries.

Closing Entries

A partnership must make four entries in preparing closing entries. The entries are:

1. Debit each revenue account for its balance, and credit Income Summary for total revenues.
2. Debit Income Summary for total expenses, and credit each expense account for its balance.
3. Debit Income Summary for its balance, and credit each partner's capital account for his or her share of net income. Or, credit Income Summary, and debit each partner's capital account for his or her share of net loss.
4. Debit each partner's capital account for the balance in that partner's drawings account, and credit each partner's drawings account for the same amount.

The first two entries are the same as in a corporation. The last two entries are different because (1) there are two or more owners' capital and drawings accounts, and (2) it is necessary to divide net income (or net loss) among the partners.

To illustrate the last two closing entries, assume that AB Company has net income of €32,000 for 2025. The partners, L. Arbor and D. Barnett, share net income and net loss equally. Drawings for the year were Arbor €8,000 and Barnett €6,000. The last two closing entries are as follows.

Dec. 31	Income Summary	32,000	
	L. Arbor, Capital (€32,000 × 50%)		16,000
	D. Barnett, Capital (€32,000 × 50%)		16,000
	(To transfer net income to partners' capital accounts)		

A	=	L	+	E
				−32,000
				+16,000
				+16,000

Cash Flows
no effect

Dec. 31	L. Arbor, Capital	8,000	
	D. Barnett, Capital	6,000	
	L. Arbor, Drawings		8,000
	D. Barnett, Drawings		6,000
	(To close drawings accounts to capital accounts)		

A	=	L	+	E
				−8,000
				−6,000
				+8,000
				+6,000

Cash Flows
no effect

Assume that the beginning capital balance is €47,000 for Arbor and €36,000 for Barnett. After posting the closing entries, the capital and drawings accounts will appear as shown in **Illustration F.4**.

ILLUSTRATION F.4 Partners' capital and drawings accounts after closing

L. Arbor, Capital

12/31	Clos.	8,000	1/1	Bal.	47,000
			12/31	Clos.	16,000
			12/31	Bal.	55,000

D. Barnett, Capital

12/31	Clos.	6,000	1/1	Bal.	36,000
			12/31	Clos.	16,000
			12/31	Bal.	46,000

L. Arbor, Drawings

12/31	Bal.	8,000	12/31	Clos.	8,000

D. Barnett, Drawings

12/31	Bal.	6,000	12/31	Clos.	6,000

The partners' capital accounts are permanent accounts. Their drawings accounts are temporary accounts. Normally, the capital accounts will have credit balances, and the drawings accounts will have debit balances. Drawings accounts are debited when partners withdraw cash or other assets from the partnership for personal use.

Income Ratios

As noted earlier, the partnership agreement should specify the basis for sharing net income or net loss. The following are typical income ratios.

1. A fixed ratio, expressed as a proportion (6:4), a percentage (70% and 30%), or a fraction (2/3 and 1/3) (see **Helpful Hint**).
2. A ratio based either on capital balances at the beginning of the year or on average capital balances during the year.
3. Salaries to partners and the remainder on a fixed ratio.
4. Interest on partners' capital balances and the remainder on a fixed ratio.
5. Salaries to partners, interest on partners' capital, and the remainder on a fixed ratio.

> **HELPFUL HINT**
>
> **A proportion such as 4:4:2 has a denominator of 10 (4 + 4 + 2). Thus, the basis for sharing net income or loss is 4/10, 4/10, and 2/10.**

The objective is to settle on a basis that will equitably reflect the partners' capital investment and service to the partnership.

A **fixed ratio** is easy to apply, and it may be an equitable basis in some circumstances. Assume, for example, that Hei and Li are partners. Each contributes the same amount of capital, but Hei expects to work full-time in the partnership and Li expects to work only half-time. Accordingly, the partners agree to a fixed ratio of 2/3 to Hei and 1/3 to Li.

A **ratio based on capital balances** may be appropriate when the funds invested in the partnership are considered the critical factor. Capital ratios may also be equitable when the partners hire a manager to run the business and do not plan to take an active role in daily operations.

The three remaining ratios (items 3, 4, and 5) give specific recognition to differences among partners. These ratios provide salary allowances for time worked and interest allowances for capital invested. Then, the partnership allocates any remaining net income or net loss on a fixed ratio.

Salaries to partners and interest on partners' capital are not expenses of the partnership. Therefore, these items do not enter into the matching of expenses with revenues and the determination of net income or net loss. For a partnership, as for other entities, salaries and wages expense pertains to the cost of services performed by employees. Likewise, interest expense relates to the cost of borrowing from creditors. But partners, as owners, are not considered either **employees** or **creditors**. When the partnership agreement permits the partners to make monthly withdrawals of cash based on their "salary," the partnership debits these withdrawals to the partner's drawings account.

Salaries, Interest, and Remainder on a Fixed Ratio

Under income ratio (5) in the list above, the partnership must apply salaries and interest **before** it allocates the remainder on the specified fixed ratio. **This is true even if the provisions exceed net income. It is also true even if the partnership has suffered a net loss for the year.** The

partnership's income statement should show, below net income, detailed information concerning the division of net income or net loss.

To illustrate, assume that Sara King and Ray Lee are co-partners in the Kingslee Company. The partnership agreement provides for (1) salary allowances of $8,400 to King and $6,000 to Lee, (2) interest allowances of 10% on capital balances at the beginning of the year, and (3) the remaining income to be divided equally. Capital balances on January 1 were King $28,000, and Lee $24,000. In 2025, partnership net income is $22,000. The division of net income is as shown in **Illustration F.5**.

ILLUSTRATION F.5 Division of net income schedule

Kingslee Company
Division of Net Income
For the Year Ended December 31, 2025

Net income			$22,000
Division of Net Income			
	Sara King	**Ray Lee**	**Total**
Salary allowance	$ 8,400	$6,000	$14,400
Interest allowance on partners' capital			
Sara King ($28,000 × 10%)	2,800		
Ray Lee ($24,000 × 10%)		2,400	
Total interest allowance			5,200
Total salaries and interest	11,200	8,400	19,600
Remaining income, $2,400			
($22,000 – $19,600)			
Sara King ($2,400 × 50%)	1,200		
Ray Lee ($2,400 × 50%)		1,200	
Total remainder			2,400
Total division of net income	**$12,400**	**$9,600**	**$22,000**

Kingslee records the division of net income as follows.

Dec. 31	Income Summary	22,000	
	Sara King, Capital		12,400
	Ray Lee, Capital		9,600
	(To close net income to partners' capital)		

Now let's look at a situation in which the salary and interest allowances **exceed** net income. Assume that Kingslee Company's net income is only $18,000. In this case, the salary and interest allowances will create a deficiency of $1,600 ($18,000 – $19,600). The computations of the allowances are the same as those in the preceding example. Beginning with total salaries and interest, we complete the division of net income as shown in Illustration F.6.

ILLUSTRATION F.6 Division of net income—income deficiency

	Sara King	Ray Lee	Total
Total salaries and interest	$11,200	$8,400	$19,600
Remaining deficiency ($1,600)			
($18,000 – $19,600)			
Sara King ($1,600 × 50%)	(800)		
Ray Lee ($1,600 × 50%)		(800)	
Total remainder			(1,600)
Total division	**$10,400**	**$7,600**	**$18,000**

Partnership Financial Statements

The financial statements of a partnership are similar to those of a corporation. The income statement for a partnership is identical to the income statement for a corporation except for the division of net income, as shown earlier.

- The statement of changes in equity for a partnership is called the **partners' capital statement**.
- It explains the changes in each partner's capital account and in total partnership capital during the year.

Illustration F.7 shows the partners' capital statement for Kingslee Company. It is based on the division of $22,000 of net income in Illustration F.5. The statement includes assumed data for the additional investment and drawings. The partnership prepares the partners' capital statement from the income statement and the partners' capital and drawings accounts (see Helpful Hint).

HELPFUL HINT

Partners' capital may change due to (1) additional investment, (2) drawings, and (3) net income or net loss.

ILLUSTRATION F.7 Partners' capital statement

Kingslee Company
Partners' Capital Statement
For the Year Ended December 31, 2025

	Sara King	Ray Lee	Total
Capital, January 1	$ 28,000	$ 24,000	$ 52,000
Add: Additional investment	2,000		2,000
Net income	12,400	9,600	22,000
	42,400	33,600	76,000
Less: Drawings	7,000	5,000	12,000
Capital, December 31	**$35,400**	**$28,600**	**$64,000**

The statement of financial position for a partnership is the same as for a corporation except for the equity section. For a partnership, the statement of financial position shows the capital balances of each partner. Illustration F.8 shows the equity section for Kingslee Company.

ILLUSTRATION F.8 Equity section of a partnership statement of financial position

Kingslee Company
Statement of Financial Position (partial)
December 31, 2025

Equity		
Sara King, capital	$35,400	
Ray Lee, capital	28,600	
Total equity		$ 64,000
Total liabilities (assumed amount)		115,000
Total equity and liabilities		$179,000

Kingslee Company
Statement of Financial Position (partial)
December 31, 2025

F.3 Liquidation of a Partnership

LEARNING OBJECTIVE 3

Explain how to account for the liquidation of a partnership.

Liquidation of a business involves selling the assets of the firm, paying liabilities, and distributing any remaining assets. Liquidation may result from the sale of the business by mutual agreement of the partners, from the death of a partner, or from bankruptcy. **Partnership liquidation** ends both the legal and economic life of the entity.

- From an accounting standpoint, the partnership should complete the accounting cycle for the final operating period prior to liquidation.
- This includes preparing adjusting entries and financial statements.
- It also involves preparing closing entries and a post-closing trial balance.

Thus, only statement of financial position accounts should be open as the liquidation process begins.

In liquidation, the sale of non-cash assets for cash is called **realization**. Any difference between book value and the cash proceeds is called the **gain or loss on realization**. To liquidate a partnership, it is necessary to:

1. Sell non-cash assets for cash and recognize a gain or loss on realization.
2. Allocate gain/loss on realization to the partners based on their income ratios.
3. Pay partnership liabilities in cash.
4. Distribute remaining cash to partners on the basis of their **capital balances**.

Each of the steps must be performed in sequence. The partnership must pay creditors **before** partners receive any cash distributions. Also, an accounting entry must record each step (see **Ethics Note**).

ETHICS NOTE

The process of selling non-cash assets and then distributing the cash reduces the likelihood of partner disputes. If instead the partnership distributes non-cash assets to partners to liquidate the firm, the partners would need to agree on the value of the non-cash assets, which can be very difficult to determine.

When a partnership is liquidated, all partners may have credit balances in their capital accounts. This situation is called **no capital deficiency**. Or, one or more partners may have a debit balance in the capital account. This situation is termed a **capital deficiency**. To illustrate each of these conditions, assume that KSW Company is liquidated when its ledger shows the assets, liabilities, and equity accounts presented in **Illustration F.9** (amounts in thousands).

ILLUSTRATION F.9 Account balances prior to liquidation

Assets		Equity and Liabilities	
Equipment	HK$35,000	R. Kwok, Capital	HK$15,000
Accum. Depr.—Equipment	(8,000)	P. Shiu, Capital	17,800
Inventory	18,000	W. Wong, Capital	1,200
Accounts Receivable	15,000	Notes Payable	15,000
Cash	5,000	Accounts Payable	16,000
	HK$65,000		HK$65,000

No Capital Deficiency

The partners of KSW Company agree to liquidate the partnership on the following terms. (1) The partnership will sell its non-cash assets to Yam Enterprises for HK$75,000 cash. (2) The partnership will pay its partnership liabilities. The income ratios of the partners are 3:2:1, respectively (see **Helpful Hint**). The steps in the liquidation process are as follows.

> **HELPFUL HINT**
>
> **The income ratios' denominator for KSW Company is 6 (3 + 2 + 1).**

1. KSW sells the non-cash assets (accounts receivable, inventory, and equipment) for HK$75,000. The book value of these assets is HK$60,000 (HK$15,000 + HK$18,000 + HK$35,000 − HK$8,000). Thus, KSW realizes a gain of HK$15,000 on the sale. The entry is:

(1)

Cash	75,000	
Accumulated Depreciation–Equipment	8,000	
Accounts Receivable		15,000
Inventory		18,000
Equipment		35,000
Gain on Realization		15,000
(To record realization of non-cash assets)		

2. KSW allocates the HK$15,000 gain on realization to the partners based on their income ratios, which are 3:2:1. The entry is:

(2)

Gain on Realization	15,000	
R. Kwok, Capital (HK$15,000 × 3/6)		7,500
P. Shiu, Capital (HK$15,000 × 2/6)		5,000
W. Wong, Capital (HK$15,000 × 1/6)		2,500
(To allocate gain to partners' capital accounts)		

3. Partnership liabilities consist of Notes Payable HK$15,000 and Accounts Payable HK$16,000. KSW pays creditors in full by a cash payment of HK$31,000. The entry is:

(3)

Notes Payable	15,000	
Accounts Payable	16,000	
Cash		31,000
(To record payment of partnership liabilities)		

4. KSW distributes the remaining cash to the partners on the basis of **their capital balances**. After posting the entries in the first three steps, all partnership accounts, including Gain on Realization, will have zero balances except for four accounts: Cash HK$49,000; R. Kwok, Capital HK$22,500; P. Shiu, Capital HK$22,800; and W. Wong, Capital HK$3,700, as shown in **Illustration F.10**.

ILLUSTRATION F.10 Ledger balances before distribution of cash

Cash				R. Kwok, Capital				P. Shiu, Capital				W. Wong, Capital			
Bal.	5,000	(3)	31,000		Bal.	15,000			Bal.	17,800			Bal.	1,200	
(1)	75,000				(2)	7,500			(2)	5,000			(2)	2,500	
Bal.	**49,000**				**Bal.**	**22,500**			**Bal.**	**22,800**			**Bal.**	**3,700**	

KSW records the distribution of cash as follows.

(4)

R. Kwok, Capital	22,500	
P. Shiu, Capital	22,800	
W. Wong, Capital	3,700	
Cash		49,000
(To record distribution of cash to partners)		

After posting this entry, all partnership accounts will have zero balances.

A word of caution: **Partnerships should not distribute remaining cash to partners on the basis of their income-sharing ratios.** On this basis, Kwok would receive three-sixths, or HK$24,500, which would produce an erroneous debit balance of HK$2,000. The income ratio is the proper basis for allocating net income or loss. **It is not a proper basis for making the final distribution of cash to the partners.**

Schedule of Cash Payments

The **schedule of cash payments** shows the distribution of cash to the partners in a partnership liquidation (see **Alternative Terminology**). The schedule of cash payments is organized around the basic accounting equation. **Illustration F.11** shows the schedule for KSW Company. The numbers in parentheses in column B refer to the four required steps in the liquidation of a partnership. They also identify the accounting entries that KSW must make. The cash payments schedule is especially useful when the liquidation process extends over a period of time.

> **ALTERNATIVE TERMINOLOGY**
>
> **The schedule of cash payments is sometimes called a *safe cash payments schedule*.**

ILLUSTRATION F.11 Schedule of cash payments, no capital deficiency

Capital Deficiency

A capital deficiency may result from recurring net losses, excessive drawings, or losses from realization suffered during liquidation. To illustrate, assume that KSW Company is on the brink of bankruptcy. The partners decide to liquidate by having a "going-out-of-business" sale. They sell merchandise at substantial discounts, and sell the equipment at auction. Cash proceeds from these sales and collections from customers total only HK$42,000. Thus, the loss from liquidation is HK$18,000 (HK$60,000 − HK$42,000). The steps in the liquidation process are as follows.

1. The entry for the realization of non-cash assets is:

(1)

Cash	42,000	
Accumulated Depreciation—Equipment	8,000	
Loss on Realization	18,000	
Accounts Receivable		15,000
Inventory		18,000
Equipment		35,000
(To record realization of non-cash assets)		

2. KSW allocates the loss on realization to the partners on the basis of their income ratios. The entry is:

(2)

R. Kwok, Capital (HK$18,000 × 3/6)	9,000	
P. Shiu, Capital (HK$18,000 × 2/6)	6,000	
W. Wong, Capital (HK$18,000 × 1/6)	3,000	
Loss on Realization		18,000
(To allocate loss on realization to partners)		

3. KSW pays the partnership liabilities. This entry is the same as the previous one.

(3)

Notes Payable	15,000	
Accounts Payable	16,000	
Cash		31,000
(To record payment of partnership liabilities)		

4. After posting the three entries, two accounts will have debit balances—Cash HK$16,000 and W. Wong, Capital HK$1,800. Two accounts will have credit balances—R. Kwok, Capital HK$6,000 and P. Shiu, Capital HK$11,800. Illustration F.12 shows all four accounts.

ILLUSTRATION F.12 Ledger balances before distribution of cash

Cash				R. Kwok, Capital				P. Shiu, Capital				W. Wong, Capital			
Bal.	5,000	(3)	31,000	(2)	9,000	Bal.	15,000	(2)	6,000	Bal.	17,800	(2)	3,000	Bal.	1,200
(1)	42,000					**Bal.**	**6,000**			**Bal.**	**11,800**	**Bal.**	**1,800**		
Bal.	**16,000**														

Wong has a capital deficiency of HK$1,800 and so owes the partnership HK$1,800. Kwok and Shiu have a legally enforceable claim for that amount against Wong's personal assets. Note that the distribution of cash is still made on the basis of capital balances. But, the amount will vary depending on how Wong settles the deficiency. Two alternatives are presented in the following sections.

Payment of Deficiency

If the partner with the capital deficiency pays the amount owed the partnership, the deficiency is eliminated. To illustrate, assume that Wong pays HK$1,800 to the partnership. The entry is:

(a)

Cash	1,800	
W. Wong, Capital		1,800
(To record payment of capital deficiency by Wong)		

After posting this entry, account balances are as shown in Illustration F.13.

ILLUSTRATION F.13 Ledger balances after paying capital deficiency

Cash				R. Kwok, Capital				P. Shiu, Capital				W. Wong, Capital			
Bal.	5,000	(3)	31,000	(2)	9,000	Bal.	15,000	(2)	6,000	Bal.	17,800	(2)	3,000	Bal.	1,200
(1)	42,000					**Bal.**	**6,000**			**Bal.**	**11,800**			Bal.	1,800
(a)	1,800													**Bal.**	**–0–**
Bal.	**17,800**														

The cash balance of HK$17,800 is now equal to the credit balances in the capital accounts (Kwok HK$6,000 + Shiu HK$11,800). KSW now distributes cash on the basis of these balances. The entry is:

R. Kwok, Capital	6,000	
P. Shiu, Capital	11,800	
Cash		17,800
(To record distribution of cash to the partners)		

After posting this entry, all accounts will have zero balances.

Non-Payment of Deficiency

If a partner with a capital deficiency is unable to pay the amount owed to the partnership, the partners with credit balances must absorb the loss. The partnership allocates the loss on the basis of the income ratios that exist between the partners with credit balances.

The income ratios of Kwok and Shiu are 3:2, or 3/5 and 2/5, respectively (see **Helpful Hint**). Thus, KSW would make the following entry to remove Wong's capital deficiency.

> **HELPFUL HINT**
>
> **The ratios with all three partners were 3:2:1 and the denominator was therefore 6. Leaving out Wong, the denominator changes to 5 (3 + 2).**

(a)

R. Kwok, Capital (HK$1,800 × 3/5)	1,080	
P. Shiu, Capital (HK$1,800 × 2/5)	720	
W. Wong, Capital		1,800
(To record write-off of capital deficiency)		

After posting this entry, the cash and capital accounts will have the balances shown in **Illustration F.14**.

ILLUSTRATION F.14 **Ledger balances after non-payment of capital deficiency**

Cash				R. Kwok, Capital				P. Shiu, Capital				W. Wong, Capital			
Bal.	5,000	(3)	31,000	(2)	9,000	Bal.	15,000	(2)	6,000	Bal.	17,800	(2)	3,000	Bal.	1,200
(1)	42,000			(a)	1,080			(a)	720					(a)	1,800
Bal.	**16,000**					**Bal.**	**4,920**			**Bal.**	**11,080**			**Bal.**	**–0–**

The cash balance (HK$16,000) now equals the sum of the credit balances in the capital accounts (Kwok HK$4,920 + Shiu HK$11,080). KSW records the distribution of cash as:

R. Kwok, Capital	4,920	
P. Shiu, Capital	11,080	
Cash		16,000
(To record distribution of cash to the partners)		

After posting this entry, all accounts will have zero balances.

F.4 Admissions and Withdrawals of Partners

LEARNING OBJECTIVE 4

Prepare journal entries when a partner is either admitted or withdraws.

The chapter explained how the basic accounting for a partnership works. We now look at how to account for a common occurrence in partnerships—the addition or withdrawal of a partner.

Admission of a Partner

The admission of a new partner results in the **legal dissolution** of the existing partnership and the beginning of a new one.

- From an economic standpoint, however, the admission of a new partner (or partners) may be of minor significance in the continuity of the business. For example, in large public accounting or law firms, partners are admitted annually without any change in operating policies.
- **To recognize the economic effects, it is necessary only to open a capital account for each new partner.** In the entries illustrated in this appendix, we assume that the accounting records of the predecessor firm will continue to be used by the new partnership.

A new partner may be admitted either by (1) purchasing the interest of one or more existing partners or (2) investing assets in the partnership. The former affects only the capital accounts of the partners who are parties to the transaction. The latter increases both net assets and total capital of the partnership.

Purchase of a Partner's Interest

The **admission** of a partner **by purchase of an interest** is a personal transaction between one or more existing partners and the new partner. Each party acts as an individual separate from the partnership entity. The individuals involved negotiate the price paid. It may be equal to or different from the capital equity acquired. The purchase price passes directly from the new partner to the partners who are giving up part or all of their ownership claims (see **Helpful Hint**).

> **HELPFUL HINT**
>
> **In a purchase of an interest, the partnership is not a participant in the transaction. In this transaction, the new partner contributes *no* cash to the partnership.**

- Any money or other consideration exchanged is the personal property of the participants and **not** the property of the partnership.
- Upon purchase of an interest, the new partner acquires each selling partner's capital interest and income ratio.

Accounting for the purchase of an interest is straightforward. The partnership records only the changes in partners' capital. **Partners' capital accounts are debited for any ownership claims sold.** At the same time, the new partner's capital account is credited for the capital equity purchased. Total assets, total liabilities, and total capital remain unchanged, as do all individual asset and liability accounts.

To illustrate, assume that L. Carson agrees to pay €10,000 each to C. Ames and D. Barker for 33⅓% (one-third) of their interest in the Ames–Barker partnership. At the time of the admission of Carson, each partner has a €30,000 capital balance. Both partners, therefore, give up €10,000 of their capital equity. The entry to record the admission of Carson is:

C. Ames, Capital	10,000	
D. Barker, Capital	10,000	
L. Carson, Capital		20,000
(To record admission of Carson by purchase)		

Illustration F.15 shows the effect of this transaction on net assets and partners' capital.

ILLUSTRATION F.15 Ledger balances after purchase of a partner's interest

Net Assets		C. Ames, Capital		D. Barker, Capital		L. Carson, Capital	
60,000		10,000	30,000	10,000	30,000		20,000
			Bal. 20,000		Bal. 20,000		

Note that net assets remain unchanged at €60,000, and each partner has a €20,000 capital balance. Ames and Barker continue as partners in the firm, but the capital interest of each has changed. The cash paid by Carson goes directly to the individual partners and not to the partnership.

Regardless of the amount paid by Carson for the one-third interest, the entry is exactly the same. If Carson pays €12,000 each to Ames and Barker for one-third of the partnership, the partnership still makes the entry shown above.

Investment of Assets in a Partnership

The admission of a partner by an investment of assets is a transaction between the new partner and the partnership. Often referred to simply as **admission by investment**, the transaction **increases both the net assets and total capital of the partnership**.

Assume, for example, that instead of purchasing an interest, Carson invests €30,000 in cash in the Ames-Barker partnership for a 33⅓% capital interest. In such a case, the entry is:

Cash	30,000	
L. Carson, Capital		30,000
(To record admission of Carson by investment)		

Illustration F.16 shows the effects of this transaction on the partnership accounts.

ILLUSTRATION F.16 Ledger balances after investment of assets

Net Assets		C. Ames, Capital		D. Barker, Capital		L. Carson, Capital	
60,000			30,000		30,000		30,000
30,000							
Bal. 90,000							

Note that both net assets and total capital have increased by €30,000.

Remember that Carson's one-third capital interest might not result in a one-third income ratio. The new partnership agreement should specify Carson's income ratio, and it may or may not be equal to the one-third capital interest.

The comparison of the net assets and capital balances in Illustration F.17 shows the different effects of the purchase of an interest and admission by investment.

ILLUSTRATION F.17 Comparison of purchase of an interest and admission by investment

Purchase of an Interest	
Net assets	**€60,000**
Capital	
C. Ames	€20,000
D. Barker	20,000
L. Carson	20,000
Total capital	**€60,000**

Admission by Investment	
Net assets	**€90,000**
Capital	
C. Ames	€30,000
D. Barker	30,000
L. Carson	30,000
Total capital	**€90,000**

When a new partner purchases an interest, the total net assets and total capital of the partnership **do not change**. When a partner is admitted by investment, both the total net assets and the total capital **change** by the amount of the new investment.

In the case of admission by investment, further complications occur when the new partner's investment differs from the capital equity acquired. When those amounts are not the same, the difference is considered a **bonus** either to (1) the existing (old) partners or (2) the new partner.

Bonus to Old Partners

For both personal and business reasons, the existing partners may be unwilling to admit a new partner without receiving a bonus. In an established firm, existing partners may insist on a bonus as compensation for the work they have put into the company over the years. Two accounting factors underlie the business reason.

1. Total partners' capital equals the book value of the recorded net assets of the partnership. When the new partner is admitted, the fair values of assets such as land and buildings may be higher than their book values. The bonus will help make up the difference between fair value and book value.
2. When the partnership has been profitable, goodwill may exist. But, the partnership statement of financial position does not report goodwill. The new partner is usually willing to pay the bonus to become a partner.

A bonus to old partners results when the new partner's investment in the firm is greater than the capital credit on the date of admittance. The bonus results in **an increase in the capital balances of the old partners**. **The partnership allocates the bonus to them on the basis of their income ratios before the admission of the new partner.**

To illustrate, assume that the Yoo-Hyuk partnership, owned by Ahn Yoo and Joo Hyuk, has total capital of ₩120,000 (amounts in thousands). Jang Sung acquires a 25% ownership (capital) interest in the partnership by making a cash investment of ₩80,000. The procedure for determining Sung's capital credit and the bonus to the old partners is as follows.

1. **Determine the total capital of the new partnership.** Add the new partner's investment to the total capital of the old partnership. In this case, the total capital of the new firm is ₩200,000, computed as follows.

Total capital of existing partnership	₩120,000
Investment by new partner, Sung	80,000
Total capital of new partnership	₩200,000

2. **Determine the new partner's capital credit.** Multiply the total capital of the new partnership by the new partner's ownership interest. Sung's capital credit is ₩50,000 (₩200,000 × 25%).
3. **Determine the amount of bonus.** Subtract the new partner's capital credit from the new partner's investment. The bonus in this case is ₩30,000 (₩80,000 – ₩50,000).
4. **Allocate the bonus to the old partners on the basis of their income ratios.** Assuming the ratios are Yoo 60%, and Hyuk 40%, the allocation is Yoo ₩18,000 (₩30,000 × 60%) and Hyuk ₩12,000 (₩30,000 × 40%).

The entry to record the admission of Sung is:

Cash	80,000	
Ahn Yoo, Capital		18,000
Joo Hyuk, Capital		12,000
Jang Sung, Capital		50,000
(To record admission of Sung and bonus to old partners)		

Bonus to New Partner

A bonus to a new partner results when the new partner's investment in the firm is less than his or her capital credit. This may occur when the new partner possesses special attributes that the partnership wants. For example, the new partner may be able to supply cash that the firm needs for expansion or to meet maturing debts. Or the new partner may be a recognized expert in a relevant field. Thus, an engineering firm may be willing to give a renowned engineer a bonus to join the firm. The partners of a restaurant may offer a bonus to a sports celebrity in order to add the athlete's name to the partnership. A bonus to a new partner may also result when recorded book values on the partnership books are higher than their fair values.

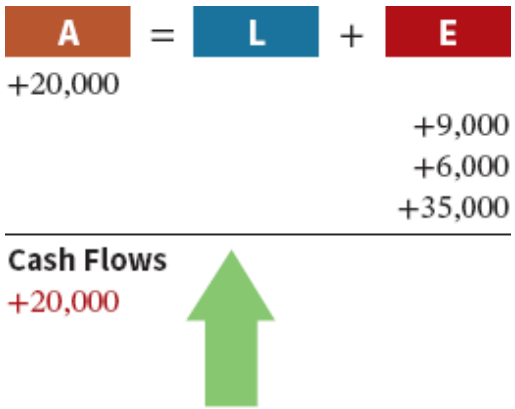
A bonus to a new partner results in a **decrease in the capital balances of the old partners**. **The amount of the decrease for each partner is based on the income ratios before the admission of the new partner.** To illustrate, assume that Jang Sung invests ₩20,000 in cash for a 25% ownership interest in the Yoo-Hyuk partnership. **Illustration F.18** shows the computations for Sung's capital credit and the bonus, using the four procedures described in the preceding section.

ILLUSTRATION F.18 Computation of capital credit and bonus to new partner

1. Total capital of Yoo-Hyuk partnership		₩120,000
Investment by new partner, Sung		20,000
Total capital of new partnership		₩140,000
2. **Sung's capital credit** (25% × ₩140,000)		**₩ 35,000**
3. **Bonus to Sung** (₩35,000 – ₩20,000)		**₩ 15,000**
4. Allocation of bonus to old partners:		
Yoo (₩15,000 × 60%)	₩9,000	
Hyuk (₩15,000 × 40%)	6,000	₩ 15,000

The partnership records the admission of Sung as follows.

Cash	20,000	
Ahn Yoo, Capital		9,000
Joo Hyuk, Capital		6,000
Jang Sung, Capital		35,000
(To record Sung's admission and bonus)		



Withdrawal of a Partner

Now let's look at the opposite situation–the withdrawal of a partner.

- A partner may withdraw from a partnership **voluntarily**, by selling his or her equity in the firm.
- Or, a partner may withdraw **involuntarily**, by reaching mandatory retirement age or by dying.

The withdrawal of a partner, like the admission of a partner, legally dissolves the partnership. The legal effects may be recognized by dissolving the firm. However, it is customary to record only the economic effects of the partner's withdrawal, while the firm continues to operate and reorganizes itself legally.

As indicated earlier, the partnership agreement should specify the terms of withdrawal. The withdrawal of a partner may be accomplished by (1) payment from partners' personal assets or (2) payment from partnership assets. The former affects only the partners' capital accounts. The latter decreases total net assets and total capital of the partnership.

Payment from Partners' Personal Assets

Withdrawal by payment from partners' personal assets is a personal transaction between the partners.

- **It is the direct opposite of admitting a new partner who purchases a partner's interest.**
- The remaining partners pay the retiring partner directly from their personal assets.
- **Partnership assets are not involved in any way, and total capital does not change.** The effect on the partnership is limited to changes in the partners' capital balances.

To illustrate, assume that partners Ma, Wenyin, and Hejun have capital balances of ¥25,000, ¥15,000, and ¥10,000, respectively (amounts in thousands). Ma and Wenyin agree to buy out Hejun's interest. Each of them agrees to pay Hejun ¥8,000 in exchange for one-half of Hejun's total interest of ¥10,000. The entry to record the withdrawal is:

Z. Hejun, Capital	10,000	
W. Ma, Capital		5,000
L. Wenyin, Capital		5,000
(To record purchase of Hejun's interest)		

A	=	L	+	E
				−10,000
				+5,000
				+5,000

Cash Flows
no effect

The effect of this entry on the partnership accounts is shown in Illustration F.19.

ILLUSTRATION F.19 Ledger balances after payment from partners' personal assets

Net Assets		W. Ma, Capital		L. Wenyin, Capital		Z. Hejun, Capital	
50,000			25,000		15,000	**10,000**	10,000
			5,000		**5,000**		Bal. –0–
			Bal. 30,000		Bal. 20,000		

Note that net assets and total capital remain the same at ¥50,000.

What about the ¥16,000 paid to Hejun? You've probably noted that it is not recorded. The entry debited Hejun's capital only for ¥10,000, not for the ¥16,000 that she received. Similarly, both Ma and Wenyin credit their capital accounts for only ¥5,000, not for the ¥8,000 they each paid.

After Hejun's withdrawal, Ma and Wenyin will share net income or net loss equally unless they indicate another income ratio in the partnership agreement.

Payment from Partnership Assets

Withdrawal by payment from partnership assets is a transaction that involves the partnership.

- **Both partnership net assets and total capital decrease as a result.**
- Using partnership assets to pay for a withdrawing partner's interest is the **reverse** of admitting a partner through the investment of assets in the partnership.

Many partnership agreements provide that the amount paid should be based on the fair value of the assets at the time of the partner's withdrawal. When this basis is required, some maintain that any differences between recorded asset balances and their fair values should be (1) recorded by an adjusting entry, and (2) allocated to all partners on the basis of their income ratios.

This position has serious flaws. Recording the revaluations violates the historical cost basis, which requires that assets be stated at original cost. It also violates the going-concern assumption, which assumes the entity will continue indefinitely. The terms of the partnership contract should not dictate the accounting for this event.

In accounting for a withdrawal by payment from partnership assets, the partnership should not record asset revaluations. Instead, it should consider any difference between the amount paid and the withdrawing partner's capital balance as **a bonus** to the retiring partner or to the remaining partners.

Bonus to Retiring Partner

A partnership may pay a bonus to a retiring partner when:

1. The fair value of partnership assets is more than their book value,
2. There is unrecorded goodwill resulting from the partnership's superior earnings record, or
3. The remaining partners are eager to remove the partner from the firm.

The partnership deducts the bonus from the remaining partners' capital balances on the basis of their income ratios at the time of the withdrawal.

To illustrate, assume that the following capital balances exist in the RST partnership: Roman €50,000, Sand €30,000, and Terk €20,000. The partners share income in the ratio of 3:2:1, respectively. Terk retires from the partnership and receives a cash payment of €25,000 from the firm. The procedure for determining the bonus to the retiring partner and the allocation of the bonus to the remaining partners is as follows.

1. **Determine the amount of the bonus.** Subtract the retiring partner's capital balance from the cash paid by the partnership. The bonus in this case is €5,000 (€25,000 – €20,000).
2. **Allocate the bonus to the remaining partners on the basis of their income ratios.** The ratios of Roman and Sand are 3:2. Thus, the allocation of the €5,000 bonus is: Roman €3,000 (€5,000 × 3/5) and Sand €2,000 (€5,000 × 2/5).

The partnership records the withdrawal of Terk as follows (see Helpful Hint).

> **HELPFUL HINT**
>
> **Compare this entry to the next one.**

B. Terk, Capital	20,000	
F. Roman, Capital	3,000	
D. Sand, Capital	2,000	
Cash		25,000
(To record withdrawal of and bonus to Terk)		

The remaining partners, Roman and Sand, will recover the bonus given to Terk as the partnership sells or uses the undervalued assets.

Bonus to Remaining Partners

The retiring partner may give a bonus to the remaining partners when:

1. Recorded assets are overvalued.
2. The partnership has a poor earnings record.
3. The partner is eager to leave the partnership.

In such cases, the cash paid to the retiring partner will be less than the retiring partner's capital balance. **The partnership allocates (credits) the bonus to the capital accounts of the remaining partners on the basis of their income ratios.**

To illustrate, assume instead that the partnership pays Terk only €16,000 for her €20,000 equity when she withdraws from the partnership. In that case:

1. The bonus to remaining partners is €4,000 (€20,000 – €16,000).
2. The allocation of the €4,000 bonus is Roman €2,400 (€4,000 × 3/5) and Sand €1,600 (€4,000 × 2/5).

Under these circumstances, the entry to record the withdrawal is as follows (see **Helpful Hint**).

> **HELPFUL HINT**
>
> **Compare this entry to the one above.**

B. Terk, Capital	20,000	
F. Roman, Capital		2,400
D. Sand, Capital		1,600
Cash		16,000
(To record withdrawal of Terk and bonus to remaining partners)		

Note that if Sand had withdrawn from the partnership, Roman and Terk would divide any bonus on the basis of their income ratio, which is 3:1 or 75% and 25%.

Death of a Partner

The death of a partner dissolves the partnership. However, partnership agreements usually contain a provision for the surviving partners to continue operations. When a partner dies, it usually is necessary to determine the partner's equity at the date of death. This is done by:

1. Determining the net income or loss for the year to date.
2. Closing the books.
3. Preparing financial statements.

The partnership agreement may also require an independent audit and a revaluation of assets.

The surviving partners may agree to purchase the deceased partner's equity from their personal assets. Or they may use partnership assets to settle with the deceased partner's estate. In both instances, the entries to record the withdrawal of the partner are similar to those presented earlier.

To facilitate payment from partnership assets, some partnerships obtain life insurance policies on each partner, with the partnership named as the beneficiary. The partnership then uses the proceeds from the insurance policy on the deceased partner to settle with the estate.

Review

Learning Objectives Review

1 Discuss and account for the formation of a partnership.

The principal characteristics of a partnership are (a) association of individuals, (b) mutual agency, (c) limited life, (d) unlimited liability, and (e) co-ownership of property. When formed, a partnership records each partner's initial investment at the fair value of the assets at the date of their transfer to the partnership.

2 Explain how to account for net income or net loss of a partnership.

Partnerships divide net income or net loss on the basis of the income ratio, which may be (a) a fixed ratio, (b) a ratio based on beginning or average capital balances, (c) salaries to partners and the remainder on a fixed ratio, (d) interest on partners' capital and the remainder on a fixed ratio, and (e) salaries to partners, interest on partners' capital, and the remainder on a fixed ratio.

The financial statements of a partnership are similar to those of a corporation. The principal differences are as follows. (a) The partnership shows the division of net income on the income statement. (b) The statement of changes in equity is called a partners' capital statement. (c) The partnership reports each partner's capital on the statement of financial position.

3 Explain how to account for the liquidation of a partnership.

When a partnership is liquidated, it is necessary to record the (a) sale of non-cash assets, (b) allocation of the gain or loss on realization, (c) payment of partnership liabilities, and (d) distribution of cash to the partners on the basis of their capital balances.

4 Prepare journal entries when a partner is either admitted or withdraws.

The entry to record the admittance of a new partner by purchase of a partner's interest affects only partners' capital accounts. The entries to record the admittance by investment of assets in the partnership (a) increase both net assets and total capital and (b) may result in recognition of a bonus to either the old partners or the new partner.

The entry to record a withdrawal from the firm when the partners pay from their personal assets affects only partners' capital accounts. The entry to record a withdrawal when payment is made from partnership assets (a) decreases net assets and total capital and (b) may result in recognizing a bonus either to the retiring partner or the remaining partners.

Glossary Review

Admission by investment

Admission of a partner by investing assets in the partnership, causing both partnership net assets and total capital to increase.

Admission by purchase of an interest
Admission of a partner in a personal transaction between one or more existing partners and the new partner; does not change total partnership assets or total capital.

Capital deficiency
A debit balance in a partner's capital account after allocation of gain or loss.

General partners
Partners who have unlimited liability for the debts of the firm.

Income ratio
The basis for dividing net income and net loss in a partnership.

Limited liability company
A form of business organization, usually classified as a partnership for tax purposes and usually with limited life, in which partners, who are called members, have limited liability.

Limited liability partnership
A partnership of professionals in which partners are given limited liability and the public is protected from malpractice by insurance carried by the partnership.

Limited partners
Partners whose liability for the debts of the firm is limited to their investment in the firm.

Limited partnership
A partnership in which one or more general partners have unlimited liability and one or more partners have limited liability for the obligations of the firm.

No capital deficiency
All partners have credit balances after allocation of gain or loss.

Partners' capital statement
The statement of changes in equity for a partnership which shows the changes in each partner's capital account and in total partnership capital during the year.

Partnership
An association of two or more persons to carry on as co-owners of a business for profit.

Partnership agreement
A written contract expressing the voluntary agreement of two or more individuals in a partnership.

Partnership dissolution
A change in partners due to withdrawal or admission, which does not necessarily terminate the business.

Partnership liquidation
An event that ends both the legal and economic life of a partnership.

Schedule of cash payments
A schedule showing the distribution of cash to the partners in a partnership liquidation.

Withdrawal by payment from partners' personal assets

Withdrawal of a partner in a personal transaction between partners; does not change total partnership assets or total capital.

Withdrawal by payment from partnership assets

Withdrawal of a partner in a transaction involving the partnership, causing both partnership net assets and total capital to decrease.

Questions

1. The characteristics of a partnership include the following: (a) association of individuals, (b) limited life, and (c) co-ownership of property. Explain each of these terms.

2. Yuen Sheng is confused about the partnership characteristics of (a) mutual agency and (b) unlimited liability. Explain these two characteristics for Yuen.

3. Joe Lee and Lin Qi are considering a business venture. They ask you to explain the advantages and disadvantages of the partnership form of organization.

4. Why might a company choose to use a limited partnership?

5. Cho and Su form a partnership. Cho contributes land with a book value of NT$50,000 and a fair value of NT$60,000. Cho also contributes equipment with a book value of NT$52,000 and a fair value of NT$57,000. The partnership assumes a NT$20,000 mortgage on the land. What should be the balance in Cho's capital account upon formation of the partnership?

6. W. Jenson, N. Emch, and W. Gilligan have a partnership. A dispute has arisen among the partners. Jenson has invested twice as much in assets as the other two partners, and he believes net income and net losses should be shared in accordance with the capital ratios. The partnership agreement does not specify the division of profits and losses. How will net income and net loss be divided?

7. Smita and Swati are discussing how income and losses should be divided in a partnership they plan to form. What factors should be considered in determining the division of net income or net loss?

8. M. Lin and R. Chow have partnership capital balances of HK$40,000 and HK$80,000, respectively (amounts in thousands). The partnership agreement indicates that net income or net loss should be shared equally. If net income for the partnership is HK$42,000, how should the net income be divided?

9. S. Pletcher and F. Holt share net income and net loss equally. (a) Which account(s) is (are) debited and credited to record the division of net income between the partners? (b) If S. Pletcher withdraws €30,000 in cash for personal use instead of salary, which account is debited and which is credited?

10. Partners T. Kher and R. Puri are provided salary allowances of INR30,000 and INR25,000, respectively (amounts in thousands). They divide the remainder of the partnership income in a ratio of 3:2. If partnership net income is INR40,000, how much is allocated to Kher and Puri?

11. Are the financial statements of a partnership similar to those of a corporation? Discuss.

12. How does the liquidation of a partnership differ from the dissolution of a partnership?

13. Roger Fuller and Mike Rangel are discussing the liquidation of a partnership. Roger maintains that all cash should be distributed to partners on the basis of their income ratios. Is he correct? Explain.

14. In continuing their discussion from Question 13, Mike says that even in the case of a capital deficiency, all cash should still be distributed on the basis of capital balances. Is Mike correct? Explain.

15. Norris, Madson, and Howell have income ratios of 5:3:2 and capital balances of $34,000, $31,000, and $28,000, respectively. Non-cash assets are sold at a gain and allocated to the partners. After creditors are paid, $103,000 of cash is available for distribution to the partners. How much cash should be paid to Madson?

16. Before the final distribution of cash, account balances are Cash ¥27,000; S. Hui, Capital ¥19,000 (Cr.); L. Song, Capital ¥12,000 (Cr.); and M. Li, Capital ¥4,000 (Dr.) (amounts in thousands). Li is unable to pay any of the capital deficiency. If the income-sharing ratios are 5:3:2, respectively, how much cash should be paid to L. Song?

17. Why is **TSMC** not a partnership?

18. Susan Turnbull decides to purchase from an existing partner for €50,000 a one-third interest in a partnership. What effect does this transaction have on partnership net assets?

19. James Park decides to invest €25,000 in a partnership for a one-sixth capital interest. How much do the partnership's net assets increase? Does Park also acquire a one-sixth income ratio through this investment?

20. Chuling Chow purchases for HK$72,000 Meng's interest in the Ng-Meng partnership (amounts in thousands). Assuming that Meng has a HK$68,000 capital balance in the partnership, what journal entry is made by the partnership to record this transaction?

21. K. Boo-jin has a ¥41,000 capital balance in a partnership (amounts in thousands). She sells her interest to P. Beom-Su for ¥45,000 cash. What entry is made by the partnership for this transaction?

22. Andrea Riley retires from the partnership of Jaggard, Pester, and Riley. She receives €85,000 of partnership assets in settlement of her capital balance of €81,000. Assuming that the income-sharing ratios are 5:3:2, respectively, how much of Riley's bonus is debited to Pester's capital account?

23. Your roommate argues that partnership assets should be revalued in situations like those in Question 21. Why is this generally not done?

24. How is a deceased partner's equity determined?

Brief Exercises

Journalize entries in forming a partnership.

BEF.1 (LO 1) Barbara Ripley and Fred Nichols decide to organize the ALL-Star partnership. Ripley invests $15,000 cash, and Nichols contributes $10,000 cash and equipment having a book value of $3,500. Prepare the entry to record Nichols's investment in the partnership, assuming the equipment has a fair value of $4,000.

Prepare portion of opening statement of financial position for partnership.

BEF.2 (LO 1) Wang and Qinghou decide to merge their proprietorships into a partnership called WQ Company. The statement of financial position of WQ Co. shows (amounts in thousands):

Accounts receivable	¥16,000	
Less: Allowance for doubtful accounts	1,200	¥14,800
Equipment	20,000	
Less: Accumulated depreciation—equip.	7,000	13,000

The partners agree that the net realizable value of the receivables is ¥14,500 and that the fair value of the equipment is ¥11,000. Indicate how the accounts should appear in the opening statement of financial position of the partnership.

Journalize the division of net income using fixed income ratios.

BEF.3 (LO 2) Rod Darling Co. reports net income of €75,000. The income ratios are Rod 60% and Darling 40%. Indicate the division of net income to each partner, and prepare the entry to distribute the net income.

Compute division of net income with a salary allowance and fixed ratios.

BEF.4 (LO 2) PFW Co. reports net income of €45,000. Partner salary allowances are Pitts €15,000, Filbert €5,000, and Witten €5,000. Indicate the division of net income to each partner, assuming the income ratio is 50:30:20, respectively.

Show division of net income when allowances exceed net income.

BEF.5 (LO 2) Kun-Hee & Jae-Chul Co. reports net income of ₩31,000 (amounts in thousands). Interest allowances are Kun-Hee ₩7,000 and Jae-Chul ₩5,000, salary allowances are Kun-Hee ₩15,000 and Jae-Chul ₩10,000, and the remainder is shared equally. Show the distribution of income.

Journalize final cash distribution in liquidation.

BEF.6 (LO 3) After liquidating non-cash assets and paying creditors, account balances in the Fan Co. are Cash HK$21,000; A, Capital (Cr.) HK$8,000; B, Capital (Cr.) HK$9,000; and C, Capital (Cr.) HK$4,000 (amounts in thousands). The partners share income equally. Journalize the final distribution of cash to the partners.

Journalize admission by purchase of an interest.

BEF.7 (LO 4) 3C Co. capital balances are Chu ¥30,000, Cho ¥25,000, and Chow ¥22,000 (amounts in thousands). The partners share income equally. Cheng is admitted to the firm by purchasing one-half of Chow's interest for ¥13,000. Journalize the admission of Cheng to the partnership.

Journalize admission by investment.

BEF.8 (LO 4) In Eastwood Co., capital balances are Irey $40,000 and Pedigo $50,000. The partners share income equally. Vernon is admitted to the firm with a 45% interest by an investment of cash of $58,000. Journalize the admission of Vernon.

Journalize withdrawal paid by personal assets.

BEF.9 (LO 4) Capital balances in Pelmar Co. are Lang €40,000, Oslo €30,000, and Fernetti €20,000. Lang and Oslo each agree to pay Fernetti €12,000 from their personal assets. Lang and Oslo each receive 50% of Fernetti's equity. The partners share income equally. Journalize the withdrawal of Fernetti.

Journalize withdrawal paid by partnership assets.

BEF.10 (LO 4) Data pertaining to Pelmar Co. are presented in BEF.9. Instead of payment from personal assets, assume that Fernetti receives €24,000 from partnership assets in withdrawing from the firm. Journalize the withdrawal of Fernetti.

Exercises

Identify characteristics of partnership.

EF.1 (LO 1) Xia Chow has prepared the following list of statements about partnerships.

1. A partnership is an association of three or more persons to carry on as co-owners of a business for profit.
2. The legal requirements for forming a partnership can be quite burdensome.
3. A partnership is not an entity for financial reporting purposes.
4. The net income of a partnership is taxed as a separate entity.
5. The act of any partner is binding on all other partners, even when partners perform business acts beyond the scope of their authority.
6. Each partner is personally and individually liable for all partnership liabilities.
7. When a partnership is dissolved, the assets legally revert to the original contributor.
8. In a limited partnership, one or more partners have unlimited liability and one or more partners have limited liability for the debts of the firm.
9. Mutual agency is a major advantage of the partnership form of business.

Instructions

Identify each statement as true or false. If false, indicate how to correct the statement.

Journalize entry for formation of a partnership.

EF.2 (LO 1) K. Yi, S. Lun, and E. Gao are forming a partnership. Yi is transferring NT$50,000 of personal cash to the partnership (amounts in thousands). Lun owns land worth NT$15,000 and a small building worth NT$80,000, which she transfers to the partnership. Gao transfers to the partnership cash of NT$9,000, accounts receivable of NT$32,000, and equipment worth NT$39,000. The partnership expects to collect NT$29,000 of the accounts receivable.

Instructions

a. Prepare the journal entries to record each of the partners' investments.

b. What amount would be reported as total equity immediately after the investments?

Journalize entry for formation of a partnership.

EF.3 (LO 1) Zhang Li has owned and operated a proprietorship for several years. On January 1, she decides to terminate this business and become a partner in the firm of Li and Xuan. Li's investment in the partnership consists of ¥12,000 in cash, and the following assets of the proprietorship: accounts receivable ¥14,000 less allowance for doubtful accounts of ¥2,000, and equipment ¥30,000 less accumulated depreciation of ¥4,000

(amounts in thousands). It is agreed that the allowance for doubtful accounts should be ¥3,000 for the partnership. The fair value of the equipment is ¥23,500.

Instructions

Journalize Li's admission to the firm of Li and Xuan.

Prepare schedule showing distribution of net income and closing entry.

EF.4 (LO 2) McGill and Smyth have capital balances on January 1 of €50,000 and €40,000, respectively. The partnership income-sharing agreement provides for (1) annual salaries of €22,000 for McGill and €13,000 for Smyth, (2) interest at 10% on beginning capital balances, and (3) remaining income or loss to be shared 60% by McGill and 40% by Smyth.

Instructions

a. Prepare a schedule showing the distribution of net income, assuming net income is (1) €50,000 and (2) €36,000.

b. Journalize the allocation of net income in each of the situations above.

Prepare journal entries to record allocation of net income.

EF.5 (LO 2) Tsang (beginning capital, HK$60,000) and Woo (beginning capital HK$90,000) are partners (amounts in thousands). During 2025, the partnership earned net income of HK$80,000, and Tsang made drawings of HK$18,000 while Woo made drawings of HK$24,000.

Instructions

a. Assume the partnership income-sharing agreement calls for income to be divided 45% to Tsang and 55% to Woo. Prepare the journal entry to record the allocation of net income.

b. Assume the partnership income-sharing agreement calls for income to be divided with a salary of HK$30,000 to Tsang and HK$25,000 to Woo, with the remainder divided 45% to Tsang and 55% to Woo. Prepare the journal entry to record the allocation of net income.

c. Assume the partnership income-sharing agreement calls for income to be divided with a salary of HK$40,000 to Tsang and HK$35,000 to Woo, interest of 10% on beginning capital, and the remainder divided 50%–50%. Prepare the journal entry to record the allocation of net income.

d. Compute the partners' ending capital balances under the assumption in part (c).

Prepare partners' capital statement and partial statement of financial position.

EF.6 (LO 2) For KDK Co., beginning capital balances on January 1, 2025, are Deepika Kapoor INR20,000 and Kareena Dutt INR18,000 (amounts in thousands). During the year, drawings were Kapoor INR8,000 and Dutt INR5,000. Net income was INR40,000, and the partners share income equally.

Instructions

a. Prepare the partners' capital statement for the year.

b. Prepare the equity section of the statement of financial position at December 31, 2025.

Prepare a classified statement of financial position of a partnership.

EF.7 (LO 2) Arif, Falel, and Bayu are forming The Doctor Partnership. Arif is transferring Rs30,000 of personal cash and equipment worth Rs25,000 to the partnership (amounts in thousands). Falel owns land worth Rs28,000 and a small building worth Rs75,000, which he transfers to the partnership. There is a long-term mortgage of Rs20,000 on the land and building, which the partnership assumes. Bayu transfers cash of Rs7,000, accounts receivable of Rs36,000, supplies worth Rs3,000, and equipment worth Rs27,000 to the partnership. The partnership expects to collect Rs32,000 of the accounts receivable.

Instructions

Prepare a classified statement of financial position for the partnership after the partners' investments on December 31, 2025.

Prepare cash payments schedule.

EF.8 (LO 3) Wenyou Company at December 31 has (amounts in thousands) cash ¥20,000, non-cash assets ¥100,000, liabilities ¥55,000, and the following capital balances: Wen ¥45,000 and You ¥20,000. The firm is liquidated, and ¥105,000 in cash is received for the non-cash assets. Wen and You income ratios are 60% and 40%, respectively.

Instructions

Prepare a schedule of cash payments.

Journalize transactions in a liquidation.

EF.9 (LO 3) Data for Wenyou Company are presented in EF.8. Wenyou Company now decides to liquidate the partnership.

Instructions

Prepare the entries to record:

a. The sale of non-cash assets.

b. The allocation of the gain or loss on realization to the partners.

c. Payment of creditors.

d. Distribution of cash to the partners.

Journalize transactions with a capital deficiency.

EF.10 (LO 3) Prior to the distribution of cash to the partners, the accounts in the VUP Company are Cash $24,000; Vogel, Capital (Cr.) $17,000; Utech, Capital (Cr.) $15,000; and Pena, Capital (Dr.) $8,000. The income ratios are 5:3:2, respectively. VUP Company decides to liquidate the company.

Instructions

a. Prepare the entry to record (1) Pena's payment of $8,000 in cash to the partnership and (2) the distribution of cash to the partners with credit balances.

b. Prepare the entry to record (1) the absorption of Pena's capital deficiency by the other partners and (2) the distribution of cash to the partners with credit balances.

Journalize admission of a new partner by purchase of an interest.

EF.11 (LO 4) K. Kolmer, C. Eidman, and C. Ryno share income on a 5:3:2 basis. They have capital balances of $34,000, $26,000, and $21,000, respectively, when Don Jernigan is admitted to the partnership.

Instructions

Prepare the journal entry to record the admission of Don Jernigan under each of the following assumptions.

a. Purchase of 50% of Kolmer's equity for $19,000.

b. Purchase of 50% of Eidman's equity for $12,000.

c. Purchase of 33⅓% of Ryno's equity for $9,000.

Journalize admission of a new partner by investment.

EF.12 (LO 4) S. Bo and T. Mi share income on a 3:2 basis. They have capital balances of ¥100,000 and ¥60,000, respectively, when W. Jin is admitted to the partnership (amounts in thousands).

Instructions

Prepare the journal entry to record the admission of W. Jin under each of the following assumptions.

a. Investment of ¥90,000 cash for a 30% ownership interest with bonuses to the existing partners.

b. Investment of ¥50,000 cash for a 30% ownership interest with a bonus to the new partner.

Journalize withdrawal of a partner with payment from partners' personal assets.

EF.13 (LO 4) N. Kim, C. Hae-jin, and C. Ki-Won have capital balances of ₩50,000, ₩40,000, and ₩30,000, respectively (amounts in thousands). Their income ratios are 4:4:2. Ki-Won withdraws from the partnership under each of the following independent conditions.

1. Kim and Hae-jin agree to purchase Ki-won's equity by paying ₩17,000 each from their personal assets. Each purchaser receives 50% of Ki-won's equity.
2. Hae-jin agrees to purchase all of Ki-won's equity by paying ₩22,000 cash from her personal assets.
3. Kim agrees to purchase all of Ki-won's equity by paying ₩26,000 cash from his personal assets.

Instructions

Journalize the withdrawal of Ki-won under each of the assumptions above.

Journalize withdrawal of a partner with payment from partnership assets.

EF.14 (LO 4) B. Yam, J. Koo, and N. Hui have capital balances of HK$95,000, HK$75,000, and HK$60,000, respectively (amounts in thousands). They share income or loss on a 5:3:2 basis. Hui withdraws from the partnership under each of the following conditions.

1. Hui is paid HK$64,000 in cash from partnership assets, and a bonus is granted to the retiring partner.
2. Hui is paid HK$52,000 in cash from partnership assets, and bonuses are granted to the remaining partners.

Instructions

Journalize the withdrawal of Hui under each of the assumptions above.

Journalize entry for admission and withdrawal of partners.

EF.15 (LO 4) Foss, Albertson, and Espinosa are partners who share profits and losses 50%, 30%, and 20%, respectively. Their capital balances are €100,000, €60,000, and €40,000, respectively.

Instructions

a. Assume Garrett joins the partnership by investing €88,000 for a 25% interest with bonuses to the existing partners. Prepare the journal entry to record his investment.

b. Assume instead that Foss leaves the partnership. Foss is paid €110,000 with a bonus to the retiring partner. Prepare the journal entry to record Foss's withdrawal.

Problems

Prepare entries for formation of a partnership and a statement of financial position.

PF.1 (LO 1, 2) The post-closing trial balances of two proprietorships on January 1, 2025, are presented below (amounts in thousands).

	Bon-Joon Company		Joon-Ho Company	
	Dr.	**Cr.**	**Dr.**	**Cr.**
Cash	₩ 14,000		₩12,000	
Accounts receivable	17,500		26,000	
Allowance for doubtful accounts		₩ 3,000		₩ 4,400
Inventory	26,500		18,400	
Equipment	45,000		29,000	
Accumulated depreciation—equipment		24,000		11,000
Notes payable		18,000		15,000
Accounts payable		22,000		31,000
Bon-Joon, capital		36,000		
Joon-Ho, capital				24,000
	₩103,000	₩103,000	₩85,400	₩85,400

Bon-Joon and Joon-Ho decide to form a partnership, BJH Company, with the following agreed upon valuations for non-cash assets.

	Bon-Joon Company	Joon-Ho Company
Accounts receivable	₩17,500	₩26,000
Allowance for doubtful accounts	4,500	4,000
Inventory	28,000	20,000
Equipment	25,000	15,000

All cash will be transferred to the partnership, and the partnership will assume all the liabilities of the two proprietorships. Further, it is agreed that Bon-Joon will invest an additional ₩5,000 in cash, and Joon-Ho will invest an additional ₩19,000 in cash.

Instructions

a. Prepare separate journal entries to record the transfer of each proprietorship's assets and liabilities to the partnership.

a. Bon-Joon, Capital ₩40,000
Joon-Ho, Capital ₩23,000

b. Journalize the additional cash investment by each partner.

c. Prepare a classified statement of financial position for the partnership on January 1, 2025.

c. Total assets ₩173,000

Journalize divisions of net income and prepare a partners' capital statement.

PF.2 (LO 2) At the end of its first year of operations on December 31, 2025, LWC Company's accounts show the following (amounts in thousands).

Partner	Drawings	Capital
A. Lingyu	¥23,000	¥48,000
J. Woo	14,000	30,000
K. Cheng	10,000	25,000

The capital balance represents each partner's initial capital investment. Therefore, net income or net loss for 2025 has not been closed to the partners' capital accounts.

Instructions

a. Journalize the entry to record the division of net income for the year 2025 under each of the following independent assumptions.

1. Net income is ¥30,000. Income is shared 6:3:1.
2. Net income is ¥40,000. Lingyu and Woo are given salary allowances of ¥15,000 and ¥10,000, respectively. The remainder is shared equally.
3. Net income is ¥19,000. Each partner is allowed interest of 10% on beginning capital balances. Lingyu is given a ¥15,000 salary allowance. The remainder is shared equally.

a. 1. Lingyu ¥18,000

2. Lingyu ¥20,000

3. Lingyu ¥17,700

b. Prepare a schedule showing the division of net income under assumption (3) above.

c. Prepare a partners' capital statement for the year under assumption (3) above.

c. Lingyu ¥42,700

Prepare entries with a capital deficiency in liquidation of a partnership.

PF.3 (LO 3) The partners in Crawford Company decide to liquidate the firm when the statement of financial position shows the following.

Crawford Company
Statement of Financial Position
May 31, 2025

Assets		Equity and Liabilities	
Equipment	€ 21,000	A. Jamison, capital	€ 33,000
Accumulated depreciation—equipment	(5,500)	S. Moyer, capital	21,000
Inventory	34,500	P. Roper, capital	3,000
Accounts receivable	25,000	Notes payable	13,500
Allowance for doubtful accounts	(1,000)	Accounts payable	27,000
Cash	27,500	Salaries and wages payable	4,000
	€101,500		€101,500

The partners share income and loss 5:3:2. During the process of liquidation, the following transactions were completed in the following sequence.

1. A total of €51,000 was received from converting non-cash assets into cash.
2. Gain or loss on realization was allocated to partners.
3. Liabilities were paid in full.
4. P. Roper paid his capital deficiency.
5. Cash was paid to the partners with credit balances.

Instructions

a. Prepare the entries to record the transactions.

a. Loss on realization €23,000
Cash paid: to Jamison
€21,500; to Moyer €14,100

b. Post to the cash and capital accounts.

c. Assume that Roper is unable to pay the capital deficiency.

1. Prepare the entry to allocate Roper's debit balance to Jamison and Moyer.

2. Prepare the entry to record the final distribution of cash.

Journalize admission of a partner under different assumptions.

PF.4 (LO 4) At April 30, partners' capital balances in PDL Company are G. Donley $52,000, C. Lamar $48,000, and J. Pinkston $18,000. The income sharing ratios are 5:4:1, respectively. On May 1, the PDLT Company is formed by admitting J. Terrell to the firm as a partner.

Instructions

a. Journalize the admission of Terrell under each of the following independent assumptions.

1. Terrell purchases 50% of Pinkston's ownership interest by paying Pinkston $16,000 in cash.

2. Terrell purchases 33⅓% of Lamar's ownership interest by paying Lamar $15,000 in cash.

3. Terrell invests $62,000 for a 30% ownership interest, and bonuses are given to the old partners.

4. Terrell invests $42,000 for a 30% ownership interest, which includes a bonus to the new partner.

a. 1. Terrell $9,000

2. Terrell $16,000

3. Terrell $54,000

4. Terrell $48,000

b. Lamar's capital balance is $32,000 after admitting Terrell to the partnership by investment. If Lamar's ownership interest is 20% of total partnership capital, what were (1) Terrell's cash investment and (2) the bonus to the new partner?

Journalize withdrawal of a partner under different assumptions.

PF.5 (LO 4) On December 31, the capital balances and income ratios in MSY Company are as follows (amounts in thousands).

Partner	Capital Balance	Income Ratio
Mui	HK$60,000	50%
Sang	40,000	30%
Yen	30,000	20%

Instructions

a. Journalize the withdrawal of Yen under each of the following assumptions.

1. Each of the continuing partners agrees to pay HK$18,000 in cash from personal funds to purchase Yen's ownership equity. Each receives 50% of Yen's equity.
2. Sang agrees to purchase Yen's ownership interest for HK$25,000 cash.
3. Yen is paid HK$34,000 from partnership assets, which includes a bonus to the retiring partner.
4. Yen is paid HK$22,000 from partnership assets, and bonuses to the remaining partners are recognized.

a. 1. Sang, Capital HK$15,000

2. Sang, Capital HK$30,000

3. Bonus HK$4,000

4. Bonus HK$8,000

b. If Sang's capital balance after Yen's withdrawal is HK$43,600, what were (1) the total bonus to the remaining partners and (2) the cash paid by the partnership to Yen?