CHAPTER 5: MERCHANDISING OPERATIONS AND THE MULTIPLE-STEP INCOME STATEMENT

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LEARNING OBJECTIVES

After studying this chapter, you should be able to:

- **1** Identify the differences between a service company and a merchandising company.
- **2** Explain the recording of purchases under a perpetual inventory system.
- **3** Explain the recording of sales revenues under a perpetual inventory system.
- **4** Distinguish between a single-step and a multiple-step income statement.
- **5** Determine cost of goods sold under a periodic system.
- **6** Explain the factors affecting profitability.
- **7** Identify a quality of earnings indicator.

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Feature Story: BUY NOW, VOTE LATER

Have you ever shopped for outdoor gear at an **REI (Recreational Equipment Incorporated)** store? If so, you might have been surprised if a salesclerk asked if you were a member. A member? What do you mean a member? You soon realize that REI might not be your typical store. In fact, there's a lot about REI that makes it different.

REI is a consumer cooperative, or "co-op" for short. To figure out what that means, consider this quote from the company's annual report:

As a cooperative, the Company is owned by its members. Each member is entitled to one vote in the election of the Company's Board of Directors. Since January 1, 2008, the nonrefundable, nontransferable, one-time membership fee has been $20 dollars. As of December 31, 2010, there were approximately 10.8 million members.

Voting rights? Now that's something you don't get from shopping at **Wal-Mart**. REI members get other benefits as well, including sharing in the company's profits through a dividend at the end of the year, which can be used for purchases at REI stores during the next two years. The more you spend, the bigger your dividend.

Since REI is a co-op, you might wonder whether management's incentives might be a little different. For example, is management still concerned about making a profit? The answer is yes, as it ensures the long-term viability of the company. At the same time, REI's members want the company to be run efficiently, so that prices remain low. In order for its members to evaluate just how well management is doing, REI publishes an audited annual report, just like publicly traded companies do. So, while profit maximization might not be the ultimate goal for REI, the accounting and reporting issues are similar to those of a typical corporation.

How well is this business model working for REI? Well, it has consistently been rated as one of the best places to work in the United States. It was ranked 8th on *Fortune*'s 2012 list. Also, REI had sustainable business practices long before social responsibility became popular at other companies. The CEO's Stewardship Report states "we reduced the absolute amount of energy we use despite opening four new stores and growing our business; we grew the amount of FSC-certified paper we use to 58.4 percent of our total paper footprint–including our cash register receipt paper; we facilitated 2.2 million volunteer hours and we provided $3.7 million to more than 330 conservation and recreation nonprofits."

So, while REI, like other retailers, closely monitors its financial results, it also strives to succeed in other areas. And, with over 10 million votes at stake, REI's management knows that it has to deliver.

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- **Should Costco Change Its Return Policy?** *(p. 240)*
- **Disclosing More Details** *(p. 244)*
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PREVIEW OF CHAPTER 5

Merchandising is one of the largest and most influential industries in the United States. It is likely that a number of you will work for a merchandiser. Therefore, understanding the financial statements of merchandising companies is important. In this chapter, you will learn the basics about reporting merchandising transactions. In addition, you will learn how to prepare and analyze a commonly used form of the income statement—the multiple-step income statement. The content and organization of the chapter are as follows.

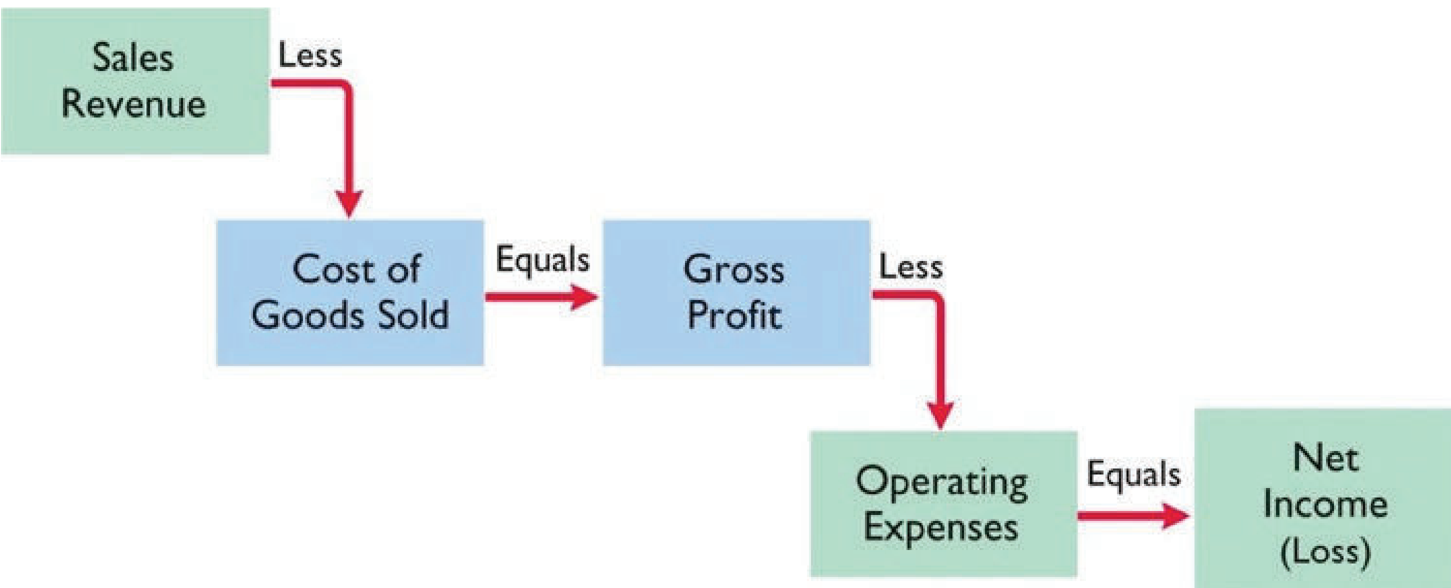
Merchandising Operations

REI, Wal-Mart, and Amazon.com are called merchandising companies because they buy and sell merchandise rather than perform services as their primary source of revenue. Merchandising companies that purchase and sell directly to consumers are called **retailers**. Merchandising companies that sell to retailers are known as **wholesalers**. For example, retailer Walgreens might buy goods from wholesaler McKesson; retailer Office Depot might buy office supplies from wholesaler United Stationers. The primary source of revenues for merchandising companies is the sale of merchandise, often referred to simply as **sales revenue** or **sales**. A merchandising company has two categories of expenses: the cost of goods sold and operating expenses.

LEARNING OBJECTIVE 1

Identify the differences between a service company and a merchandising company.

Illustration 5-1: Income measurement process for a merchandising company

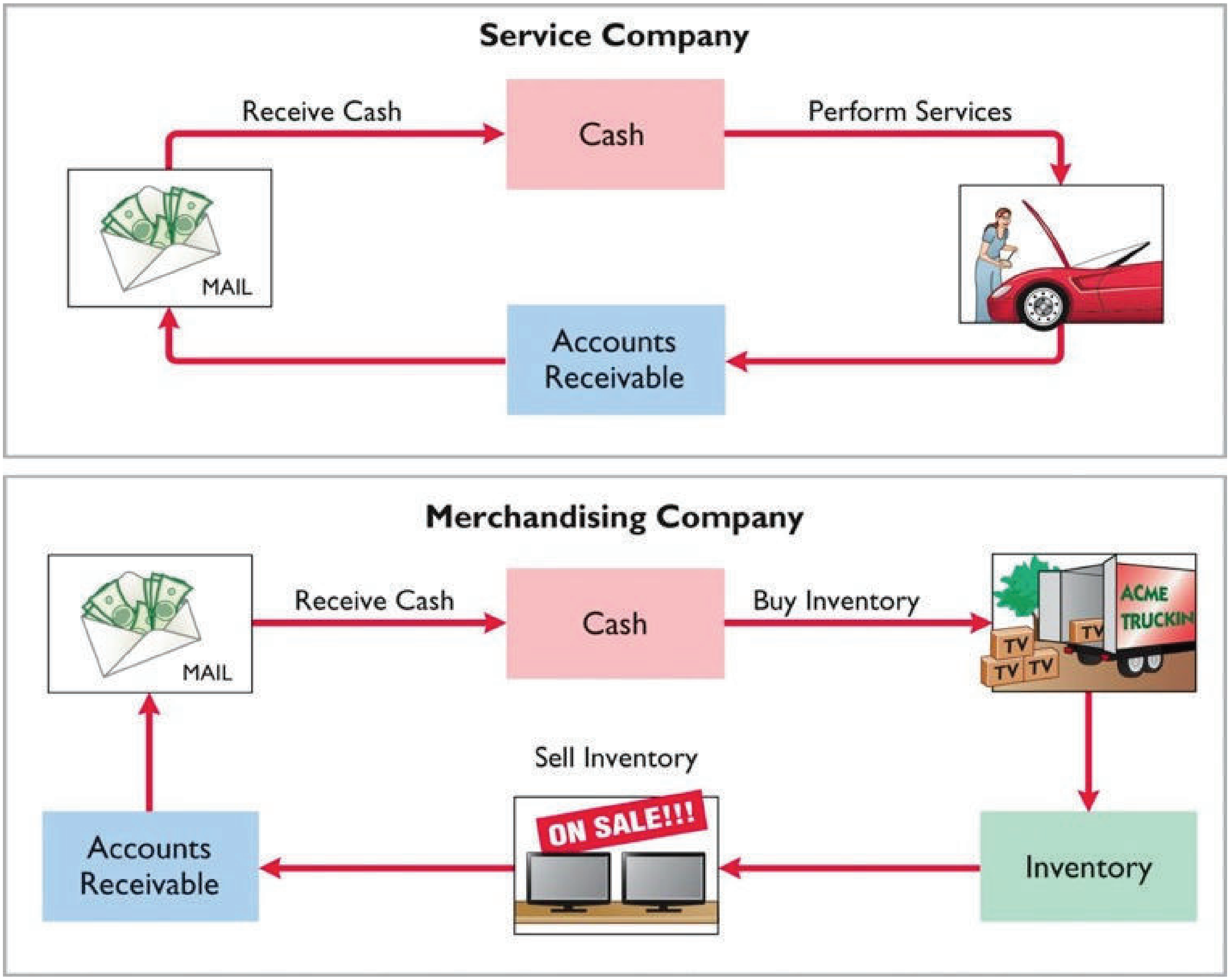


The **cost of goods sold** is the total cost of merchandise sold during the period. This expense is directly related to the revenue recognized from the sale of goods. Illustration 5-1 shows the income measurement process for a merchandising company. The items in the two blue boxes are unique to a merchandising company; they are not used by a service company.

OPERATING CYCLES

The operating cycle of a merchandising company ordinarily is longer than that of a service company. The purchase of inventory and its eventual sale lengthen the cycle. Illustration 5-2 contrasts the operating cycles of service and merchandising companies. Note that the added asset account for a merchandising company is the Inventory account.

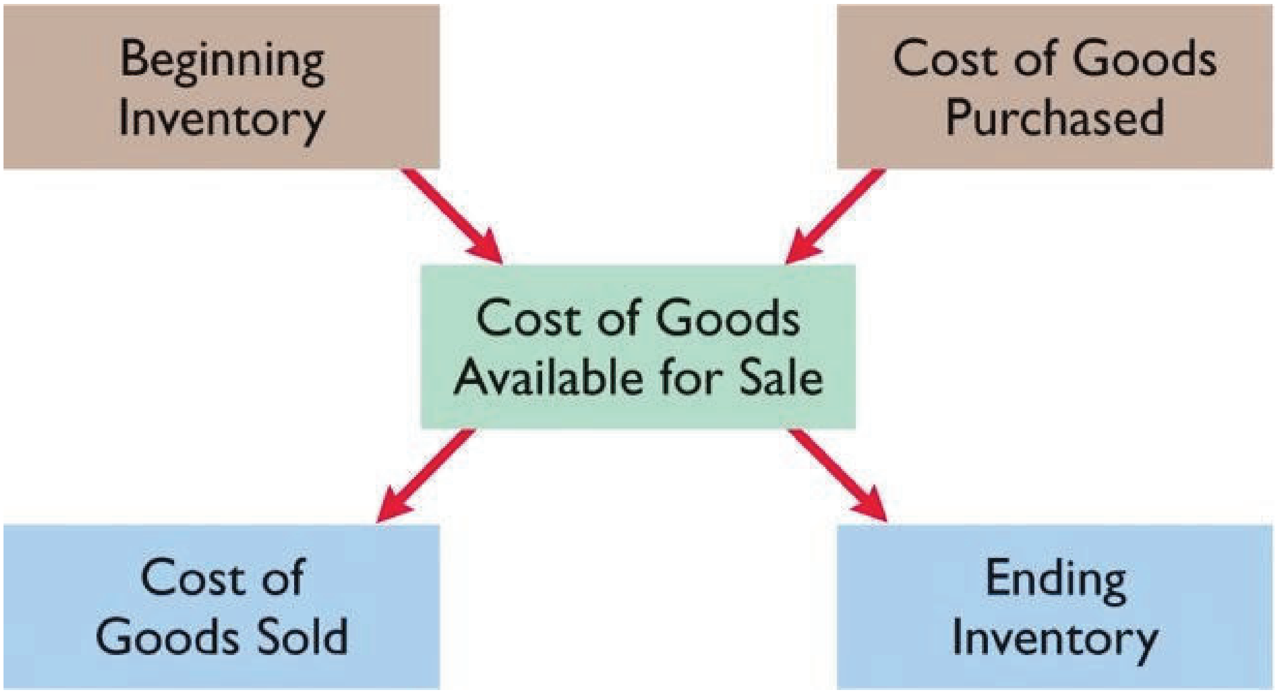
Illustration 5-2: Operating cycles for a service company and a merchandising company



FLOW OF COSTS

The flow of costs for a merchandising company is as follows. Beginning inventory plus the cost of goods purchased is the cost of goods available for sale. As goods are sold, they are assigned to cost of goods sold. Those goods that are not sold by the end of the accounting period represent ending inventory. Illustration 5-3 describes these relationships. Companies use one of two systems to account for inventory: a **perpetual inventory system** or a **periodic inventory system**.

Illustration 5-3: Flow of costs



Perpetual System

In a **perpetual inventory system**, companies maintain detailed records of the cost of each inventory purchase and sale. These records continuously—perpetually—show the inventory that should be on hand for every item. For example, a Ford dealership has separate inventory records for each automobile, truck, and van on its lot and showroom floor. Similarly, a grocery store uses bar codes and optical scanners to keep a daily running record of every box of cereal and every jar of jelly that it buys and sells. Under a perpetual inventory system, a company determines the cost of goods sold **each time a sale occurs**.

Helpful Hint

Even under perpetual inventory systems, companies perform physical inventories. This is done as a control procedure to verify inventory levels, in order to detect theft or "shrinkage."

Periodic System

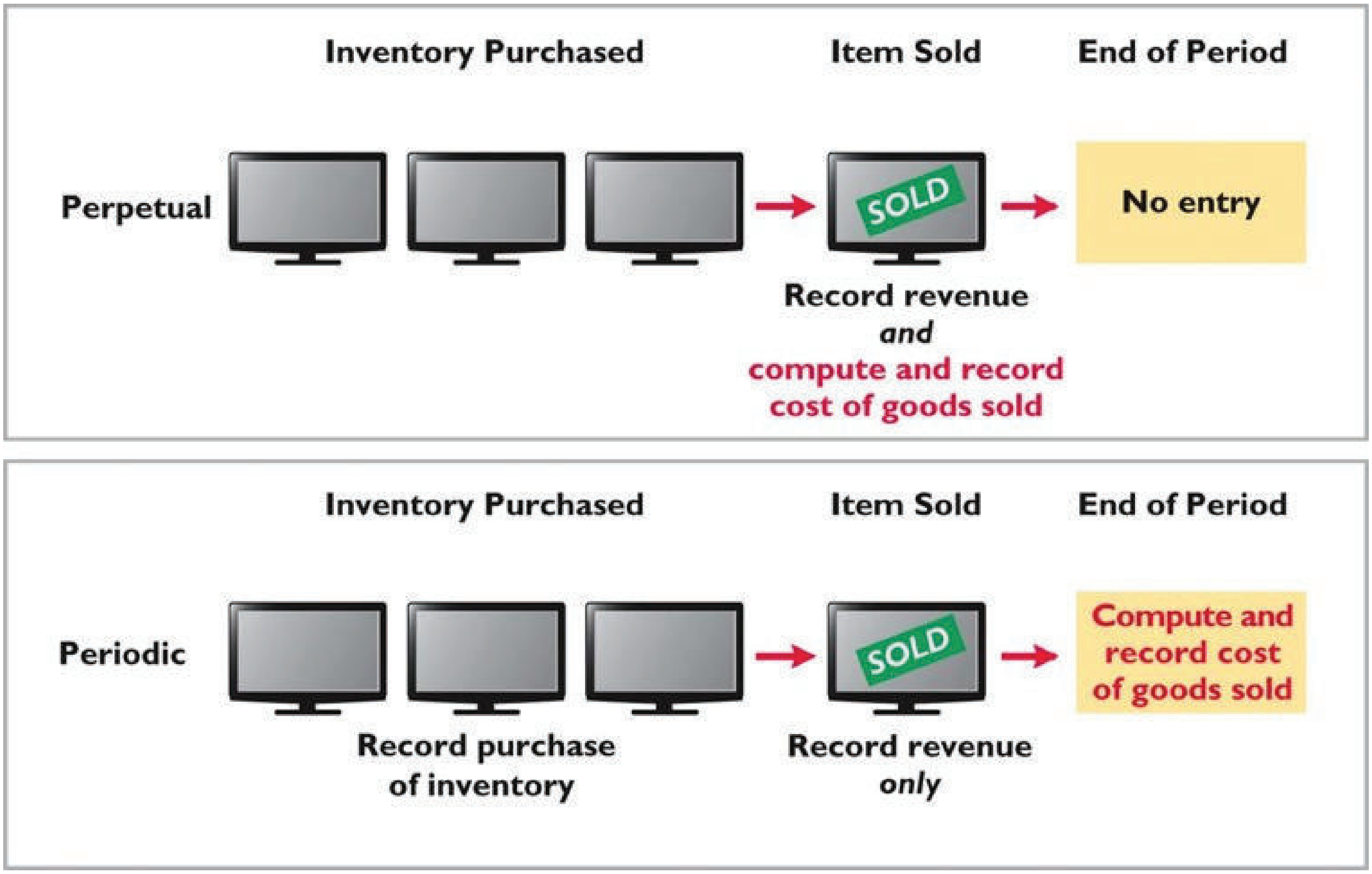
In a **periodic inventory system**, companies do not keep detailed inventory records of the goods on hand throughout the period. They determine the cost of goods sold **only at the end of the accounting period**—that is, periodically. At that point, the company takes a physical inventory count to determine the cost of goods on hand.

To determine the cost of goods sold under a periodic inventory system, the following steps are necessary:

- 1. Determine the cost of goods on hand at the beginning of the accounting period.
- 2. Add to it the cost of goods purchased.
- 3. Subtract the cost of goods on hand at the end of the accounting period.

Illustration 5-4 graphically compares the sequence of activities and the timing of the cost of goods sold computation under the two inventory systems.

Illustration 5-4: Comparing perpetual and periodic inventory systems



Advantages of the Perpetual System

Companies that sell merchandise with high unit values, such as automobiles, furniture, and major home appliances, have traditionally used perpetual systems. The growing use of computers and electronic scanners has enabled many more companies to install perpetual inventory systems. The perpetual inventory system is so named because the accounting records continuously—perpetually—show the quantity and cost of the inventory that should be on hand at any time.

A perpetual inventory system provides better control over inventories than a periodic system. Since the inventory records show the quantities that should be on hand, the company can count the goods at any time to see whether the amount of goods actually on hand agrees with the inventory records. If shortages are uncovered, the company can investigate immediately. Although a perpetual inventory system requires additional clerical work and additional cost to maintain inventory records, a computerized system can minimize this cost. Much of Amazon.com's success is attributed to its sophisticated inventory system.

Some businesses find it either unnecessary or uneconomical to invest in a sophisticated, computerized perpetual inventory system such as Amazon's. However, many small merchandising businesses find that basic computerized accounting packages provide some of the essential benefits of a perpetual inventory system. Yet, managers of some small businesses still find that they can control their merchandise and manage day-to-day operations using a periodic inventory system.

Because of the widespread use of the perpetual inventory system, we illustrate it in this chapter. An appendix to this chapter describes the journal entries for the periodic system.

Investor Insight: Morrow Snowboards Improves Its Stock Appeal

Investors are often eager to invest in a company that has a hot new product. However, when snowboard maker Morrow Snowboards, Inc., issued shares of stock to the public for the first time, some investors expressed reluctance to invest in Morrow because of a number of accounting control problems. To reduce investor concerns, Morrow implemented a perpetual inventory system to improve its control over inventory. In addition, it stated that it would perform a physical inventory count every quarter until it felt that the perpetual inventory system was reliable.

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If a perpetual system keeps track of inventory on a daily basis, why do companies ever need to do a physical count? (See page 278.)

Recording Purchases of Merchandise

Companies may purchase inventory for cash or on account (credit). They normally record purchases when they receive the goods from the seller. Every purchase should be supported by business documents that provide written evidence of the transaction. Each cash purchase should be supported by a canceled check or a cash register receipt indicating the items purchased and amounts paid. Companies record cash purchases by an increase (debit) in Inventory and a decrease (credit) in Cash.

LEARNING OBJECTIVE 2

Explain the recording of purchases under a perpetual inventory system.

Each purchase should be supported by a **purchase invoice**, which indicates the total purchase price and other relevant information. However, the purchaser does not prepare a separate purchase invoice. Instead, the purchaser uses as a purchase invoice the copy of the sales invoice sent by the seller. In Illustration 5-5 (page 234), for example, Sauk Stereo (the buyer) uses as a purchase invoice the sales invoice prepared by PW Audio Supply, Inc. (the seller).

The associated entry for Sauk Stereo for the invoice from PW Audio Supply increases (debits) Inventory and increases (credits) Accounts Payable.

May 4	Inventory	3,800	
	Accounts Payable		3,800
	(To record goods purchased on account from PW Audio Supply)		

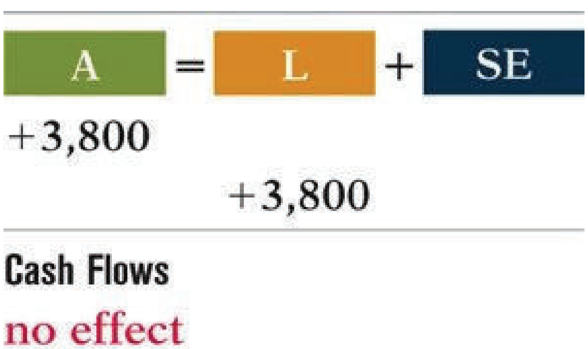


Illustration 5-5: Sales invoice used as purchase invoice by Sauk Stereo

INVOICE NO. 731

PW AUDIO SUPPLY, INC.

27 CIRCLE DRIVE
HARDING, MICHIGAN 48281

SOLD TO

Firm Name: Sauk Stereo

Attention of: James Hoover, Purchasing Agent

Address: 125 Main Street

City: Chelsea State: Illinois Zip: 60915

Date 5/4/14	Salesperson Malone	Terms 2/10, n/30	FOB Shipping Point	
Catalog No.	**Description**	**Quantity**	**Price**	**Amount**
X572Y9820	Printed Circuit Board-prototype	1	2,300	$2,300
A2547Z45	Production Model Circuits	5	300	1,500
			TOTAL	$3,800

IMPORTANT: ALL RETURNS MUST BE MADE WITHIN 10 DAYS

Helpful Hint

To better understand the contents of this invoice, identify these items:

- 1. Seller
- 2. Invoice date
- 3. Purchaser
- 4. Salesperson
- 5. Credit terms
- 6. Freight terms
- 7. Goods sold: catalog number, description, quantity, price per unit

- 8. Total invoice amount

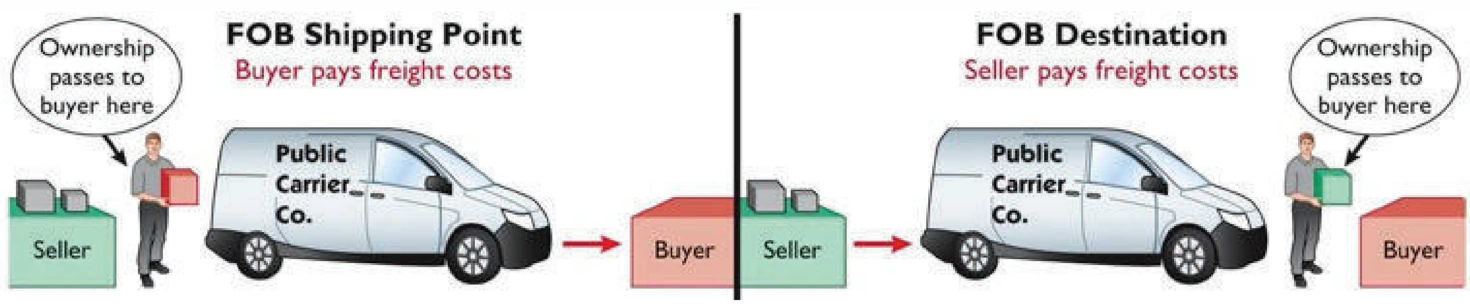
Under the perpetual inventory system, companies record purchases of merchandise for sale in the Inventory account. Thus, REI would increase (debit) Inventory for clothing, sporting goods, and anything else purchased for resale to customers. Not all purchases are debited to Inventory, however. Companies record purchases of assets acquired for use and not for resale, such as supplies, equipment, and similar items, as increases to specific asset accounts rather than to Inventory. For example, to record the purchase of materials used to make shelf signs or for cash register receipt paper, REI would increase (debit) Supplies.

FREIGHT COSTS

The sales agreement should indicate who—the seller or the buyer—is to pay for transporting the goods to the buyer's place of business. When a common carrier such as a railroad, trucking company, or airline transports the goods, the carrier prepares a freight bill in accord with the sales agreement.

Freight terms are expressed as either FOB shipping point or FOB destination. The letters FOB mean **free on board**. Thus, **FOB shipping point** means that the seller places the goods free on board the carrier, and the buyer pays the freight costs. Conversely, **FOB destination** means that the seller places the goods free on board to the buyer's place of business, and the seller pays the freight. For example, the sales invoice in Illustration 5-5 indicates FOB shipping point. Thus, the buyer (Sauk Stereo) pays the freight charges. Illustration 5-6 illustrates these shipping terms.

Illustration 5-6: Shipping terms



Freight Costs Incurred by Buyer

When the buyer pays the transportation costs, these costs are considered part of the cost of purchasing inventory. As a result, the account **Inventory is increased (debited)**. For example, if Sauk Stereo (the buyer) pays Public Freight Company $150 for freight charges on May 6, the entry on Sauk Stereo's books is:

May 6	Inventory	150	
	Cash		150
	(To record payment of freight on goods purchased)		

A	=	L	+	SE
+150				
−150				

Cash Flows
−150

Thus, any freight costs incurred by the buyer are part of the cost of merchandise purchased. The reason: Inventory cost should include all costs to acquire the inventory, including freight necessary to deliver the goods to the buyer. Companies recognize these costs as cost of goods sold when inventory is sold.

Freight Costs Incurred by Seller

In contrast, **freight costs incurred by the seller on outgoing merchandise are an operating expense to the seller**. These costs increase an expense account titled Freight-Out (sometimes called Delivery Expense). For example, if the freight terms on the invoice in Illustration 5-5 had required that PW Audio Supply (the seller) pay the $150 freight charges, the entry by PW Audio Supply would be:

May 4	Freight-Out	150	
	Cash		150
	(To record payment of freight on goods sold)		

A	=	L	+	SE
				−150 Exp
−150				

Cash Flows
−150

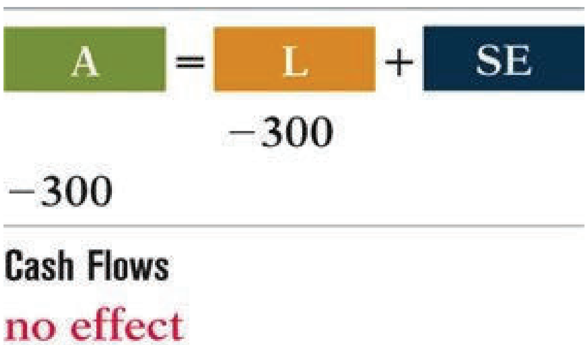
When the seller pays the freight charges, the seller will usually establish a higher invoice price for the goods, to cover the expense of shipping.

PURCHASE RETURNS AND ALLOWANCES

A purchaser may be dissatisfied with the merchandise received because the goods are damaged or defective, of inferior quality, or do not meet the purchaser's specifications. In such cases, the purchaser may return the goods to the seller for credit if the sale was made on credit, or for a cash refund if the purchase was for cash. This transaction is known as a **purchase return**. Alternatively, the purchaser may choose to keep the merchandise if the seller is willing to grant a reduction of the purchase price. This transaction is known as a **purchase allowance**.

Assume that Sauk Stereo returned goods costing $300 to PW Audio Supply on May 8. The following entry by Sauk Stereo for the returned merchandise decreases (debits) Accounts Payable and decreases (credits) Inventory.

May 8	Accounts Payable	300	
	Inventory		300
	(To record return of goods purchased from PW Audio Supply)		



Because Sauk Stereo increased Inventory when the goods were received, Inventory is decreased (credited) when Sauk Stereo returns the goods.

Suppose instead that Sauk Stereo chose to keep the goods after being granted a $50 allowance (reduction in price). It would reduce (debit) Accounts Payable and reduce (credit) Inventory for $50.

PURCHASE DISCOUNTS

The credit terms of a purchase on account may permit the buyer to claim a cash discount for prompt payment. The buyer calls this cash discount a **purchase discount**. This incentive offers advantages to both parties. The purchaser saves money, and the seller is able to shorten the operating cycle by converting the accounts receivable into cash earlier.

The **credit terms** specify the amount of the cash discount and time period during which it is offered. They also indicate the length of time in which the purchaser is expected to pay the full invoice price. In the sales invoice in Illustration 5-5 (page 234), credit terms are 2/10, n/30, which is read “two-ten, net thirty.” This means that a 2% cash discount may be taken on the invoice price, less (“net of”) any returns or allowances, if payment is made within 10 days of the invoice date (the **discount period**). Otherwise, the invoice price, less any returns or allowances, is due 30 days from the invoice date. Alternatively, the discount period may extend to a specified number of days following the month in which the sale occurs. For example, 1/10 EOM (end of month) means that a 1% discount is available if the invoice is paid within the first 10 days of the next month.

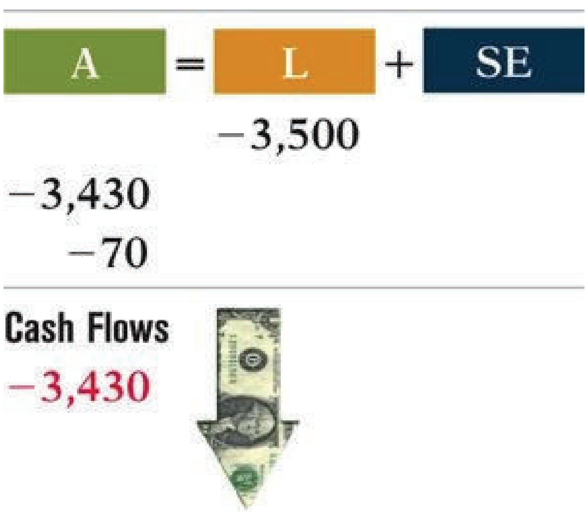
Helpful Hint

The term *net* in “net 30” means the remaining amount due after subtracting any returns and allowances and partial payments.

When the seller elects not to offer a cash discount for prompt payment, credit terms will specify only the maximum time period for paying the balance due. For example, the credit terms may state the time period as n/30, n/60, or n/10 EOM. This means, respectively, that the buyer must pay the net amount in 30 days, 60 days, or within the first 10 days of the next month.

When an invoice is paid within the discount period, the amount of the discount decreases Inventory. Why? Because the merchandiser records inventory at its cost and, by paying within the discount period, it has reduced that cost. To illustrate, assume Sauk Stereo pays the balance due of $3,500 (gross invoice price of $3,800 less purchase returns and allowances of $300) on May 14, the last day of the discount period. The cash discount is $70 ($3,500 × 2%), and the amount of cash Sauk Stereo paid is $3,430 ($3,500 − $70). The entry Sauk Stereo makes to record its May 14 payment decreases (debits) Accounts Payable by the amount of the gross invoice price, reduces (credits) Inventory by the $70 discount, and reduces (credits) Cash by the net amount owed.

May 14	Accounts Payable	3,500	
	Cash		3,430
	Inventory		70
	(To record payment within discount period)		



If Sauk Stereo failed to take the discount and instead made full payment of $3,500 on June 3, Sauk Stereo would reduce (debit) Accounts Payable and reduce (credit) Cash for $3,500 each.

June 3	Accounts Payable	3,500	
	Cash		3,500
	(To record payment with no discount taken)		

A	=	L	+	SE
		−3,500		
−3,500				

Cash Flows
−3,500

A merchandising company usually should take all available discounts. Passing up the discount may be viewed as **paying interest** for use of the money. For example, passing up the discount offered by PW Audio Supply would be like Sauk Stereo paying an interest rate of 2% for the use of $3,500 for 20 days. This is the equivalent of an annual interest rate of approximately $36.5\% \ (2\% \times 365/20)$. Obviously, it would be better for Sauk Stereo to borrow at prevailing bank interest rates of 6% to 10% than to lose the discount.

SUMMARY OF PURCHASING TRANSACTIONS

The following T-account (with transaction descriptions in blue) provides a summary of the effect of the previous transactions on Inventory. Sauk Stereo originally purchased $3,800 worth of inventory for resale. It then returned $300 of goods. It paid $150 in freight charges, and finally, it received a $70 discount off the balance owed because it paid within the discount period. This results in a balance in Inventory of $3,580.

	Inventory				
Purchase	May 4	3,800	May 8	300	Purchase return
Freight-in	6	150	14	70	Purchase discount
Balance		3,580			

Do it! PURCHASE TRANSACTIONS

On September 5, De La Hoya Company buys merchandise on account from Junot Diaz Company. The selling price of the goods is $1,500. On September 8, De La Hoya returns defective goods with a selling price of $200. Record the transactions on the books of De La Hoya Company.

Action Plan

- Purchaser records goods at cost.
- When goods are returned, purchaser reduces Inventory.

Solution

Sept. 5	Inventory	1,500	
	Accounts Payable		1,500
	(To record goods purchased on account)		
8	Accounts Payable	200	
	Inventory		200
	(To record return of defective goods)		

Related exercise material: **BE5-4**, Do it! **5-1**, and **E5-1**.

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Recording Sales of Merchandise

In accordance with the revenue recognition principle, companies record sales revenue, like service revenue, when the performance obligation is satisfied. Typically, that performance obligation is satisfied when the goods are transferred from the seller to the buyer. At this point, the sales transaction is completed and the sales price is established.

LEARNING OBJECTIVE 3

Explain the recording of sales revenues under a perpetual inventory system.

Sales may be made on credit or for cash. Every sales transaction should be supported by a **business document** that provides written evidence of the sale. **Cash register documents** provide evidence of cash sales. A **sales invoice**, like the one that was shown in Illustration 5-5 (page 234), provides support for each sale. The original copy of the invoice goes to the customer, and the seller keeps a copy for use in recording the sale. The invoice shows the date of sale, customer name, total sales price, and other relevant information.

The seller makes two entries for each sale. (1) It increases (debits) Accounts Receivable or Cash, as well as increases (credits) Sales Revenue. (2) It increases (debits) Cost of Goods Sold and decreases (credits) Inventory. As a result, the Inventory account will show at all times the amount of inventory that should be on hand.

To illustrate a credit sales transaction, PW Audio Supply records the sale of $3,800 on May 4 to Sauk Stereo (see Illustration 5-5) as follows (assume the merchandise cost PW Audio Supply $2,400).

May 4	Accounts Receivable	3,800	

	Sales Revenue		3,800
	(To record credit sale to Sauk Stereo per invoice #731)		
4	Cost of Goods Sold	2,400	
	Inventory		2,400
	(To record cost of merchandise sold on invoice #731 to Sauk Stereo)		

A	=	L	+	SE
+3,800				
				+3,800 Rev

Cash Flows
no effect

A	=	L	+	SE
				−2,400 Exp
−2,400				

Cash Flows
no effect

For internal decision-making purposes, merchandising companies may use more than one sales account. For example, PW Audio Supply may decide to keep separate sales accounts for its sales of TVs, DVD players, and microwave ovens. REI might use separate accounts for camping gear, children's clothing, and ski equipment—or it might have even more narrowly defined accounts. By using separate sales accounts for major product lines, rather than a single combined sales account, company management can monitor sales trends more closely and respond more strategically to changes in sales patterns. For example, if TV sales are increasing while microwave oven sales are decreasing, the company might reevaluate both its advertising and pricing policies on each of these items to ensure they are optimal.

Helpful Hint

The merchandiser credits the Sales Revenue account only for sales of goods held for resale. Sales of assets not held for resale, such as equipment or land, are credited directly to the asset account.

On its income statement presented to outside investors, a merchandising company would normally provide only a single sales figure—the sum of all of its individual sales accounts. This is done for two reasons. First, providing detail on all of its individual sales accounts would add considerable length to its income statement. Second, companies do not want their competitors to know the details of their operating results. However, at one time Microsoft expanded its disclosure of revenue from three to five types. The reason: The additional categories enabled financial statement users to better evaluate the growth of the company's consumer and Internet businesses.

Ethics Note

Many companies are trying to improve the quality of their financial reporting. For example, General Electric now provides more detail on its revenues and operating profits.

ANATOMY OF A FRAUD[1]

Holly Harmon was a cashier at a national superstore for only a short while when she began stealing merchandise using three methods. Under the first method, her husband or friends took UPC labels from cheaper items and put them on more expensive items. Holly then scanned the goods at the register. Using the second method, Holly scanned an item at the register but then voided the sale and left the merchandise in the shopping cart. A third approach was to put goods into large plastic containers. She scanned the plastic containers but not the goods within them. One day, Holly did not call in sick or show up for work. In such instances, the company reviews past surveillance tapes to look for suspicious activity by employees. This enabled the store to observe the thefts and to identify the participants.

Total take: $12,000

THE MISSING CONTROL

Human resource controls. A background check would have revealed Holly's previous criminal record. She would not have been hired as a cashier.

Physical controls. Software can flag high numbers of voided transactions or a high number of sales of low-priced goods. Random comparisons of video records with cash register records can ensure that the goods reported as sold on the register are the same goods that are shown being purchased on the video recording. Finally, employees should be aware that they are being monitored.

Source: Adapted from Wells, *Fraud Casebook* (2007), pp. 251–259.

At the end of "Anatomy of a Fraud" stories, which describe real-world frauds, we discuss the missing control activity that would likely have presented or uncovered the fraud.

SALES RETURNS AND ALLOWANCES

We now look at the "flip side" of purchase returns and allowances, which the seller records as **sales returns and allowances**. These are transactions where the seller either accepts goods back from a purchaser (a return) or grants a reduction in the purchase price (an allowance) so that the buyer will keep the goods. PW Audio Supply's entries to record credit for returned goods involve (1) an increase (debit) in Sales Returns and Allowances (a contra account to Sales Revenue) and a decrease (credit) in Accounts Receivable at the $300 selling price, and (2) an increase (debit) in Inventory (assume a $140 cost) and a decrease (credit) in Cost of Goods Sold, as shown below. (We assumed that the goods were not defective. If they were defective, PW Audio Supply would make an entry to the Inventory account to reflect their decline in value.)

May 8	Sales Returns and Allowances	300	
	Accounts Receivable		300
	(To record credit granted to Sauk Stereo for returned goods)		

8	Inventory	140	
	Cost of Goods Sold		140
	(To record cost of goods returned)		

A	=	L	+	SE
				−300 Rev
−300				

Cash Flows
no effect

A	=	L	+	SE
+140				
				+140 Exp

Cash Flows
no effect

Suppose instead that the goods were not returned but the seller granted the buyer an allowance by reducing the purchase price. In this case, the seller would debit Sales Returns and Allowances and credit Accounts Receivable for the amount of the allowance. An allowance has no impact on Inventory or Cost of Goods sold.

Sales Returns and Allowances is a **contra revenue account** to Sales Revenue, which means it is offset against a revenue account on the income statement. The normal balance of Sales Returns and Allowances is a debit. Companies use a contra account, instead of debiting Sales Revenue, to disclose in the accounts and in the income statement the amount of sales returns and allowances. Disclosure of this information is important to management. Excessive returns and allowances suggest problems—inferior merchandise, inefficiencies in filling orders, errors in billing customers, or mistakes in delivery or shipment of goods. Moreover, a decrease (debit) recorded directly to Sales Revenue would obscure the relative importance of sales returns and allowances as a percentage of sales. It also could distort comparisons between total sales in different accounting periods.

Accounting Across the Organization: Should Costco Change Its Return Policy?

In most industries, sales returns are relatively minor. But returns of consumer electronics can really take a bite out of profits. Recently, the marketing executives at Costco Wholesale Corp. faced a difficult decision. Costco has always prided itself on its generous return policy. Most goods have had an unlimited grace period for returns. A new policy will require that certain electronics must be returned within 90 days of their purchase. The reason? The cost of returned products such as high-definition TVs, computers, and iPods cut an estimated 8¢ per share off Costco's earnings per share, which was $2.30.

© Jacob Wackerhausen/iStockphoto

Source: Kris Hudson, "Costco Tightens Policy on Returning Electronics," *Wall Street Journal* (February 27, 2007), p. B4.

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If a company expects significant returns, what are the implications for revenue recognition? (See page 278.)

SALES DISCOUNTS

As mentioned in our discussion of purchase transactions, the seller may offer the customer a cash discount—called by the seller a **sales discount**—for the prompt payment of the balance due. Like a purchase discount, a sales discount is based on the invoice price less returns and allowances, if any. The seller increases (debits) the Sales Discounts account for discounts that are taken. The entry by PW Audio Supply to record the cash receipt on May 14 from Sauk Stereo within the discount period is:

May 14	Cash	3,430
	Sales Discounts	70

Accounts Receivable 3,500

(To record collection within 2/10, n/30 discount period from Sauk Stereo)

A	=	L	+	SE
+3,430				
				−70 Rev
−3,500				

Cash Flows
+3,430

Like Sales Returns and Allowances, Sales Discounts is a **contra revenue account** to Sales Revenue. Its normal balance is a debit. Sellers use this account, instead of debiting Sales Revenue, to disclose the amount of cash discounts taken by customers. If the customer does not take the discount, PW Audio Supply increases (debits) Cash for $3,500 and decreases (credits) Accounts Receivable for the same amount at the date of collection.

The following T-accounts summarize the three sales-related transactions and show their combined effect on net sales.

Do it! SALES TRANSACTIONS

On September 5, De La Hoya Company buys merchandise on account from Junot Diaz Company. The selling price of the goods is $1,500, and the cost to Diaz Company was $800. On September 8, De La Hoya returns goods with a selling price of $200 and a cost of $105. Record the transactions on the books of Junot Diaz Company.

Action Plan

- Seller records both the sale and the cost of goods sold at the time of the sale.
- When goods are returned, the seller records the return in a contra account, Sales Returns and Allowances, and reduces Accounts Receivable.
- Any goods returned increase Inventory and reduce Cost of Goods Sold. The inventory should be recorded at the lower of its cost or its fair value (scrap value).

Solution

Sept.	5	Accounts Receivable	1,500	
		Sales Revenue		1,500
		(To record credit sale)		
	5	Cost of Goods Sold	800	
		Inventory		800
		(To record cost of goods sold)		
Sept.	8	Sales Returns and Allowances	200	
		Accounts Receivable		200
		(To record credit granted for receipt of returned goods)		
	8	Inventory	105	
		Cost of Goods Sold		105
		(To record cost of goods returned)		

Related exercise material: BE5-2, BE5-3, Do it! 5-2, E5-2, E5-3, and E5-4.

The Navigator

Income Statement Presentation

Companies widely use two forms of the income statement. One is the **single-step income statement**. The statement is so named because only one step, subtracting total expenses from total revenues, is required in determining net income (or net loss).

LEARNING OBJECTIVE 4

Distinguish between a single-step and a multiple-step income statement.

In a single-step statement, all data are classified into two categories: (1) **revenues**, which include both operating revenues and nonoperating revenues and gains (for example, interest revenue and gain on sale of equipment); and (2) **expenses**, which include cost of goods sold, operating expenses, and nonoperating expenses and losses (for example, interest expense, loss on sale of equipment, or income tax expense). The single-step income statement is the form we have used thus far in the text. Illustration 5-7 (page 242) shows a single-step statement for REI.

There are two primary reasons for using the single-step form. (1) A company does not realize any type of profit or income until total revenues exceed total expenses, so it makes sense to divide the statement into these two categories. (2) The form is simple and easy to read.

Illustration 5-7: Single-step income statements

Real World **RECREATIONAL EQUIPMENT, INC.**

Income Statements (in thousands)

	For the years ended December 31	
	2010	**2009**
Revenues		
Net sales	$1,658,751	$1,455,351
Other revenues	14,190	14,010
	1,672,941	1,469,361
Expenses		
Cost of goods sold	929,787	804,834
Payroll-related expenses	331,159	281,502
Occupancy, general and administrative	282,368	268,455
Patronage refunds	79,848	67,222
Income taxes	19,549	17,541
	1,642,711	1,439,554
Net income	$ 30,230	$ 29,807

A second form of the income statement is the **multiple-step income statement**. The multiple-step income statement is often considered more useful because it highlights the components of net income. The REI income statement in

Illustration 5-8 is an example.

International Note

The IASB and FASB are involved in a joint project to evaluate the format of financial statements. The first phase of that project involves a focus on how to best present revenues and expenses. One longer-term result of the project may well be an income statement format that better reflects how businesses are run.

The multiple-step income statement has three important line items: gross profit, income from operations, and net income. They are determined as follows.

- 1. Subtract cost of goods sold from net sales to determine **gross profit**.
- 2. Deduct operating expenses from gross profit to determine **income from operations**.
- 3. Add or subtract the results of activities not related to operations to determine **net income**.

Illustration 5-8: Multiple-step income statements

Real World **RECREATIONAL EQUIPMENT, INC.**

Income Statements (in thousands)

	For the years ended December 31	
	2010	**2009**
Net sales	$1,658,751	$1,455,351
Cost of goods sold	929,787	804,834
Gross profit	728,964	650,517
Operating expenses		
Payroll-related expenses	331,159	281,502
Occupancy, general and administrative	282,368	268,455
Total operating expenses	613,527	549,957
Income from operations	115,437	100,560

Real World **RECREATIONAL EQUIPMENT, INC.**

Income Statements (in thousands)

	For the years ended December 31	
	2010	**2009**
Other revenues and gains		
Other revenues	14,190	14,010
Other expenses and losses		
Patronage refunds	79,848	67,222
Income before income taxes	49,779	47,348
Income tax expense	19,549	17,541
Net income	$ 30,230	$ 29,807

Note that companies report income tax expense in a separate section of the income statement before net income. The net incomes in Illustrations 5-7 and 5-8 are the same. The two income statements differ in the amount of detail displayed and the order presented. The following discussion provides additional information about the components of a multiple-step income statement.

SALES REVENUES

The income statement for a merchandising company typically presents gross sales revenues for the period. The company deducts sales returns and allowances and sales discounts (both contra accounts) from sales revenue in the income statement to arrive at **net sales**. Illustration 5-9 shows the sales section of the income statement for PW Audio Supply.

Illustration 5-9: Statement presentation of sales section

	PW AUDIO SUPPLY, INC.	
	Income Statement (partial)	
Sales		
Sales revenue		$ 480,000
Less: Sales returns and allowances	$12,000	
Sales discounts	8,000	20,000
Net sales		**$460,000**

GROSS PROFIT

The excess of net sales over cost of goods sold is **gross profit**. It is determined by deducting **cost of goods sold** from sales revenue. As shown in Illustration 5-8, REI had a gross profit of $729 million in 2010. This computation uses **net sales**, which takes into account sales returns and allowances and sales discounts.

Alternative Terminology

Gross profit is sometimes referred to as *gross margin*.

On the basis of the PW Audio Supply sales data presented in Illustration 5-9 (net sales of $460,000) and the cost of goods sold (assume a balance of $316,000), PW Audio Supply's gross profit is $144,000, computed as follows.

Net sales	$ 460,000
Cost of goods sold	316,000
Gross profit	**$144,000**

It is important to understand what gross profit is—and what it is not. Gross profit represents the **merchandising profit** of a company. Because operating expenses have not been deducted, it is **not a measure of the overall profit** of a company. Nevertheless, management and other interested parties closely watch the amount and trend of gross profit. Comparisons of current gross profit with past amounts and rates and with those in the industry indicate the effectiveness of a company's purchasing and pricing policies.

OPERATING EXPENSES

Operating expenses are the next component in measuring net income for a merchandising company. At REI, for example, operating expenses were $613.5 million in 2010.

At PW Audio Supply, operating expenses were $114,000. The firm determines its income from operations by subtracting operating expenses from gross profit. Thus, income from operations is $30,000, as shown below.

Gross profit	$144,000
Operating expenses	**114,000**
Income from operations	$ 30,000

NONOPERATING ACTIVITIES

Nonoperating activities consist of various revenues and expenses and gains and losses that are unrelated to the company's main line of operations. When nonoperating items are included, the label "**Income from operations**" (or "Operating income") precedes them. This label clearly identifies the results of the company's normal operations, an amount determined by subtracting cost of goods sold and operating expenses from net sales. The results of nonoperating activities are shown in the categories "**Other revenues and gains**" and "**Other expenses and losses**." Illustration 5-10 lists examples of each.

Illustration 5-10: Examples of nonoperating activities

Other Revenues and Gains

Interest revenue from notes receivable and marketable securities.

Dividend revenue from investments in capital stock.

Rent revenue from subleasing a portion of the store.

Gain from the sale of property, plant, and equipment.

Other Expenses and Losses

Interest expense on notes and loans payable.

Casualty losses from recurring causes, such as vandalism and accidents.

Loss from the sale or abandonment of property, plant, and equipment.

Loss from strikes by employees and suppliers.

Nonoperating income is sometimes very significant. For example, in a recent quarter, Sears Holdings earned more than half of its net income from investments in derivative securities.

Ethics Note

Companies manage earnings in various ways. ConAgra Foods recorded a nonrecurring gain for $186 million from the sale of Pilgrim's Pride stock to help meet an earnings projection for the quarter.

The distinction between operating and nonoperating activities is crucial to external users of financial data. These users view operating income as sustainable and many nonoperating activities as nonrecurring. When forecasting next year's income, analysts put the most weight on this year's operating income and less weight on this year's nonoperating activities.

Ethics Insight: Disclosing More Details

After Enron, increased investor criticism and regulator scrutiny forced many companies to improve the clarity of their financial disclosures. For example, IBM began providing more detail regarding its "Other gains and losses." It had previously included these items in its selling, general, and administrative expenses, with little disclosure.

ImageRite/Getty Images, Inc.

Disclosing other gains and losses in a separate line item on the income statement will not have any effect on bottom-line income. However, analysts complained that burying these details in the selling, general, and administrative expense line reduced their ability to fully understand how well IBM was performing. For example, previously if IBM sold off one of its buildings at a gain, it would include this gain in the selling, general, and administrative expense line item, thus reducing that expense. This made it appear that the company had done a better job of controlling operating expenses than it actually had.

As another example, when eBay recently sold the remainder of its investment in Skype to Microsoft, it reported a gain in “Other revenues and gains” of $1.7 billion. Since eBay’s total income from operations was $2.4 billion, it was very important that the gain from the Skype sale not be buried in operating income.

Why have investors and analysts demanded more accuracy in isolating “Other gains and losses” from operating items? (See page 278.)

Nonoperating activities are reported in the income statement immediately after operating activities. Included among “Other revenues and gains” in Illustration 5-8 (page 242) are Interest Revenue and Gain on Disposal of Plant Assets. Included in “Other expenses and losses” are Interest Expense and Casualty Loss from Vandalism.

In Illustration 5-11, we have provided the multiple-step income statement of PW Audio Supply. This statement provides more detail than that of REI and thus is useful as a guide for homework. *For homework problems, use the multiple-step form of the income statement unless the requirements state otherwise*.

Illustration 5-11: Multiple-step income statement

PW AUDIO SUPPLY, INC.
Income Statement
For the Year Ended December 31, 2014

Sales			
Sales revenue		$480,000	
Less: Sales returns and allowances	$12,000		
Sales discounts	8,000	20,000	Calculation of gross profit
Net sales		460,000	
Cost of goods sold		316,000	
Gross profit		144,000	
Operating expenses			
Salaries and wages expense	64,000		
Utilities expense	17,000		
Advertising expense	16,000		Calculation of income from operations
Depreciation expense	8,000		
Freight-out	7,000		
Insurance expense	2,000		
Total operating expenses		114,000	
Income from operations		30,000	
Other revenues and gains			
Interest revenue	3,000		
Gain on disposal of plant assets	600	3,600	Results of activities not related to operations
Other expenses and losses			
Interest expense	1,800		
Casualty loss from vandalism	200	2,000	
Income before income taxes		31,600	
Income tax expense		10,100	
Net income		$ 21,500	

Do it! MULTIPLE-STEP INCOME STATEMENT

The following information is available for Art Center Corp. for the year ended December 31, 2014.

Other revenues and gains	$ 8,000	Sales revenue	$462,000
Other expenses and losses	3,000	Operating expenses	187,000
Cost of goods sold	147,000	Sales discounts	20,000

Prepare a multiple-step income statement for Art Center Corp. The company has a tax rate of 25%.

Action Plan

- Subtract cost of goods sold from net sales to determine gross profit.

- Subtract operating expenses from gross profit to determine income from operations.
- Add/subtract nonoperating items to determine income before tax.
- Multiply the tax rate by income before tax to determine tax expense.

Solution

ART CENTER CORP.

Income Statement

For the Year Ended December 31, 2014

Sales		
Sales revenue		$462,000
Sales discounts		20,000
Net sales		442,000
Cost of goods sold		147,000
Gross profit		295,000
Operating expenses		187,000
Income from operations		108,000
Other revenues and gains	$8,000	
Other expenses and losses	3,000	5,000
Income before income taxes		113,000
Income tax expense		28,250
Net income		$ 84,750

Related exercise material: **BE5-5**, **BE5-6**, **Do it!** **5-3**, and **E5-5**.

DETERMINING COST OF GOODS SOLD UNDER A PERIODIC SYSTEM

Determining cost of goods sold is different when a periodic inventory system is used rather than a perpetual system. As you have seen, a company using a **perpetual system** makes an entry to record cost of goods sold and to reduce inventory **each time a sale is made**. A company using a **periodic system** does not determine cost of goods sold **until the end of the period.** At the end of the period, the company performs a count to determine the ending balance of inventory. It then **calculates cost of goods sold by subtracting ending inventory from the goods available for sale**. Goods available for sale is the sum of beginning inventory plus purchases, as shown in Illustration 5-12.

LEARNING OBJECTIVE 5

Determine cost of goods sold under a periodic system.

Illustration 5-12: Basic formula for cost of goods sold using the periodic system

Beginning Inventory

\+ Cost of Goods Purchased

Cost of Goods Available for Sale

− Ending Inventory

Cost of Goods Sold

Another difference between the two approaches is that the perpetual system directly adjusts the Inventory account for any transaction that affects inventory (such as freight costs, purchase returns, and purchase discounts). The periodic system does not do this. Instead, it creates different accounts for purchases, freight costs, purchase returns, and purchase discounts. These various accounts are shown in Illustration 5-13 (page 247), which presents the calculation of cost of goods sold for PW Audio Supply using the periodic approach. Note that the basic elements from Illustration 5-12 are highlighted in Illustration 5-13. You will learn more in Chapter 6 about how to determine cost of goods sold using the periodic system.

The use of the periodic inventory system does not affect the form of presentation in the balance sheet. As under the perpetual system, a company reports inventory in the current assets section.

Appendix 5A provides further detail on the use of the periodic system.

Illustration 5-13: Cost of goods sold for a merchandiser using a periodic inventory system

PW AUDIO SUPPLY, INC.

Cost of Goods Sold

For the Year Ended December 31, 2014

Cost of goods sold			
Inventory, January 1			**$ 36,000**
Purchases		$325,000	
Less: Purchase returns and allowances	$10,400		
Purchase discounts	6,800	17,200	
Net purchases		307,800	
Add: Freight-in		12,200	
Cost of goods purchased			**320,000**
Cost of goods available for sale			356,000
Inventory, December 31			**40,000**
Cost of goods sold			**$316,000**

Helpful Hint

The far right column identifies the primary items that make up cost of goods sold of $316,000. The middle column explains cost of goods purchased of $320,000. The left column reports contra purchase items of $17,200.

Do it! COST OF GOODS SOLD–PERIODIC SYSTEM

Aerosmith Company's accounting records show the following at the year-end December 31, 2014.

Purchase Discounts	$ 3,400
Freight-In	6,100
Purchases	162,500
Beginning Inventory	18,000
Ending Inventory	20,000
Purchase Returns and Allowances	5,200

Assuming that Aerosmith Company uses the periodic system, compute (a) cost of goods purchased and (b) cost of goods sold.

Action Plan

- To determine cost of goods purchased, adjust purchases for returns, discounts, and freight-in.
- To determine cost of goods sold, add cost of goods purchased to beginning inventory, and subtract ending inventory.

Solution

- (a) Cost of goods purchased = \$ 160,000 :

$$\begin{array}{ccccccccc} \text{Purchase} & - & \text{Purchase returns and allowances} & - & \text{Purchase discounts} & + & \text{Freight-in} & & \\ \$\,162{,}500 & - & \$\,5{,}200 & - & \$\,3{,}400 & + & \$\,6{,}100 & = & \$\,160{,}000 \end{array}$$

- (b) Cost of goods sold = \$ 158,000 :

$$\begin{array}{ccccccc} \text{Beginning inventory} & + & \text{Cost of goods purchased} & - & \text{Ending inventory} & & \\ \$\,18{,}000 & + & \$\,160{,}000 & - & \$\,20{,}000 & = & \$\,158{,}000 \end{array}$$

Related exercise material: BE5-7, BE5-8, BE5-9, Do it! 5-4, E5-10, and E5-11.

The Navigator

Evaluating Profitability

GROSS PROFIT RATE

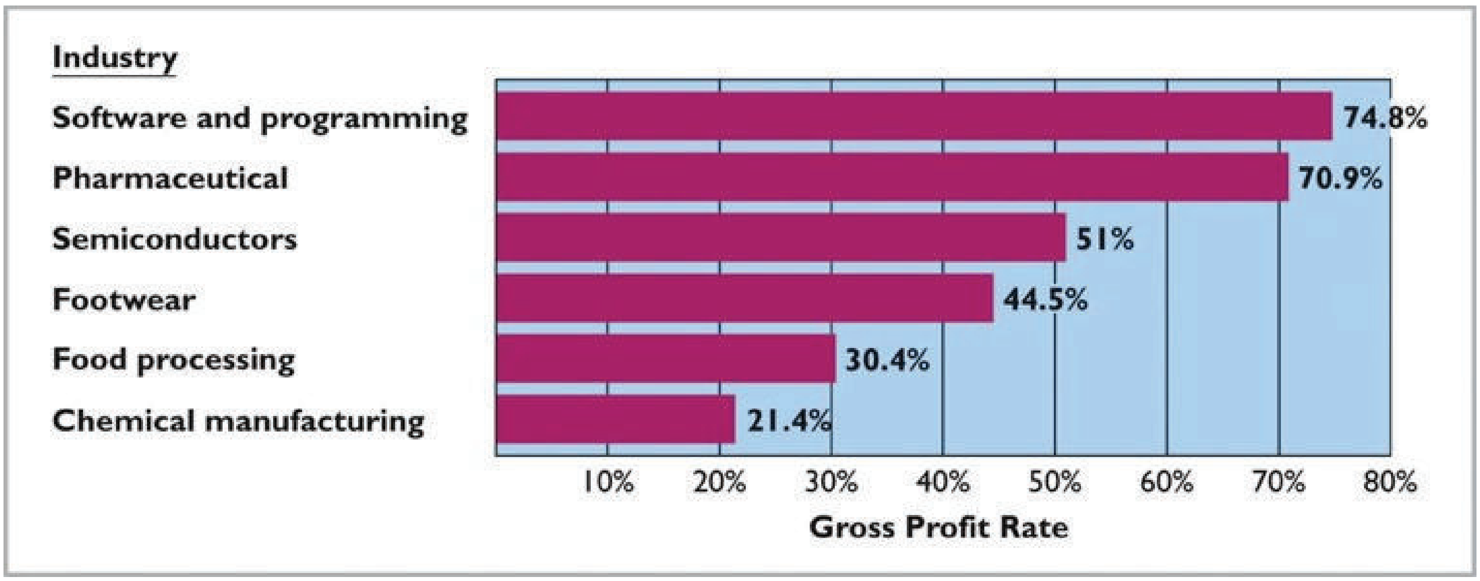
A company's gross profit may be expressed as a **percentage** by dividing the amount of gross profit by net sales. This is referred to as the gross profit rate. For PW Audio Supply, the gross profit rate is 31.3% ($ 144,000 ÷ $ 460,000).

LEARNING OBJECTIVE 6

Explain the factors affecting profitability.

Analysts generally consider the gross profit **rate** to be more informative than the gross profit **amount** because it expresses a more meaningful (qualitative) relationship between gross profit and net sales. For example, a gross profit amount of $1,000,000 may sound impressive. But if it was the result of sales of $100,000,000, the company's gross profit rate was only 1%. A 1% gross profit rate is acceptable in very few industries. Illustration 5-14 (page 248) demonstrates that gross profit rates differ greatly across industries.

Illustration 5-14: Gross profit rate by industry



A decline in a company's gross profit rate might have several causes. The company may have begun to sell products with a lower "markup"—for example, budget blue jeans versus designer blue jeans. Increased competition may have resulted in a lower selling price. Or, the company may be forced to pay higher prices to its suppliers without being able to pass these costs on to its customers. The gross profit rates for REI and Dick's Sporting Goods, and the industry average, are presented in Illustration 5-15.

Illustration 5-15: Gross profit rate

$$\text{Gross Profit Rate} = \frac{\text{Gross Profit}}{\text{Net Sales}}$$

REI ($ in thousands)		Dick's Sporting Goods	Industry Average
2010	2009	2010	2010
$\frac{\$728,964}{\$1,658,751} = 43.9\%$	44.7%	29.7%	34.0%

REI's gross profit rate decreased from 44.7% in 2009 to 43.9% in 2010. What might cause changes in REI's gross profit rate? When the economy slows, retailers must reduce selling prices in order to sell merchandise. This cuts into the gross profit rate. Changes in national weather patterns can also affect the amount of time people spend outdoors—and therefore impact their purchases of REI merchandise. For example, if winter provides below-average snow or extreme cold, or if summer is cooler and wetter than normal, then REI will have to discount its goods to sell them.

Why does REI's gross profit rate differ so much from that of Dick's Sporting Goods and the industry average? The gross profit rate often differs across retailers because of differences in the nature of their goods. First, REI focuses on outdoor equipment, while Dick's also sells sporting goods and hunting gear. The markup may differ significantly in these different product sectors. Also, although REI and Dick's both sell outdoor equipment, the quality of the equipment they sell differs. REI tends to sell more "high-end" goods, while Dick's tends to sell goods in a more "affordable" range. Higher-quality goods demand a higher markup. However, the retailer also sells fewer of them. In general, retailers adopt either a high-volume–low-margin approach (e.g., Wal-Mart) or a low-volume–high-margin approach (e.g., Saks Fifth Avenue). The strategic choice is often revealed in differences in the companies' gross profit rate.

DECISION TOOLKIT

DECISION CHECKPOINTS	INFO NEEDED FOR DECISION	TOOL TO USE FOR DECISION	HOW TO EVALUATE RESULTS
Is the price of goods keeping pace with changes in the cost of inventory?	Gross profit and net sales	$\text{Gross profit rate} = \dfrac{\text{Gross profit}}{\text{Net sales}}$	Higher ratio suggests the average margin between selling price and inventory cost is increasing. Too high a margin may result in lost sales.

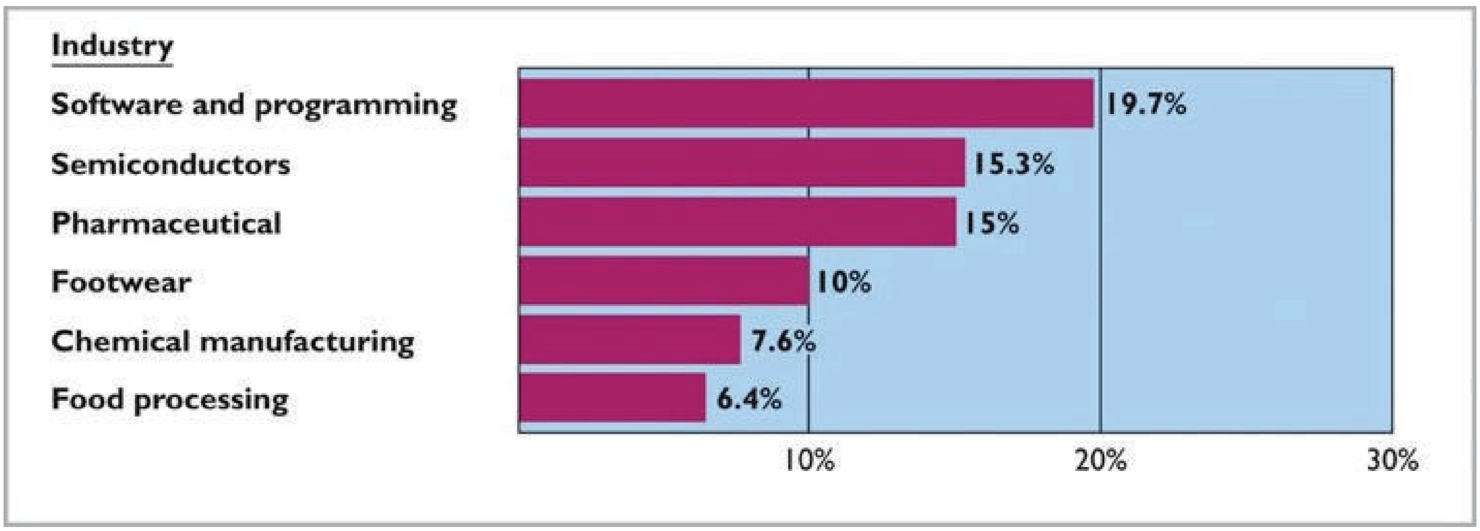
PROFIT MARGIN

The **profit margin** measures the percentage of each dollar of sales that results in net income. We compute this ratio by dividing net income by net sales (revenue) for the period.

How do the gross profit rate and profit margin differ? The gross profit rate measures the margin by which selling price exceeds cost of goods sold. **The profit margin measures the extent by which selling price covers all expenses** (including cost of goods sold). A company can improve its profit margin by either increasing its gross profit rate and/or by controlling its operating expenses and other costs. For example, at one time Radio Shack reported increased profit margins which it accomplished by closing stores and slashing costs. While its total sales have been declining, its profitability as measured by its profit margin has increased.

Profit margins vary across industries. Businesses with high turnover, such as grocery stores (Safeway and Kroger) and discount stores (Target and Wal-Mart), generally experience low profit margins. Low-turnover businesses, such as high-end jewelry stores (Tiffany and Co.) or major drug manufacturers (Merck), have high profit margins. Illustration 5-16 shows profit margins from a variety of industries.

Illustration 5-16: Profit margins by industry



Profit margins for REI and Dick's Sporting Goods and the industry average are presented in Illustration 5-17 (page 250).

REI's profit margin declined from 2.0% to 1.8% between 2009 and 2010. This means that the company generated 1.8¢ of profit on each dollar of sales. This decline occurred partly because the gross profit rate decreased.

Illustration 5-17: Profit margin

$$\text{Profit Margin} = \frac{\text{Net Income}}{\text{Net Sales}}$$

REI ($ in thousands)	**Dick's Sporting Goods**	**Industry Average**
2010 / 2009 2010		2010

$\frac{\$30,230}{\$1,658,751} = 1.8\%$ 3.0% 3.7% 5.1%

A change in the profit margin can be caused by a change in the gross profit rate, a change in the amount of operating expenses relative to sales, or a change in the amount of other items (other revenues and gains, or other expenses and losses) relative to sales. In Illustration 5-8, we can see that neither operating expenses nor other items increased significantly in proportion to sales. (That is, the percentage of these items relative to sales did not change significantly. For example, sales increased by almost 14% in 2010, but operating expenses also increased by a similar amount, so that operating expenses as a percentage of sales in 2010 was about the same as in 2009.) Therefore, in 2010, most of the decline in REI's profit margin occurred because of the decline in the gross profit rate. When the gross profit rate declines, the company has less profit available to cover its operating costs.

How does REI compare to its competitors? Its profit margin was lower than Dick's in 2010 and was less than the industry average. Thus, its profit margin does not suggest exceptional profitability.

People, Planet, and Profit Insight: Selling Green

Here is a question an executive of PepsiCo was asked: Should PepsiCo market green? The executive indicated that the company should, as he believes it's the No. 1 thing consumers all over the world care about. Here are some of his thoughts on this issue:

Helen Sessions/Alamy

"Sun Chips are part of the food business I run. It's a 'healthy snack.' We decided that Sun Chips, if it's a healthy snack, should be made in facilities that have a net-zero footprint. In other words, I want off the electric grid everywhere we make Sun Chips. We did that. Sun Chips should be made in a facility that puts back more water than it uses. It does that. And we partnered with our suppliers and came out with the world's first compostable chip package.

Now, there was an issue with this package: It was louder than the New York subway, louder than jet engines taking off. What would a company that's committed to green do: walk away or stay committed? If your people are passionate, they're going to fix it for you as long as you stay committed. Six months later, the compostable bag has half the noise of our current package.

So the view today is: we should market green, we should be proud to do it . . . it has to be a 360 process, both internal and external. And if you do that, you can monetize environmental sustainability for the shareholders."

Source: "Four Problems–and Solutions," *Wall Street Journal* (March 7, 2011), p. R2.

What is meant by "monetize environmental sustainability" for shareholders? (See page 279.)

DECISION TOOLKIT

DECISION CHECKPOINTS	INFO NEEDED FOR DECISION	TOOL TO USE FOR DECISION	HOW TO EVALUATE RESULTS
Is the company maintaining an adequate margin between sales and expenses?	Net income and net sales	$\text{Profit margin} = \frac{\text{Net income}}{\text{Net sales}}$	Higher value suggests favorable return on each dollar of sales.

KEEPING AN EYE ON CASH

In Chapter 4, you learned that **earnings have high quality if they provide a full and transparent depiction of how a company performed**. In order to quickly assess earnings quality, analysts sometimes employ the **quality of earnings ratio**. It is calculated as net cash provided by operating activities divided by net income.

$$\text{Quality of Earnings Ratio} = \frac{\text{Net Cash Provided by Operating Activities}}{\text{Net Income}}$$

LEARNING OBJECTIVE 7

Identify a quality of earnings indicator.

In general, a measure significantly less than 1 suggests that a company may be using more aggressive accounting techniques in order to accelerate income recognition (record income in earlier periods). A measure significantly greater than 1 suggests that a company is using conservative accounting techniques, which cause it to delay the recognition of income.

Measures that are significantly less than 1 do not provide definitive evidence of low-quality earnings. Low measures do, however, indicate that analysts should investigate the company's earnings quality by evaluating the causes of the difference between net income and net cash provided by operating activities. Examples of factors that would cause differences are presented in Chapter 4 (pages 191–192).

Here are recent quality of earnings ratios for a number of well-known companies, all of which have measures in excess of 1.

Company Name ($ in millions)	Net Cash Provided by Operating Activities	÷	Net Income	=	Quality of Earning Ratio
DuPont	$4,741		$1,769		2.7
Intel	$11,170		$4,369		2.6
Nike	$1,736		$1,487		1.2

Company Name ($ in millions) | Net Cash Provided by Operating Activities | ÷ | Net Income | = | Quality of Earning Ratio

Microsoft	$19,037		$14,569		1.3
Wal-Mart	$26,249		$14,335		1.8

part of this
prosecuted.

USING

THE DECISION TOOLKIT

Like REI, Mountain Equipment Cooperative (MEC) is a retailer of outdoor equipment organized as a cooperative (though MEC *only* sells to its members, who pay a one-time fee of $5). Also like REI, MEC has a significant commitment to sustainability. Many of its stores employ state-of-the-art building techniques to minimize energy use, and it pledges 1% of annual sales revenue to environmental causes. Since MEC is a Canadian company, it follows International Financial Reporting Standards (IFRS) rather than U.S. GAAP. The *A Look at IFRS* section at the end of each chapter of this textbook discusses some of the main accounting differences that you would need to be aware of to make a thorough comparison of REI and MEC. Here is recent data for MEC.

	Year ended	
($ in thousands)	**12/26/10**	**12/27/09**
Net income	$ 815	$ 300
Sales revenue	261,374	262,056
Cost of goods sold	174,871	175,606

Instructions

Using the basic facts in the table, evaluate the following components of MEC's profitability for the years ended December 26, 2010, and December 27, 2009.

- Profit margin
- Gross profit rate

How do MEC’s profit margin and gross profit rate compare to those of REI and Dick’s Sporting Goods for 2010?

Solution

	Year ended	
($ in thousands)	**12/26/10**	**12/27/09**
Profit margin	$\frac{\$ 815}{\$ 261{,}374} = 0.3\ \%$	$\frac{\$ 300}{\$ 262{,}056} = 0.1\ \%$
Gross profit rate	$\frac{\$ 86{,}503\ *}{\$ 261{,}374} = 33.1\ \%$	$\frac{\$ 86{,}450\ **}{\$ 262{,}056} = 33.0\ \%$

*

$\$ 261{,}374 - \$ 174{,}871$

**

$\$ 262{,}056 - \$ 175{,}606$

MEC’s profit margin (income per dollar of sales) increased from 0.1% to 0.3%. This is well below both REI’s (1.8%) and Dick’s (3.7%). Thus, MEC is not as effective at turning its sales into net income as these two competitors.

MEC’s gross profit rate improved from 33.0% to 33.1%. This suggests that its ability to maintain its markup above its cost of goods sold improved slightly during this period. MEC’s gross profit rate of 33.1% is lower than REI’s (43.9%) but higher than Dick’s (29.7%). Dick’s gross profit is depressed by the fact that it sells many low-margin products. REI is superior to MEC both in its ability to maintain its markup above its costs of goods sold (its gross profit rate) and in its ability to control operating costs (its profit margin).

The Navigator

Summary of Learning Objectives

- 1 **Identify the differences between a service company and a merchandising company.** Because of the presence of inventory, a merchandising company has sales revenue, cost of goods sold, and gross profit. To account for inventory, a merchandising company must choose between a perpetual inventory system and a periodic inventory system.
- 2 **Explain the recording of purchases under a perpetual inventory system.** The Inventory account is debited for all purchases of merchandise and for freight costs, and it is credited for purchase discounts and purchase returns and allowances.

- 3 **Explain the recording of sales revenues under a perpetual inventory system.** When inventory is sold, Accounts Receivable (or Cash) is debited and Sales Revenue is credited for the selling price of the merchandise. At the same time, Cost of Goods Sold is debited and Inventory is credited for the cost of inventory items sold. Separate contra revenue accounts are maintained for Sales Returns and Allowances and Sales Discounts. These accounts are debited as needed to record returns, allowances, or discounts related to the sale.
- 4 **Distinguish between a single-step and a multiple-step income statement.** In a single-step income statement, companies classify all data under two categories, revenues or expenses, and net income is determined in one step. A multiple-step income statement shows numerous steps in determining net income, including results of nonoperating activities.
- 5 **Determine cost of goods sold under a periodic system.** The periodic system uses multiple accounts to keep track of transactions that affect inventory. To determine cost of goods sold, first calculate cost of goods purchased by adjusting purchases for returns, allowances, discounts, and freight-in. Then calculate cost of goods sold by adding cost of goods purchased to beginning inventory and subtracting ending inventory.
- 6 **Explain the factors affecting profitability.** Profitability is affected by gross profit, as measured by the gross profit rate, and by management's ability to control costs, as measured by the profit margin.
- 7 **Identify a quality of earnings indicator.** Earnings have high quality if they provide a full and transparent depiction of how a company performed. An indicator of the quality of earnings is the quality of earnings ratio, which is net cash provided by operating activities divided by net income. Measures above 1 suggest the company is employing conservative accounting practices. Measures significantly below 1 might suggest the company is using aggressive accounting to accelerate the recognition of income.

DECISION TOOLKIT *A SUMMARY*

DECISION CHECKPOINTS	INFO NEEDED FOR DECISION	TOOL TO USE FOR DECISION	HOW TO EVALUATE RESULTS
Is the price of goods keeping pace with changes in the cost of inventory?	Gross profit and net sales	$\text{Gross profit rate} = \frac{\text{Gross profit}}{\text{Net sales}}$	Higher ratio suggests the average margin between selling price and inventory cost is increasing. Too high a margin may result in lost sales.
Is the company maintaining an adequate margin between sales and expenses?	Net income and net sales	$\text{Profit margin} = \frac{\text{Net income}}{\text{Net sales}}$	Higher value suggests favorable return on each dollar of sales.

Appendix 5A: Periodic Inventory System

As described in this chapter, companies may use one of two basic systems of accounting for inventories: (1) the perpetual inventory system or (2) the periodic inventory system. In the chapter, we focused on the characteristics of the perpetual inventory system. In this appendix, we discuss and illustrate the **periodic inventory system**. One key difference between the two systems is the point at which the company computes cost of goods sold. For a visual reminder of this difference, you may want to refer back to Illustration 5-4 on page 232.

LEARNING OBJECTIVE 8

Explain the recording of purchases and sales of inventory under a periodic inventory system.

RECORDING MERCHANDISE TRANSACTIONS

In a **periodic inventory system**, companies record revenues from the sale of merchandise when sales are made, just as in a perpetual system. Unlike the perpetual system, however, companies **do not attempt on the date of sale to record the cost of the merchandise sold**. Instead, they take a physical inventory count at the **end of the period** to determine (1) the cost of the merchandise then on hand and (2) the cost of the goods sold during the period. And, **under a periodic system**, **companies record purchases of merchandise in the Purchases account rather than the Inventory account**. Also, in a periodic system, purchase returns and allowances, purchase discounts, and freight costs on purchases are recorded in separate accounts.

To illustrate the recording of merchandise transactions under a periodic inventory system, we will use purchase/sale transactions between PW Audio Supply, Inc. and Sauk Stereo, as illustrated for the perpetual inventory system in this chapter.

RECORDING PURCHASES OF MERCHANDISE

On the basis of the sales invoice (Illustration 5-5, shown on page 234) and receipt of the merchandise ordered from PW Audio Supply, Sauk Stereo records the $3,800 purchase as follows.

May 4 Purchases 3,800

Accounts Payable 3,800

(To record goods purchased on account from PW Audio Supply)

Purchases is a temporary account whose normal balance is a debit.

FREIGHT COSTS

When the purchaser directly incurs the freight costs, it debits the account Freight-In (or Transportation-In). For example, if Sauk Stereo pays Public Freight Company $150 for freight charges on its purchase from PW Audio Supply on May 6, the entry on Sauk Stereo's books is:

May 6 Freight-In (Trarnsportation-In) 150

Cash 150

(To record payment of freight on goods purchases)

Like Purchases, Freight-In is a temporary account whose normal balance is a debit. **Freight-In is part of cost of goods purchased.** The reason is that cost of goods purchased should include any freight charges necessary to bring the goods to the purchaser. Freight costs are not subject to a purchase discount. Purchase discounts apply on the invoice cost of the merchandise.

Purchase Returns and Allowances

Because $300 of merchandise received from PW Audio Supply is inoperable, Sauk Stereo returns the goods and prepares the following entry to recognize the return.

May 8 Accounts Payable 300

Purchase Returns and Allowances 300

(To record return of goods purchased from PW Audio Supply)

Purchase Returns and Allowances is a temporary account whose normal balance is a credit.

Purchase Discounts

On May 14, Sauk Stereo pays the balance due on account to PW Audio Supply, taking the 2% cash discount allowed by PW Audio Supply for payment within 10 days. Sauk Stereo records the payment and discount as follows.

May 14	Accounts Payable ($3,800 − $300)	3,500	
	Purchase Discounts ($3,500 × .02)	70	
	Cash	3,430	
	(To record payment within the discount period)		

Purchase Discounts is a temporary account whose normal balance is a credit.

RECORDING SALES OF MERCHANDISE

The seller, PW Audio Supply, records the sale of $3,800 of merchandise to Sauk Stereo on May 4 (sales invoice No. 731, Illustration 5-5, page 234) as follows.

May 4	Accounts Receivable	3,800	
	Sales Revenue		3,800
	(To record credit sales to Sauk Stereo per invoice #731)		

Sales Returns and Allowances

To record the returned goods received from Sauk Stereo on May 8, PW Audio Supply records the $300 sales return as follows.

May 8	Sales Returns and Allowances	300	
	Accounts Receivable		300
	(To record credit granted to Sauk Stereo for returned goods)		

Sales Discounts

On May 14, PW Audio Supply receives payment of $3,430 on account from Sauk Stereo. PW Audio Supply honors the 2% cash discount and records the payment of Sauk Stereo's account receivable in full as follows.

May 14	Cash	3,430

Sales Discounts ($3,500 × .02)	70	
Accounts Receivable ($3,800 − $300)		3,500

(To record collection within 2/10, n/30 discount period from Sauk Stereo)

COMPARISON OF ENTRIES–PERPETUAL vs. PERIODIC

ENTRIES ON SAUK STEREO'S BOOKS

Transaction		Perpetual Inventory System			Periodic Inventory System		
May 4	Purchase of merchandise on credit.	**Inventory**	**3,800**		**Purchases**	**3,800**	
		Accounts Payable		**3,800**	**Accounts Payable**		**3,800**
May 6	Freight costs on purchases.	**Inventory**	**150**		**Freight-In**	**150**	
		Cash		**150**	**Cash**		**150**
May 8	Purchase returns and allowances.	**Accounts Payable**	**300**		**Accounts Payable**	**300**	
		Inventory		**300**	**Purchase Returns and Allowances**		**300**
May 14	Payment on account with a discount.	**Accounts Payable**	**3,500**		**Accounts Payable**	**3,500**	
		Cash		**3,430**	**Cash**		**3,430**
		Inventory		**70**	**Purchase Discounts**		**70**

ENTRIES ON PW AUDIO SUPPLY'S BOOKS

ENTRIES ON PW AUDIO SUPPLY'S BOOKS

	Transaction	Perpetual Inventory System			Periodic Inventory System		
May 4	Sale of merchandise on credit.	Accounts Receivable	3,800		Accounts Receivable	3,800	
		Sales Revenue		3,800	Sales Revenue		3,800
		Cost of Goods Sold	2,400		No entry for cost of goods sold		
		Inventory		2,400			
May 8	Return of merchandise sold.	Sales Returns and Allowances	300		Sales Returns and Allowances	300	
		Accounts Receivable		300	Accounts Receivable		300
		Inventory	140		No entry		
		Cost of Goods Sold		140			
May 14	Cash received on account with a discount.	Cash	3,430		Cash	3,430	
		Sales Discounts	70		Sales Discounts	70	
		Accounts Receivable		3,500	Accounts Receivable		3,500

Summary of Learning Objective for Appendix 5A

- 8 **Explain the recording of purchases and sales of inventory under a periodic inventory system.** To record purchases, entries are required for (a) cash and credit purchases, (b) purchase returns and allowances, (c) purchase discounts, and (d) freight costs. To record sales, entries are required for (a) cash and credit sales, (b) sales returns and allowances, and (c) sales discounts.

Glossary

Contra revenue account

(p. 240) An account that is offset against a revenue account on the income statement.

Cost of goods sold

(p. 230) The total cost of merchandise sold during the period.

Gross profit

(p. 243) The excess of net sales over the cost of goods sold.

Gross profit rate

(p. 247) Gross profit expressed as a percentage by dividing the amount of gross profit by net sales.

Net sales

(p. 243) Sales less sales returns and allowances and sales discounts.

Periodic inventory system

(p. 232) An inventory system in which a company does not maintain detailed records of goods on hand throughout the period and determines the cost of goods sold only at the end of an accounting period.

Perpetual inventory system

(p. 232) A detailed inventory system in which a company maintains the cost of each inventory item, and the records continuously show the inventory that should be on hand.

Profit margin

(p. 249) Measures the percentage of each dollar of sales that results in net income, computed by dividing net income by net sales.

Purchase allowance

(p. 236) A deduction made to the selling price of merchandise, granted by the seller, so that the buyer will keep the merchandise.

Purchase discount

(p. 236) A cash discount claimed by a buyer for prompt payment of a balance due.

Purchase invoice

(p. 233) A document that provides support for each purchase.

Purchase return

(p. 236) A return of goods from the buyer to the seller for cash or credit.

Quality of earnings ratio

(p. 251) A measure used to indicate the extent to which a company's earnings provide a full and transparent depiction of its performance; computed as net cash provided by operating activities divided by net income.

Sales discount

(p. 240) A reduction given by a seller for prompt payment of a credit sale.

Sales invoice

(p. 238) A document that provides support for each sale.

Sales returns and allowances

(p. 239) Transactions in which the seller either accepts goods back from the purchaser (a return) or grants a reduction in the purchase price (an allowance) so that the buyer will keep the goods.

Sales revenue

(p. 230) Primary source of revenue for a merchandising company.

Comprehensive Do it!

The adjusted trial balance for the year ended December 31, 2014, for Dykstra Company is shown below.

DYKSTRA COMPANY

Adjusted Trial Balance

For the Year Ended December 31, 2014

	Dr.	Cr.
Cash	$ 14,500	
Accounts Receivable	11,100	
Inventory	29,000	
Prepaid Insurance	2,500	
Equipment	95,000	
Accumulated Depreciation—Equipment		$ 18,000
Notes Payable		25,000
Accounts Payable		10,600
Common Stock		70,000