CHAPTER 9

INVENTORIES

CHAPTER PREVIEW

- Our first goal in Chapter 9 is to show that determining the valuation of inventory also establishes the cost of goods sold. Thus, <u>the validity of both the balance sheet and the</u> <u>income statement</u> rest on accuracy in the valuation of inventory. A second goal is to stress that inventory is valued at cost, but that several alternative methods are available to measure cost. Four methods (specific identification, average-cost, fifo, and lifo) are illustrated and evaluated. Both the gross profit method and the retail method are introduced as examples of estimating
- 10 inventory. The chapter concludes by indicating <u>the significance of internal control over</u> <u>inventories and the advantages offered by use of the perpetual inventory system whenever</u> <u>feasible</u>.

After studying this chapter you should be able to meet these Learning Objectives:

- 1. Explain what goods should be included in inventory.
- 2. Describe <u>the effects of an inventory error on the income statements of the current</u> <u>year and the following year</u>.
 - 3. Determine the cost of inventory by using (1) specific identification, (2) average cost, (3) fifo, and (4) lifo. Discuss the merits and shortcomings of these methods.
 - 4. Define inventory profits and explain why some accountants consider these profits fictitious.
 - 5. Explain <u>the lower-of-cost-or-market rule</u>.
 - 6. Estímate ending inventory by the gross profit method and by the retail method.
 - 7. Explain how a perpetual inventory system operates.
- 25 In the previous chapters we have illustrated how <u>the amount of inventory on hand at year-</u> <u>end</u> is recorded in the accounts. Remember that the inventory figure appears in both the balance sheet and the income statement. In the balance sheet, inventory is often the largest current asset. In the income statement, the ending inventory is subtracted from the cost of goods *available* for sale to determine *the cost of goods sold* during the period.
- 30 In our previous discussions, the dollar amount of the ending inventory was given with only a brief explanation as to how this amount was determined. The basis for the valuation of inventory, as for most other types of assets, is cost. We are now ready to explore the concept of cost as applied to inventories of merchandise.

35 **Inventory defined**

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One of the largest assets in a retail store or in a wholesale business is the inventory of merchandise. The sale of this merchandise at prices in excess of cost is the major source of revenue. For a merchandising company, *the inventory consists of all goods owned and held for sale in the regular course of business*. Merchandise held for sale will normally be converted

40 into cash within less than a year's time and is therefore regarded as a current asset. In the balance sheet, inventory is listed immediately after accounts receivable, because it is just one step further removed from conversion into cash than are the accounts receivable.

In manufacturing businesses there are three major types of inventories: *raw materials, goods in process of manufacture*, and *finished goods*. All three classes of inventories are included in <u>the current asset section of the balance sheet</u>.

- To expand our definition of inventory to fit manufacturing companies as well as merchandising companies, we can say that inventory means "the aggregate of those items of tangible personal property which (1) are held for sale in the ordinary course of business. (2) are in process of production for such sale, or (3) are to be currently consumed in the production of goods or services to be available for sale " (ALCPA)
- 50 services to be available for sale." (AICPA)

Periodic inventory system versus perpetual inventory system

<u>The distinction between a periodic inventory system and a perpetual inventory system</u> was explained earlier in Chapter 5. To summarize briefly, a periodic system of inventory accounting requires that acquisitions of merchandise be recorded by debits to a Purchases account. At the

- 5 date of a sales transaction, no entry is made to record the cost of the goods sold, Under the periodic inventory system, the Inventory account is brought up to date only at the end of the accounting period when all the goods on hand are counted and priced. The periodic inventory system is likely to be used by **a business that sells a variety of**
- 10 merchandise with low unit prices, such as a drugstore or hardware store. To maintain perpetual inventory records in such a business would ordinarily be too time-consuming and expensive.

Companies that sell products of high unit value such as automobiles and television sets usually maintain <u>a perpetual inventory system that shows at all times the amount of inventory on</u> hand. As merchandise is acquired, its cost is added to an inventory account; as goods are sold,

15 their cost is transferred out of inventory and into a cost of goods sold account. <u>This continuous</u> updating of the inventory account explains the name *perpetual* inventory system. In the early part of this chapter we will use the periodic inventory system as a point of reference;

in the latter part we will emphasize perpetual inventories.

20 Inventory valuation and the measurement of income

In measuring the gross profit on sales earned during an accounting period, we subtract *the cost* of goods sold from the total sales of the period. The figure for sales is easily accumulated from the daily record of sales transactions, but in many businesses no day-to-day record is maintained showing the cost of goods sold (As explained in Chap. 5, a company that maintains perpetual

- 25 **inventory records** will have <u>a day-to-day record of the cost of goods sold and of goods in</u> <u>inventory</u>. Our present discussion, however, is based on the assumption that the periodic system of inventory is being used). <u>The figure representing the cost of goods sold during an</u> <u>entire accounting period</u> is computed at the end of the period by separating the *cost of goods available for sale* into two elements:
- 30 1. The cost of the goods sold

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2. The cost of the goods not sold, which therefore comprise the ending inventory i

This idea, with which you are already quite familiar, may be concisely stated in the form of an equation as follows:

35 Cost of Goods Available for Sale - Ending Inventory = Cost of Goods Sold

Determining the amount of the ending inventory is the key step in establishing the cost of goods sold. In separating the *cost of goods available for sale* into its components of *goods sold* and *goods not sold*, we are just as much interested in establishing the proper amount for cost of

- 40 goods sold as in determining a proper figure for inventory. Throughout this chapter you should bear in mind that <u>the procedures for determining the amount of the ending inventory</u> are also the means for determining the cost of goods sold. <u>The valuation of inventory and the determination of the cost of goods sold</u> are in effect the two sides of a single coin. The American Institute of Certified Public Accountants has summarized this relationship
- 45 between inventory valuation and the measurement of income in the following words: "A major objective of accounting for inventories is <u>the proper determination of income through the process of matching appropriate costs against revenues</u>." The expression "matching costs against revenues" means determining what portion of the cost of goods available for sale should be deducted from the revenue of the current period and what portion should be carried forward
- 50 (as inventory) to be matched against the revenue of the following period.

Importance of an accurate valuation of inventory

<u>The most important current assets in the balance sheets of most companies</u> are cash, accounts receivable, and inventory. Of these three, the inventory of merchandise is usually much the largest. Because of the relatively large size of this asset, an error in the valuation of

inventory may cause <u>a material mis-statement of financial position and of net income</u>. An error of 20% in valuing the inventory may have as much effect on the financial statements as would the complete omission of the asset cash.

An error in inventory will of course lead to other erroneous figures in the balance sheet, such

- 5 as the total current assets, total assets, owner's equity, and the total liabilities and owner's equity. The error will also affect key figures in the income statement, such as the cost of goods sold, the gross profit on sales, and the net income for the period. Finally, it is important to recognize that *the ending inventory of one year is also the beginning inventory of the following year*. Consequently, the income statement of the second year will also be in error by the full amount
- 10 of the original error in inventory valuation.

Effects of an error in valuing inventory: illustration Assume that on December 31, 1988, the inventory of the Hillside Company is actually \$100,000 but, through an accidental error, it is recorded as \$90,000. The effects of this \$10.000 error on the income statement for 1988 are

- 15 indicated in the first illustration shown below, showing two income statements side by side. The left-hand set of figures shows the inventory of December 31 at *the proper value of \$100,000* and represents a correct income statement for 1988. The right-hand set of figures represents an incorrect income statement, because the ending inventory is *erroneously listed as \$90,000*. Note the differences between the two income statements with respect to net income, gross profit on
- 20 sales, and cost of goods sold. Income taxes have purposely been omitted in this illustration.

HILLSIDE COMPANY

Income Statement For the Year Ended December 31, 1988

25		WITH CORR ENDING INV	ECT /ENTORY	WITH INCOR ENDING INV	RRECT ENTORY
	Sales Cost of goods sold:	\$	6240,000		\$240,000
30	Beginning inventory.				
	Jan. 1, 1988	\$75,000		\$75,000	
	Purchases	210,000		210,000	
	Cost of goods available				
	for sale	\$285,000		\$285,000	
35	Less: Ending inventory,				
	Dec. 31, 1988	<u>100,000</u>		<u>90,000</u>	
	Cost of goods sold	-	185,000		<u>195,000</u>
	Gross profit on sales	\$	55,000		\$ 45,000
	Operating expenses		<u>30,000</u>		30,000
40	Net income	\$	<u>5 25,000</u>		<u>\$ 15,000</u>

Source: Accounting: The basis for business decisions Meigs WB – Meigs RF

45 Meigs WB – Meigs RI McGraw Hill 1987