CHAPTER

7 Inventories

Accounting 27e

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Control of Inventory

- Two primary objectives of control over inventory are:
  - Safeguarding the inventory from damage or theft.
  - Reporting inventory in the financial statements.

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Safeguarding Inventory
(slide 1 of 2)

- The **purchase order** authorizes the purchase of the inventory from an approved vendor.
- The **receiving report** establishes an initial record of the receipt of the inventory.
- The price, quantity, and description of the item on the purchase order and receiving report are compared to the vendor's invoice before the inventory is recorded in the accounting records.

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Safeguarding Inventory
(slide 2 of 2)

- Recording inventory using a perpetual inventory system is also an effective means of control. The amount of inventory is always available in the **subsidiary inventory ledger**.
- Controls for safeguarding inventory should include security measures to prevent damage and customer or employee theft. Some examples of security measures include:
  - Storing inventory in areas that are restricted to only authorized employees
  - Locking high-priced inventory in cabinets
  - Using two-way mirrors, cameras, security tags, and guards

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Reporting Inventory

- A **physical inventory** or count of inventory should be taken near year-end to make sure that the quantity of inventory reported in the financial statements is accurate.

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Inventory Cost Flow Assumptions
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- Under the **specific identification inventory cost flow method**, the unit sold is identified with a specific purchase.
  - The ending inventory is made up of the remaining units on hand.
  - The specific identification method is not practical unless each inventory unit can be identified separately.
    - An automobile dealer may use the specific identification method because each automobile has a unique serial number.

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Inventory Cost Flow Assumptions
(slide 2 of 2)

- Under the **first-in, first-out (FIFO) inventory cost flow method**, the first units purchased are assumed to be sold and the ending inventory is made up of the most recent purchases.
- Under the **last-in, first out (LIFO) inventory cost flow method**, the last units purchased are assumed to be sold and the ending inventory is made up of the first purchases.
- Under the **weighted average inventory cost flow method**, the cost of the units sold and in ending inventory is a weighted average of the purchase costs.

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First-In, First-Out Method

- When the FIFO method is used in a perpetual inventory system, costs are included in the cost of merchandise sold in the order in which they were purchased.
- This is often the same as the physical flow of the merchandise.
- For example, grocery stores shelve milk and other perishable products by expiration dates. Products with early expiration dates are stocked in front. In this way, the oldest products (earliest purchases) are sold first.

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Last-In, First-Out Method

- When the LIFO method is used in a perpetual inventory system, the cost of the units sold is the cost of the most recent purchases.
- The LIFO method was originally used in those rare cases where the units sold were taken from the most recently purchased units. However, for tax purposes, LIFO is now widely used even when it does not represent the physical flow of units.

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Weighted Average Cost Method

- When the weighted average cost method is used in a perpetual inventory system, a weighted average unit cost for each item is computed each time a purchase is made.
- This unit cost is used to determine the cost of each sale until another purchase is made and a new average is computed. This technique is called a moving average.

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Inventory Costing Methods Under a Periodic Inventory System

- When the periodic inventory system is used, only revenue is recorded each time a sale is made.
- No entry is made at the time of sale to record the cost of the merchandise sold.
- At the end of the accounting period, a physical inventory is taken to determine the cost of the inventory and the cost of the merchandise sold.
- Like the perpetual inventory system, a cost flow assumption must be made when identical units are acquired at different unit costs during a period.

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Comparing Inventory Costing Methods

- A different cost flow is assumed for the FIFO, LIFO, and weighted average inventory cost flow methods. As a result, the three methods normally yield different amounts for the following:
  - Cost of merchandise sold
  - Gross Profit
  - Net Income
  - Ending merchandise inventory
- Note that if costs (prices) remain the same, all three methods would yield the same results. However, costs (prices) normally do change.

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Comparing Inventory Costing Methods: FIFO

- The FIFO method reports higher gross profit and net income than the LIFO method during periods of inflation, or when costs (prices) are increasing.
- However, in periods of rapidly rising costs, the inventory that is sold must be replaced at increasingly higher costs. In this case, the larger FIFO gross profit and net income are sometimes called inventory profits or illusory profits.

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Comparing Inventory Costing Methods: LIFO

- During a period of increasing costs, LIFO matches more recent costs against sales on the income statement.
- LIFO also offers an income tax savings during periods of increasing costs. This is because LIFO reports the lowest amount of gross profit and, thus, lower taxable net income.
- On the balance sheet, however, the ending inventory may be quite different from its current replacement cost.

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Comparing Inventory Costing Methods: Weighted Average

- The weighted average cost method is a compromise between FIFO and LIFO.
- The effect of cost (price) trends is averaged in determining the cost of merchandise sold and the ending inventory.

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Reporting Merchandise Inventory in the Financial Statements

- Cost is the primary basis for valuing and reporting inventories in the financial statements. However, inventory may be valued at other than cost in the following cases:
  - The cost of replacing items in inventory is below the recorded cost.
  - The inventory cannot be sold at normal prices due to imperfections, style changes, spoilage, damage, obsolescence, or other causes.

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Valuation at Lower of Cost or Market
(slide 1 of 2)

- If the market is lower than the purchase cost, the **lower-of-cost-or-market (LCM) method** is used to value the inventory.
- Market, as used in lower of cost or market, is the **net realizable value** of the merchandise. Net realizable value is determined as follows:

Net Realizable Value = Estimated Selling Price – Direct Costs of Disposal

  - Direct costs of disposal include selling expenses such as special advertising or sales commissions.

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Valuation at Lower of Cost or Market
(slide 2 of 2)

- The lower-of-cost-or-market method can be applied in one of three ways. The cost, market price, and any declines could be determined for the following:
  - Each item in the inventory
  - Each major class or category of inventory
  - Total inventory as a whole

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Merchandise Inventory on the Balance Sheet

- Merchandise inventory is usually presented in the Current Assets section of the balance sheet.
- In addition to this amount, the following are reported:
  - The method of determining the cost of the inventory (FIFO, LIFO, or weighted average)
  - The method of valuing the inventory (cost or the lower of cost or market)

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Effect of Inventory Errors on the Financial Statements (slide 1 of 3)

- Any errors in merchandise inventory will affect the balance sheet and income statement.
- Some reasons that inventory errors may occur include the following:
  - Physical inventory on hand was miscounted.
  - Costs were incorrectly assigned to inventory.
  - Inventory in transit was incorrectly included or excluded from inventory.
  - Consigned inventory was incorrectly included or excluded from inventory.

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Effect of Inventory Errors on the Financial Statements (slide 2 of 3)

- Inventory errors often arise from merchandise that is in transit at year-end.
- Shipping terms determine when the title to merchandise passes.
  - When goods are purchased or sold FOB shipping point, title passes to the buyer when the goods are shipped.
  - When the terms are FOB destination, title passes to the buyer when the goods are received.

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Effect of Inventory Errors on the Financial Statements (slide 3 of 3)

- Inventory errors often arise from **consigned inventory**. Manufacturers sometimes ship merchandise to retailers who act as the manufacturer's agent.
- The manufacturer, called the **consignor**, retains title until the goods are sold. Such merchandise is said to be shipped on consignment to the retailer, called the **consignee**.
- Any unsold merchandise at year-end is part of the manufacturer's (consignor's) inventory, even though the merchandise is in the hands of the retailer (consignee).

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Financial Analysis and Interpretation: Inventory Turnover

- **Inventory turnover** measures the relationship between cost of merchandise sold and the amount of inventory carried during the period. It is calculated as follows:

$$\text{Inventory Turnover} = \frac{\text{Cost of Merchandise Sold}}{\text{Average Inventory}}$$

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Financial Analysis and Interpretation: Days' Sales in Inventory

- The **days' sales in inventory** measures the length of time it takes to acquire, sell, and replace the inventory. It is computed as follows:

$$\text{Days' Sales in Inventory} = \frac{\text{Average Inventory}}{\text{Average Daily Cost of Merchandise Sold}}$$

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Appendix: Estimating Inventory Cost

- A business may need to estimate the amount of inventory for the following reasons:
  - Perpetual inventory records are not maintained.
  - A disaster such as a fire or flood has destroyed the inventory records and the inventory.
  - Monthly or quarterly financial statements are needed, but a physical inventory is taken only once a year.
- Two widely used methods of estimating inventory cost are the retail inventory method and gross profit method.

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Appendix: Retail Method of Inventory Costing

- The **retail inventory method** of estimating inventory cost requires costs and retail prices to be maintained for the merchandise available for sale.
- A ratio of cost to retail price is then used to convert ending inventory at retail to estimate the ending inventory cost.

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Appendix: Gross Profit Method of Inventory Costing

- The **gross profit method** uses the estimated gross profit for the period to estimate the inventory at the end of the period.
- The gross profit is estimated from the preceding year, adjusted for any current-period changes in the cost and sales prices.

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