

Chapter 6 — Inventories

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Watch the full video lecture on YouTube: youtube.com/@optionflowtracker — these notes follow the chapter section by section, with the same ideas and the same numbers, so you can read along or revise after watching.

1 · Inventory and why the cost matters

Inventory is the goods a company holds for resale. For a merchandiser it's one line — merchandise inventory. The whole chapter is about one question: of all the goods a company bought this period, how much cost stays on the balance sheet as ending inventory, and how much flows to the income statement as cost of goods sold?

Cost of goods available for sale: Beginning inventory + net purchases. This total is split between ending inventory (an asset) and cost of goods sold (an expense).

The split is: Cost of goods available for sale = Ending inventory + Cost of goods sold. Value the ending inventory and the cost of goods sold falls out of the same total — so every dollar you put in one comes out of the other.

2 · Which goods do you actually own?

Before you can count inventory you have to know which goods belong to you at year-end. Two situations trip people up: goods in transit and goods on consignment.

Goods in transit: FOB shipping point -> the buyer owns the goods the moment they ship, so they belong in the BUYER's inventory even while in transit. FOB destination -> the seller owns them until delivery, so they stay in the SELLER's inventory until they arrive.

Consigned goods: Goods a company holds and tries to sell for someone else. They belong to the owner (the consignor), NOT to the company holding them (the consignee).

Counting the right goods. At year-end you have \$80,000 of goods on your shelves. You also bought \$6,000 of goods FOB shipping point still in transit (yours — add them), and you're holding \$9,000 of goods on consignment for another firm (not yours — leave them out). Correct inventory = $80,000 + 6,000 = \$86,000$.

3 · Specific identification

If you can tell each unit apart — think cars by VIN, or fine jewelry — you can track the actual cost of the exact unit sold. That's specific identification. It's precise but only practical for low-volume, high-value, distinguishable goods.

Specific identification. You hold three identical-looking machines that cost \$200, \$250, and \$300. You sell the one that cost \$250. Cost of goods sold = \$250; ending inventory = $200 + 300 = \$500$.

Most businesses can't track thousands of identical units this way, so they make a cost-flow ASSUMPTION instead — FIFO, LIFO, or average-cost. The assumption is about which costs flow out; it need not match the physical flow of the goods.

4 • Cost-flow assumptions (periodic): FIFO, LIFO, average

Under the periodic system you compute the three methods at period end from the pool of goods available for sale. Same goods, three different splits between ending inventory and cost of goods sold.

FIFO (first-in, first-out): The FIRST costs in are the first out to cost of goods sold. So ending inventory is made up of the MOST RECENT (last) purchase costs.

LIFO (last-in, first-out): The LAST costs in are the first out to cost of goods sold. So ending inventory is made up of the OLDEST (first) costs.

Average-cost: Weighted-average unit cost = cost of goods available ÷ units available. Apply that one average to both ending inventory and cost of goods sold.

The three methods, side by side. Brightwood Traders has 800 units available costing \$10,600 (100 @ \$10, 200 @ \$12, 300 @ \$14, 200 @ \$15). It sold 600 units; 200 remain. FIFO ending = last 200 @ \$15 = \$3,000, so COGS = 10,600 - 3,000 = \$7,600. LIFO ending = first 200 (100 @ \$10 + 100 @ \$12) = \$2,200, so COGS = \$8,400. Average unit = 10,600 ÷ 800 = \$13.25, so ending = 200 x 13.25 = \$2,650 and COGS = 600 x 13.25 = \$7,950.

5 • Cost-flow assumptions (perpetual): the moving-average twist

Under the perpetual system you assign a cost to each sale as it happens. FIFO and LIFO work the same way but are applied at each sale from the layers on hand. Average-cost becomes MOVING-average: you recompute the average after every purchase.

Perpetual, step by step. Begin with 100 @ \$10. Buy 200 @ \$12, then sell 150; buy 100 @ \$15, then sell 100. Goods available = \$4,900. FIFO: COGS \$2,800, ending \$2,100. LIFO: COGS \$3,300, ending \$1,600. Moving-average: after the first purchase the average is 3,400 ÷ 300 = \$11.33, so the 150-unit sale costs \$1,700; after the next purchase the average is 3,200 ÷ 250 = \$12.80, so the 100-unit sale costs \$1,280 -> total COGS \$2,980, ending \$1,920.

Note LIFO can give different answers under periodic vs. perpetual because perpetual locks in the 'last' cost available at each sale, while periodic waits until the end of the period.

6 • Which method, and why it matters

When prices are RISING, the three methods pull the numbers in predictable directions. Knowing this cold is worth several exam points.

- FIFO -> lowest cost of goods sold, so HIGHEST net income and HIGHEST ending inventory (and highest income taxes).
- LIFO -> highest cost of goods sold, so LOWEST net income and LOWEST ending inventory (its appeal is the LOWEST income taxes).
- Average-cost -> falls between FIFO and LIFO on every measure.

There's also a quality argument: FIFO's ending inventory is priced at the most recent costs, so it best approximates current cost on the BALANCE SHEET. LIFO's cost of goods sold is priced at the most recent costs, so it best matches current cost against revenue on the INCOME STATEMENT.

Consistency principle: A company should use the same inventory method period to period so results are comparable. It can change, but must disclose the change and its effect.

7 • Lower-of-cost-or-market

Inventory is normally carried at cost, but if its market value (net realizable value) falls below cost, accounting's conservatism says write it down. This is the lower-of-cost-or-market (LCM) rule, applied item by item.

An LCM write-down. Item A: 100 units, cost \$50, market \$45 -> use \$45 (lower) = \$4,500. Item B: 200 units, cost \$30, market \$35 -> use \$30 (lower) = \$6,000. Total LCM = \$10,500 vs. total cost \$11,000. Write the inventory down \$500: debit Cost of Goods Sold \$500, credit Inventory \$500.

You never write inventory UP above cost under LCM — only down. The loss hits income in the period the value falls.

8 • Inventory errors and how they unwind

Because ending inventory is subtracted to get cost of goods sold, an error in the count ripples straight through to net income — and then reverses next period.

- Overstate ending inventory -> understate COGS -> OVERSTATE net income this period.
- Understate ending inventory -> overstate COGS -> UNDERSTATE net income this period.
- This period's ending inventory is next period's BEGINNING inventory, so the error flips: the next period's net income is misstated the opposite way.

Self-correcting over two years. If ending inventory is understated by \$10,000, this year's COGS is overstated and net income is understated by \$10,000. Next year, beginning inventory is understated, COGS is understated, and net income is overstated by \$10,000. Over the two years the errors cancel, and owner's equity is correct again by the end of year two.

9 • Estimating inventory: the gross profit method

Sometimes you need an inventory figure without a physical count — for monthly statements, or when the inventory is destroyed in a fire. The gross profit method estimates it using the company's normal gross profit rate.

- Estimated cost of goods sold = Net sales $\times$ (1 - gross profit rate).
- Estimated ending inventory = Cost of goods available for sale - estimated cost of goods sold.

A fire-loss estimate. Beginning inventory \$30,000 + net purchases \$170,000 = \$200,000 available. Net sales are \$250,000 and the normal gross profit rate is 30%. Estimated COGS = $250,000 \times 70\% = \$175,000$. Estimated ending inventory = $200,000 - 175,000 = \$25,000$ — the amount to claim from the insurer.

10 • Estimating inventory: the retail method

Retailers who track goods at selling price use the retail inventory method. The trick is a cost-to-retail ratio that converts a retail-dollar ending inventory back to cost.

- Cost-to-retail ratio = goods available at COST $\div$ goods available at RETAIL.
- Ending inventory at retail = goods available at retail - net sales.
- Ending inventory at cost = ending inventory at retail $\times$ cost-to-retail ratio.

Retail method. Goods available: cost \$120,000, retail \$200,000 -> cost-to-retail ratio = 60%. Net sales are \$160,000, so ending inventory at retail = 200,000 - 160,000 = \$40,000. Ending inventory at cost = 40,000 x 60% = \$24,000.

11 · Analyzing inventory: turnover and days

Managers and investors watch how fast inventory sells. Two ratios do the job.

Inventory turnover: Cost of goods sold ÷ average inventory. It measures how many times the inventory is sold and replaced in the period. Higher usually means goods move quickly.

Days in inventory: 365 ÷ inventory turnover. The average number of days a unit sits before it's sold.

Turnover and days. Cost of goods sold \$500,000; beginning inventory \$80,000, ending inventory \$120,000 -> average inventory \$100,000. Turnover = 500,000 ÷ 100,000 = 5 times. Days in inventory = 365 ÷ 5 = 73 days.