

Inventory Valuation: FIFO and LIFO

FIFO AND LIFO are inventory cost flow assumption methods for valuing ending inventory. Why choose one method over another? Each method has advantages and disadvantages. The accountant must determine which method is best for his or her company. Depending on the type of inventory, one method may be preferable.



Objective:



Summarize cost flow assumptions for inventory valuation: FIFO and LIFO.

Key Terms:



cost flow assumption
cost of goods sold
(COGS)
FIFO

inventory
inventory valuation
LIFO
profit

specific identification
valuation method
valuation

Understanding Inventory Valuation

Inventory valuation is an important part of business in determining next steps.

COST FLOW ASSUMPTIONS

The best method to determine the COGS and ending inventory may vary based on the type of business.

Inventory

Inventory is the raw materials, work-in-process goods, and completed finished goods considered business assets ready (or soon ready) for sale. Turnover of inventory is a primary revenue generation and earnings source for businesses. **Valuation** is a process used to determine the current worth of an asset or a company. **Inventory valuation** is the process to determine

the current worth of physical stock, securities, etc. and allows a business to forecast and strategize methods to minimize inventory costs. For example, a just-in-time inventory strategy may be implemented.

Specific Identification Valuation Method

The **specific identification valuation method** is the maintenance of a detailed physical count of inventory so a company knows exactly how many of each good was purchased on a specific date, and cost remains at year-end (cycle-end) inventory. A specific identification method requires tracking and costing of individual inventory items. When the item sells, it is removed from inventory for that specific cost. This method is appropriate for companies with low inventory volumes or specific (easily identifiable) items of inventory, such as those items with serial numbers, etc. The inventory item is logged with and usually assigned a specific ID with information such as date acquired, purchase price, and description. For instance, jewelry is typically unique and is itemized by type, size, and style. A vehicle identification number (VIN) identifies specific automobiles. Yet furniture is large and easily identified.

The exact purchase price is used as the “cost of the goods sold” when an item sells. **Profit** is the difference between the sales value and the cost value. **Cost of goods sold (COGS)** is the cost attributable to the production of goods sold by a company. It is the cost of the goods sold to customers, not all the costs of production. It is also the account used to accumulate the expense to the business of purchasing inventory. It is used when the item is sold. Additionally, when the item is sold, that specific piece is effectively removed from available inventory. With the specific identification valuation method, cost flow is not assumed; it is the actual cost flow.

Cost Flow Assumptions

A **cost flow assumption** is a method of moving the cost of inventory to the COGS account at the end of the accounting cycle. The two common cost flow assumption methods are first in, first out (FIFO) and last in, first out (LIFO). **FIFO** is an inventory costing assumption.



DIGGING DEEPER...

UNCOVERING ADDITIONAL FACTS: LIFO Periodic and LIFO Perpetual

In addition to inventory cost flow assumptions, another topic of inventory is the periodic or perpetual accounting systems. Periodic accounting systems calculate inventory values at the end of the accounting cycle, while perpetual accounting systems keep a running total of the inventory value. Under FIFO, the cost of goods sold and ending inventory are no different between inventory systems. However, the LIFO balances will not be the same. To see how these balances differ under LIFO, review the example at

<http://accountingexplained.com/financial/inventories/lifo-method>

tion that the first goods purchased are also the first to be sold. **LIFO** is an inventory costing assumption that the last item purchased is the first one sold. The cost flowing out of inventory does not necessarily match the specific physical units being shipped. A company can select the costing method it prefers. However, the company must document any change in method and restate its prior financial statements.

FIFO COST FLOW ASSUMPTION

In FIFO, the concept of selling the oldest goods first ensures inventory does not become obsolete. FIFO charges inventory costs to cost of goods sold in chronological order. Products do not necessarily have to be assigned the cost of their natural cost flow. Examples of products with a natural FIFO cost flow are usually homogenous items that expire and need to be rotated (e.g., milk and other perishables). The first items purchased need to be the first items sold. When using FIFO cost flow:

- ◆ Layers of inventory are created representing the quantity of inventory stock purchased and the associated cost of that batch of inventory.
- ◆ As inventory is purchased, the layers are recorded in chronological order.
- ◆ As inventory is sold, the oldest layer of inventory stock is removed first until that layer is eliminated.
- ◆ The ending inventory balance reflects the most recent purchase prices.

Calculating COGS

To calculate the cost of goods sold and the value of ending inventory, a FIFO chart is created to track the purchase date, purchase quantity, purchase price (per unit), and sales quantity. Again, as inventory is sold, the first (top) layer is used to calculate the cost of goods sold. Accountants do not combine or tabulate the layers until an ending balance is desired. An example of a FIFO chart is shown in TABLE 1.

TABLE 1. FIFO Chart Example

Date	Purchases	Sales	Ending Inventory
July 3	20 units @ \$4.00		20 units @ \$4.00
July 6	10 units @ \$5.00		20 units @ \$4.00 10 units @ \$5.00
July 9		25 units: 20 units @ \$4.00 5 units @ \$5.00	5 units @ \$5.00
Cost of Goods Sold		20 × \$4.00 = \$80.00 5 × \$5.00 = \$25.00 \$105.00	
Value of Ending Inventory			5 × \$5.00 = \$25.00

LIFO COST FLOW ASSUMPTION

The LIFO cost flow assumption charges inventory costs to cost of goods sold in reverse chronological order. Products are not necessarily assigned the cost of the natural cost flow. Examples of products with a natural LIFO cost flow are usually homogeneous items that do not expire and need not be stocked in any special order, such as toothbrushes and T-shirts. In a LIFO inventory costing assumption, the last items placed in inventory are most likely stocked in front of the current inventory and, therefore, are sold first. Also, loose items (e.g., dirt and mulch) follow a natural LIFO cost flow. When using LIFO:

- ◆ Layers of inventory are created representing the quantity of inventory purchased and the associated cost of that batch of inventory.
- ◆ As inventory is purchased, the layers are recorded in reverse chronological order.
- ◆ As inventory is sold, the newest layer of inventory is used until that layer is eliminated.
- ◆ The ending inventory balance reflects the oldest purchase prices. Over time, especially in times of rising prices, this creates a gap in the accuracy of the value of the ending inventory.
- ◆ An advanced topic of accounting study, LIFO Liquidation, is applied to remove the old layers of inventory.

Calculate COGS

To calculate Cost of Goods Sold and the value of ending inventory, a LIFO chart is created to track the purchase date, purchase quantity, purchase price (per unit), and sales quantity.

Again, as inventory is sold, the last (bottom) layer is continually eliminated to calculate the cost of goods sold. As with FIFO charting, accountants do not combine or tabulate the layers until an ending balance is determined. An example of a LIFO chart is shown in TABLE 2.

TABLE 2. LIFO Example Chart

Date	Purchases	Sales	Ending Inventory
July 3	20 units @ \$4.00		20 units @ \$4.00
July 6	10 units @ \$5.00		20 units @ \$4.00 10 units @ \$5.00
July 9		25 units: 10 units @ \$5.00 15 units @ \$4.00	5 units @ \$4.00
Cost of Goods Sold		10 × \$5.00 = \$ 50.00 15 × \$4.00 = \$ 60.00 \$110.00	
Value of Ending Inventory			5 × \$4.00 = \$20.00

Summary:



A company selects a method for valuing inventory that best suits its needs. No method is considered superior to another. Regardless of the method selected, the cost is in the value of inventory or in the cost of goods sold. The company may choose to switch its method at any time if it is prepared to restate its prior financial statements to show the impact.

Checking Your Knowledge:



1. Explain two inventory cost assumption methods.
2. How is FIFO different from LIFO?
3. What accounts are used to record a sale?
4. What accounts are used to update inventory?
5. In your own words, explain the term “inventory layer.”

Expanding Your Knowledge:



Create two scenarios of inventory transactions to include purchases and sales of inventory. Have the purchase price gradually increase in one scenario and decrease in the other. Calculate the ending inventory and Cost of Goods Sold using FIFO and LIFO. Analyze the differences between the cost flow methods and pricing trends.

Web Links:



FIFO vs. LIFO

<http://blog.capterra.com/choosing-the-right-accounting-system-fifo-vs-lifo/>

FIFO vs. LIFO: The Difference

<http://www.businessnewsdaily.com/5514-fifo-lifo-differences.html>

LIFO: Pros and Cons

<http://smallbusiness.chron.com/pros-vs-cons-last-in-first-out-inventory-method-10648.html>