Inventory Valuation Methods: Understanding FIFO, LIFO, and WAC

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How do I value my Inventory?

For many businesses inventory valuation is a major issue that has an impact on the P&L, balance sheet and taxes. The general rule of thumb is that inventory should be valued at the lower of the cost (what you paid for it) and the market value (what its worth). Unless the inventory is obsolete, your inventory is generally valued at cost. But what is cost? Is it the last price you paid, the first price or the average price? In addition what does cost include? Does cost include labor and overhead (manufacturers) and freight or only the cost of the purchases?

What is the affect of valuation inventory on the P&L?

Your P&L and balance sheet are interconnected. How you value inventory determines costs of sales and therefore profit. The formula is as follows:

Costs of sales = Beginning Inventory + Inventory Purchases - Ending Inventory

Ending inventory depends on how you value inventory on your balance sheet.Therefore the lower the inventory, the higher costs of sales which results in lower profit. Conversely a higher inventory valuation results in lower cost of sales and higher profits.

What are the different valuation methods?

The three main valuation methods are:

1. First-in-first-out (FIFO): Meaning your costs of sales in determined by cost of the items you purchased the earliest and inventory is comprised of cost of the items you purchased the latest.
2. Last-in-first-out (LIFO): Meaning your costs of sales in determined by cost of the items you purchased the latest. It should be noted that depending on your industry, LIFO is not allowed for tax purposes.
3. Weighted Average Cost (WAC): Meaning your costs of sales in determined by average cost of the items you purchased determined at the time of sale.

To demonstrate how these three valuation methods result in different inventory values, consider the following ending inventory scenario:

- Company XYZ *purchased* 3000 widgets during the year and *sold* 1600, so it has 1400 widgets *in stock* at the end of the year. (There was no beginning inventory)

The following is a schedule of purchases it made:

Date	Qty	Cost per	Total cost
Jan 25, 2016	1,000	$1.00	$1,000
July 3, 2016	1,000	$1.25	$1,250
Nov 9, 2016	1,000	$1.10	$1,100

Total purchases = $3,350

The following is a schedule of sales of widgets:

Date	Qty	Price	Total Price
Feb 4, 2016	800	$2.00	$1,600
July 14, 2016	800	$1.80	$1,440

Total sales = $3,040

Under *FIFO* inventory would be valued at $1,600 (400 @ $1.25 + 1,000 @ $1.10). Cost of sales would be $1,750 ($0 + $3,350 - $1,600) and gross profit would be $1,290 ($3,040-$1,750)

- Under *LIFO* inventory would be valued at $1,500 (1,000 @ $1.00 + 400 @ $1.25). Cost of sales would be $1,850 ($0 + $3,350 - $1,500) and gross profit would be $1,190 ($3,040-$1,850)
- Under *WAC* you first determine cost of sales then back into inventory. Cost of sales would be $1,768 (800 @ $1.00 + 800 @ $1.21) inventory would $1582 ($0-3350-1768) and gross profit would be $1,582. The $1.21 was determined as follows: $200 of left from the first 1000 units plus $1,250 from the second 1000 units divided 1200 units.

In the real world you would not have to do any of these calculations yourself because the

computer would do it for you. However it's important to know the differences. When costs are rising, FIFO would have the highest inventory valuation and gross profit. When costs are falling, LIFO would have the highest inventory valuation and gross profit. WAC estimates FIFO.

You should also note that once you pick an inventory valuation method, you generally have to stick with it. You cannot change every year without raising eyebrows from your bankers and other readers of your financial statements.

What is included in cost of inventory?

In addition to the cost of purchasing the inventory itself, costs of inventory may include all costs that make the inventory available for sale: (i.e. duty, freight and in the case of manufacturers, factory labor & overhead). Practically, however, very few small businesses include anything but the actual cost of purchasing the inventory on their financial statements. The reasons are twofold. Firstly including the additional costs in inventory would decrease cost of sales and increase profit. Most small businesses want to minimize taxes and therefore have an inventory value as reasonable low as possible. Secondly, fully costing inventory is time consuming unless you have a manufacturing specific software program.