FIFO LIFO Inventory Valuation Methods

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Aggressive and Conservative Accounting Series

For previous articles in the series, click on the links below.

Inventory Valuation Methods in Accounting – FIFO LIFO inventory Method

Inventory can make up a large amount of the assets on the balance sheet and so knowing how to analyze the inventory, and the method used by management is crucial.

A large part of **stock valuation** comes from being able to understand how inventory is valued and built.

To put it in the most basic form, inventory is what you have in stock. If you expand on this definition to look at what is involved on the other side of the scale to get the ending inventory amount, the equation for inventory is

Beginning Inventory + Net Purchases – Cost of Goods Sold = Ending Inventory

In words, your beginning inventory along with your purchases and then subtracting what you have sold, results in ending inventory.

But this is where it gets tricky with GAAP rules. Depending on the inventory valuation method used by the company, the COGS can vary considerably which ultimately affects the ending inventory.

Sadly, it is not as easy as counting what is left on the shelf at the end of the day to get the ending inventory value.

Three inventory valuation methods are used in the US.

1. Average cost method

2. First In First Out (FIFO) method

3. Last in First Out (LIFO) method

Average Cost Method

To put it real bluntly, the average cost method is rarely used. This method does not offer any real convenience or added accuracy.

The equation for average cost method is as follows.

Average Cost = (Total Quantity of Inventory Units) / (Total Quantity of Units)

where

Cost of Goods Sold = (Average Unit Cost) x (Number of Units Sold)

For example if 1,000 toys are produced on Monday at a cost of $1 and then on Tuesday another 1,000 toys are manufactured at a price of $1.05, the average cost method would value the inventory at $1.025 a piece.

FIFO Method

As mentioned previously on aggressive and conservative accounting policies, the FIFO method of valuing inventory is considered to be the aggressive method.

FIFO works like how you maintain your fridge at home. After you have bought some groceries, you tend to place what you just bought at the back of the fridge in order to finish off the older food before it spoils.

In other words, under FIFO, the oldest goods are sold first and the newest goods are sold last.

As a formula it would look like this

Unit Cost per batch = (Cost/Quantity) for each batch

where

Cost of Goods Sold = (Unit Cost x Quantity) for each batch

Using the toy example above, if 1,000 toys were then sold on Wednesday, the COGS would be $1 per unit. The remaining inventory on the balance sheet would then be worth $1.05 each.

LIFO Method

LIFO is the opposite of FIFO. Instead of the oldest inventory being considered as sold first, the newest product is sold first. While the factory analogy works for the FIFO, consider a bakery. By lunch or evening, the bread baked from the morning will not sell as well as the fresh ones from the afternoon batch.

This means that cost of the latest inventory now becomes the COGS with the cost of the oldest inventory being assigned to the inventory value on the balance sheet.

The equation is essentially the same as FIFO since both are calculated based on batches of unit sold.

Unit Cost per batch = (Cost/Quantity) for each batch

where

Cost of Goods Sold = (Unit Cost x Quantity) for each batch

Using the toy example, the 1,000 units sold on Wednesday would have a COGS of $1.05 per unit, with the remaining 1,000 toys being valued at $1 each.

How Inventory Valuation Affects Profits and Assets

As you can see from above, despite ending with the same 1,000 toys, FIFO assigns the inventory value to

be $1,050 compared to the LIFO $1,000.

But another point is that the method of inventory valuation does not just affect the balance sheet. Gross profit also varies considerably. How?

Gross Profit = Sales – COGS

COGS differ under FIFO and LIFO, and if your COGS is low, then that means gross profit will increase.

The table below sums up how each of the three inventory valuations vary.

FIFO LIFO inventory Valuation Method

Things to Think About Regarding Inventory

Assuming that the world is in a vacuum, the table above illustrates that FIFO results in the biggest gross profit as well as the highest ending inventory value. This is a reason why FIFO is the method of choice for most companies.

Should a company change its accounting policies to switch from LIFO to FIFO, watch out, as management is more focused on trying to increase earnings instead of improving their operations.

How Inventory Method Affects Income Statement & Balance Sheet

	Units	Purchase Price
1st Inventory Batch	$1,000	$1,000
2nd Inventory Batch	$1,000	$1,050
3rd Inventory Batch	$1,000	$1,100
4th Inventory Batch	$1,000	$1,150
Total Inventory	$4,000	$4,300
Average Cost per 1,000 Units		$1,075

	Average Cost	LIFO	FIFO
Sales (1,000 units @ $1.50)	$1,500	$1,500	$1,500
COGS	$1,075	$1,150	$1,000
Gross Profit	$425	$350	$500
Starting Inventory Value	$4,300	$4,300	$4,300
- COGS	$1,075	$1,150	$1,000
Ending Inventory Value	$3,225	$3,150	$3,300

FIFO LIFO inventory valuation method

If the toy manufacturer above was using the LIFO method and reported $350 in gross profit but then decided to change to FIFO resulting in a restated $500 gross profit, the accounting change alone has increased gross profit by 42.8%!

Also consider this. FIFO increases net income which would in turn increase taxes, but as I stated previously, most public companies are more concerned with showing an increase in earnings.

On the other hand, LIFO is not a good indicator of ending inventory as the remaining inventory could be extremely old and is likely to understate the inventory at today's prices.

In the end, valuation is more art than science and you can probably see that after following this.

The best way to decide whether a company is being aggressive with inventory valuation is to use common

sense and to check out the competitors in the industry. If everyone else is using the LIFO method and company X is the only one using FIFO, then you know you have found a red flag.

For such a simple component of the financial statement, there is quite a lot to think about.

You can also learn more about inventory analysis for investors by following the link.