



INVENTORY VALUATION

Meaning of Inventory

Inventory is tangible property to be consumed in production of goods or services or held for sale in the ordinary course of business.

Inventories are unconsumed or unsold goods purchased or manufactured



Inventories generally constitute the largest current assets of manufacturing firms.

Definition

According to Accounting Standard (AS) – 2

(Revised)

Inventories are “assets:

- a) held for sale in the ordinary course of business;
- b) in the process of production for such sale; or
- c) in the form of materials or supplies to be consumed in the production process or in the rendering of services.”

Inventories

1. Finished goods:

- Purchased or
- Produced completely but remaining unsold

2. Work-in-progress (work-in-process):

- Units introduced into the production process but are yet to be completed.

3. Raw Materials, Components, Stores and Spares:

- Raw materials - goods that are yet to be introduced into the production process.
- Stores and spares - factory supplies such as coolants, cleaning material, and machinery spares.

• **Manufacturing concern** - inventory consists of all of the above 3 components

• **Trading concern** - inventory consists of finished goods

Objectives of Inventory Valuation



1. Determination of true income

- **The matching process** requires closing inventory to be deducted from the cost of goods available for sale (COGAS) to determine profits for an accounting period

2. Determination of true financial position

- Inventory is shown as a **current asset** in the balance sheet, at the end of the accounting period

Effect of an inventory error on profit

- **An error in the value of the year-end inventory will distort :**
 - cost of goods sold,
 - gross profit,
 - net profit, current assets, and
 - equity.
- **Overvaluation of closing stock leads to :**
 - overstatement of current year profits and
 - understatement of profits of succeeding years and vice-versa.

Inventory systems

The principal systems for determination of physical quantities and the valuation of inventory

Types:

1. Periodic inventory system
2. Perpetual inventory system

Periodic inventory system

Quantity and value of inventory determined only at the **end of the accounting period** after taking a physical count of the inventory.

- Also known as “**Annual Stock Taking**”.
- **Cost of goods sold (COGS)** is a residual figure and is obtained as follows:

$$\text{COGS} = \text{Opening stock} + \text{total purchases} - \text{closing stock}$$

Periodic inventory system

Advantage

It is simple to understand

Drawbacks

- **Quantity and value of inventory not known** on a continuous basis
- No accounting is done for **shrinkage, losses, theft, and wastage**
 - **Assumes** materials not in stock have been used

Perpetual Inventory System

Records the balance of inventory after every receipt and issue to facilitate regular checking and to avoid closing down the firm for stock-taking

- Also known as **continuous inventory system**
- There is **continuous physical stock-taking** throughout the year and physical stocks are verified and compared with the balances recorded in stock registers (bin cards and stores ledger).

Perpetual Inventory System

- The closing inventory is calculated as a residual figure, ascertained as follows:

$$\text{Closing Stock} = \text{Opening Stock} + \text{Purchases} - \text{Cost of goods sold}$$

Perpetual Inventory System

Advantages

- **Helps in preparation of Interim** financial statements
- **Regular checking and rigid control**
 - Reduces the possibility of loss, theft, stock shortages
 - Helps in identification of slow moving and obsolete stock
- **Avoids the suspension of business** for stock taking as physical stocks can be counted whenever desired.

Drawback

- Elaborate system - more expensive.

Valuation of Inventory

“Inventories should be valued at lower of historical cost and net realisable value.”

-International Accounting Standard:2(IAS 2)

- This principle is based on the convention of **conservatism**.
- This is the *lower-of-cost-or-market (LCM) rule*.
- *Market* refers to *NRV*.
- **Net realisable value (NRV)** is “the estimated selling price in the ordinary course of business less the estimated costs of completion and the costs necessary to make the sale.”

Historical cost

Historical cost .(IAS 2) represents the aggregate of:

- **cost of purchase**-purchase price, duties & taxes, freight inwards, etc
- **cost of conversion**-direct and indirect manufacturing costs
- **other costs** incurred in the normal course of business in bringing the inventories to their present locations and conditions.

NB: It does not include storage costs, selling and Distribution costs, costs of abnormal wastage and cost of administration overheads.

Inventory costing methods

- *Are the methods for assigning historical costs to inventory.*
- Inventory prices keep fluctuating during the year.
- Proper costs have to be assigned to inventory as well as goods sold so as to ensure proper determination of income.
- **Note:** the assigning of costs need **not** conform to the **physical flow** of goods but conforms to the cost flow
- ***Physical flow*** refers to the actual sequence in which goods are physically used or sold in the operations of the business.
- ***Cost flow*** refers to the association of costs with the assumed sequence in which the goods are used or sold.

Inventory costing methods

- *The two commonly used methods for assigning historical costs to inventory and goods sold include:*
 1. First-in, first-out (FIFO)
 2. Last-in, first-out (LIFO)
 3. Weighted-average cost (WAC)
- Others include: Specific identification, HIFO, NIFO, base stock and standard cost methods.

First-in, first-out (FIFO)

- **Assumes materials received first in the stores are the first to be issued (or sold) and therefore, materials in stock are the materials purchased last.**
- **Inventory items are issued at the oldest price listed in the stores ledger until the first batch is fully utilized.**
- ***This does not mean that the physical flow is FIFO!!!***

First-in, First-out (FIFO)

Advantages :

1. Simple and easy
2. **Closing stock** valued nearer to **current market prices**
3. Based on **realistic assumption** because the actual physical flow too often follows the FIFO sequence.

Disadvantages

1. **Improper matching** of costs with revenues since the cost of goods sold is computed on the basis of old prices that are possibly unrealistic.
2. **Difficult to compare 2 jobs** using the same type of material if different prices are charged

Example

- The beginning inventory on 1 October is 100 units @ Rs.9.50. The following lots were received:

20 th October 100units	@ Rs. 10
25 th October 200units	@ Rs. 11
15 th November 100 units	@ Rs. 11.50
20 th December 100 units	@ Rs 12

- The closing stock consists of 250 units. What will be the value of closing stock and the cost of goods sold if the FIFO method is used for inventory valuation?

Example

From the following information prepare stores ledger A/c as per FIFO

1 st January	Opening stock	200 units	@ Rs. 2 each
5 th January	Purchases	100 units	@ Rs. 2.20 each
10 th January	Purchases	150 units	@ Rs. 2.40 each
20 th January	Purchases	180 units	@ Rs. 2.50 each
2 nd January	Issues	150 units	
7 th January	Issues	100 units	
12 th January	Issues	100 units	
28 th January	Issues	200 units	

Last-in, First-out (LIFO)

- Assumes that the materials or goods received last in the stores are the first to be issued or sold.
- Therefore the cost of the units in the ending inventory is that of the earliest purchases.

Last-in, First-out (LIFO)

Advantages

- Ensures that the current revenues are matched with the recent purchases, thus resulting in **realistic reported profits**

Disadvantage

- The **balance sheet value** of inventories is **unrealistic** as it does not reflect current market conditions
- Cost **comparison of similar jobs** is difficult

Weighted Average Cost method

This method assumes that the goods available for sale are homogenous and values inventory on the basis of weighted average price

- This method is based on the presumption that once the materials or goods are put into a common bin, they lose their separate identity. Hence, the inventory consists of no specific batch of goods.
- The inventory is thus priced at weighted average price i.e. average prices paid for the goods, weighted according to the quantity purchased at each price.

Weighted Average Cost method

- **Weighted average cost** is computed as follows:

$$\text{Weighted average cost} = \frac{\text{Cost of goods available for sale}}{\text{Number of units available for sale}}$$

Where, Cost of goods available for sale =
Cost of beginning inventory + All purchase

$$\text{Weighted average cost} = \frac{\text{Value of materials in hand}}{\text{Number of units in hand}}$$

- A new weighted average price is calculated, whenever a new consignment is received, by adding value of consignment to cost of stock in hand divided by total units.
- This rate is used until new consignment arrives.

Weighted Average Cost method

Advantages

1. It is more scientific and smoothens the fluctuation in purchase prices
2. Inventory is valued at one rate

Disadvantages

1. Its tedious- Requires the issue price to be computed each time a consignment is received

Comparison of Alternative Methods During Fluctuation of Prices

Direction of Price Change	Ending Inventory	Cost of Goods Sold	Gross Profit
Increasing	FIFO > WAC > LIFO	LIFO > WAC > FIFO	FIFO > WAC > LIFO
Constant	FIFO = WAC = LIFO	FIFO = WAC = LIFO	FIFO = WAC = LIFO
Decreasing	LIFO > WAC > FIFO	FIFO > WAC > LIFO	LIFO > WAC > FIFO

Comparison of Alternative Methods During Fluctuation of Prices

- Periods of rising price
 - LIFO method -more meaningful income statement but a less realistic balance sheet
 - FIFO -more meaningful balance sheet but a less realistic income statement.
- Periods of falling price
 - The situation will be reverse.
- Both LIFO and WAC allow a business to manipulate net profit by changing the timing of additional purchases.
- Note:LIFO is not permitted by the Indian Accounting Standards but there are no rigid rules for income tax purposes