Inventory and Cost of Goods Sold

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Understanding Inventory and Cost of Goods Sold

- Service companies such as FedEx, United Healthcare, Allstate Insurance, and Marriott Hotels generate revenues by providing services to their customers.

- FedEx delivers your packages, United Healthcare treats your medical needs, Allstate provides insurance coverage and Marriott offers you a place to stay the night.

- Many companies, though, generate revenues by selling inventory rather than a service.

Understanding Inventory and Cost of Goods Sold

- ***Inventory includes items a company intends for sale to customers in the ordinary course of business.***
  - You can several types of inventory - clothes, shoes, building supplies, grocery items, digital equipment, and so on.
- Inventory also includes items that are not yet finished products.
  - For instance, lumber at a cabinet manufacturer, steel at a construction firm, and rubber at a tire manufacturer are part of inventory because the firm will use them to make a finished product for sale to customers.

Understanding Inventory and Cost of Goods Sold

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- We typically report inventory as a current asset in the balance sheet - *an asset* because it represents a valuable resource to the company, and *current* because the company expects to convert it to cash in the near term.

- At the end of the period, the amount the company reports for inventory is the cost of inventory *not yet sold.*

- But what happens to the cost of the inventory sold during the period?

- The company reports the cost of the inventory it sold as ***cost of goods sold***, an expense, in the income statement.

Understanding Inventory and Cost of Goods Sold

- Determining the amount of ending inventory and cost of goods sold is a critical task in accounting for inventory.

- For companies that sell inventory, ending inventory is often the largest asset in the balance sheet, and cost of goods sold often is the largest expense in the income statement.

- Before we explore how companies calculate these amount, we first need to consider the different types of inventory between manufacturing and merchandising companies.

Types of Companies in Related to Inventory

We distinguish these types of companies in related to inventory:

- Manufacturing companies
- Merchandising companies

Manufacturing Companies

- Manufacturing companies produce the inventories they sell, rather than buying them in finished form from suppliers.

- Apple Inc., Coca-Cola, Ford, Sony and Intel are manufactures.

- Manufacturing companies buy the inputs for the products they manufacture.

Manufacturing Companies

- Thus, we classify inventory for a manufacturer into three categories:

  1. raw materials,
  2. work in process,
  3. finished goods.

Raw Materials and Finished Goods

- Raw materials inventory includes the cost of components that will become part of the finished product but have not yet been used in production.

- Finished goods inventory consists of items for which the manufacturing process is complete.

Work-in-Process

- Work-in-process inventory refers to the products that have been started in the production process but are not yet complete at the end of the period.

- The total costs include:
  - raw materials,
  - direct labor,
  - and indirect manufacturing cost *called overhead*.

Inventory

- *Intel manufactures* the components that are used to build computers.

- At any given time, Intel´s inventory includes the cost of materials that will be used to build computer components (raw materials), partially manufactured components (work-in-process), and fully assembled but unsold components (finished goods).

- These separate inventory accounts are added together and reported by Intel as total inventories.

Merchandising Companies

- Merchandising companies, such as Best Buy, don´t manufacture computers or their components.

- Instead, Best Buy purchases finished computers from manufacturers, and then these computers are sold to customers like you.

- Merchandising companies may assemble, sort, repackage redistribute, store, refrigerate, deliver, or install the inventory, but they do not manufacture it.

- They simply serve as intermediaries in the process of moving inventory from the manufacturer to the end user.

Wholesalers and Retailers

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- Merchandising companies can further be classified as wholesalers or retailers.

- ***Wholesalers*** resell inventory to retail companies or to professional users.

  - For example, a wholesale food service company like Sysco Corporation supplies food to restaurants, schools, and sporting events but generally does not sell food directly to the public.

- Also, Sysco does not transform the food prior to sale; it just stores the food, repackages it as necessary, and delivers it.

Wholesalers and Retailers

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- ***Retailers*** purchase inventory from manufacturers or wholesalers and then sell this inventory to end users.

- You probably are more familiar with retail companies because these are the companies from which you buy products.

  - For example, Best Buy, Target, and McDonald´s are retailers.

- Merchandising companies typically hold their inventories in a single category simply called ***inventory.***

Inventory Cost Methods

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- We´ve discussed the cost of inventory without considering how we determine that cost.

- We do that now by considering four methods for inventory costing:

  1. Specific identification
  2. Fist-in, first-out (FIFO)
  3. Last-in, first-out (LIFO)
  4. Weighted-average cost

Specific Identification

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- The specific identification method is the method you might think of as the most logical.
- It matches - or identifies - each unit of inventory with its actual cost.
- For example, an automobile has a unique serial number that we can match to an invoice identifying the actual purchase price. Fine jewelery and pieces of art are other possibilities.
- Specific identification works well in such cases.
- ***For that reason, the specific identification method is used primarily by companies with unique, expensive products with low sales volume.***

Specific Identification

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- Most companies instead use one of the three inventory cost flow assumptions - FIO, LIFO, or weighted-average cost.

- FIFO, LIFO, and weighted-average cost assume a particular pattern of inventory cost flows.

- However, the actual flow of inventory does not need to match the assumed cost flow in order for the company to use a particular method.

- ***Companies are allowed to report inventory costs by assuming which units of inventory are sold and not sold, even if this does not match the actual flow.***

- This is another example of using estimates in financial accounting.

First-in, First-out

- Using the first-in, first-out (FIFO) method, we assume that the first units purchased (the first in) are the first ones sold (the first out).
- We assume that beginning inventory sells first, followed by the inventory from the first purchase during the year, followed by the inventory from the second purchase during the year, and so on.

Last-in, First-out

- Using the last-in, first-out (LIFO) method, we assume that the last units purchased (the last in) are the first ones sold (the first out).

- In other words, the very last unit purchased for the year is assumed to be the very first unit sold.

- While this pattern of inventory flow is unrealistic for nearly all companies, LIFO is an allowable reporting practice.

- ***Companies that use LIFO for reporting purposes calculate cost of goods sold and ending inventory only once per period - at the end.***

- This means that companies don´t keep a continual record of LIFO amounts throughout the year.

Weighted-Average Cost

- Using the weighted-average cost method, we assume that both cost of goods sold and ending inventory consist of a random mixture of all the goods available for sale.

- We assume each unit of inventory has a cost equal to the weighted-average unit cost of all inventory items.

- We calculate that cost at the end of the year as

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

FIFO or LIFO ???

- Management must weigh the benefits of FIFO and LIFO when deciding which inventory cost flow assumption will produce a better outcome for the company.

- Here we review the logic behind that decision.

Why Choose FIFO?

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- ***Most companies´ actual physical flow follows FIFO.***

- Think about a supermarket, sporting goods store, clothing shop, electronics store, or just about any company you´re familiar with.

- These companies generally sell their oldest inventory first (first-in, first-out).

- If company wants to choose an inventory method that most closely approximates its actual physical flow of inventory, then for most companies FIFO makes the most sense.

Why Choose FIFO?

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- Another reason managers may want to use FIFO relates to its effect on the financial statements.

- ***During periods of rising costs, which is the case for most companies, FIFO results in***

    1. ***a higher ending inventory***
    2. ***lower cost of goods sold,***
    3. ***and higher reported profit than does LIFO.***

- Managers may want to report higher assets and profitability to increase their bonus compensation, decrease unemployment risk, satisfy shareholders, meet lending agreements, or increase stock price.

Why Choose LIFO?

- If FIFO results in higher total assets and higher net income and produces amounts that most closely follow the actual flow of inventory, why would any company choose LIFO?

- ***The primary benefit of choosing LIFO is tax savings.***

- LIFO results in the lowest amount of reported profits (when inventory costs are rising). While that might not look so good in the income statement, it´s a welcome outcome in the tax return.

- When taxable income is lower, the company owes less in taxes to the Internal Revenue Service (IRS).

Why Choose LIFO?

- Can a company have its cake and eat it too by using FIFO for financial reporting and LIFO for the tax return? No.

- The IRS established the ***LIFO conformity rule***, which requires a company that uss LIFO for tax reporting to also use LIFO for financial reporting.

Thank you for your attention.