'Know Thy Numbers' Installment 6: Inventory Accounting

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Tags: Accounting-Auditing-Taxation, Business Management, Financial Literacy,

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The Basics of Inventory Accounting

The 2020 annual financial statements of The Home Depot, Inc. reported its merchandise inventories at January 31, 2021 as $16,627,000,000. The company's annual report provided the following additional disclosures in its itemization of Critical Accounting Policies:

"We value the majority of our inventory under the retail inventory method, using the first-in, first-out method, with the remainder of our inventories valued under a cost method. Under the retail inventory method, inventories are stated at cost, which is determined by applying a cost-to-retail ratio to the retail value of inventories."

So…what does that all mean? What are inventories, and why does Home Depot need to tie up more than $16 million of its resources in that asset class?

What is Inventory?

According to US Generally Accepted Accounting Principles (GAAP), inventory is defined as follows:

"The aggregate of those items of tangible personal property that have any of the following characteristics:

- Held for sale in the ordinary course of business [finished goods]
- In process of production for such sale [work in process of a manufacturer]
- To be currently consumed in the production of goods or services to be available for sale. [raw materials used by a manufacturer]"[1]

Inventory is an essential asset category because a business needs to sell its inventory to generate revenues to pay payroll and other expenses, and ultimately, to return profits to owners. Stated another way, a business needs to buy or manufacture inventory to sell to customers to generate and collect accounts receivable and receive cash. It is intended that the inventory be sold at a price greater than its cost in order to generate a markup that, in the aggregate, exceeds the costs of the inventory and the other expenses of the business in order to make a profit for owners.

What is Inventory Accounting?

Inventory comprises raw materials, work in process and finished goods. It is shown in the annual financial statements of the business as a current asset. When the inventory is sold to customers, an entry is made in the company's accounting books to transfer the inventory at cost to cost of goods sold (COGS)—an income statement item.

"Inventory accounting is the valuation of inventory products for resale. The management of both inventory purchases and inventory sales should follow US GAAP rules, which require that all inventory be properly accounted for at the lower of cost or net realizable value. Net realizable value is the inventory's estimated selling price in the ordinary course of business, less reasonably predictable costs of completion, disposal, and transportation."[2]

Management is permitted, under US GAAP, to elect from various alternative methods of measuring the flow of goods through the cycle. That cycle starts with obtaining raw materials, incurring costs to convert the raw materials to sub-assemblies or to saleable finished goods, and processing orders from customers to ship those finished goods to them. These various alternative methods are necessary because of the effects of inflation.

In times when prices are rising, the seller will have incurred lower costs for goods acquired prior to a price increase imposed by the supplier. Simultaneously, the seller will incur higher costs for the same goods acquired after a price increase by the supplier. When such goods are sold to a customer, this begs the question, "Were the goods sold to the customer the higher priced goods, the lower priced goods or a mix of both?"

Inventory Accounting Methods: LIFO, FIFO and Weighted Average

The transfer of the costs of inventory sold to COGS is based on the inventory costs. The business elects a methodology to consistently measure that cost. That cost measurement method could be made using a specific identification method (the business identifies and matches the actual cost to the actual items); or using a weighted average method (the business allocates costs to each item in inventory based on the weighted average cost to make or buy the inventory. This value of inventory is reported on income tax returns, and IRS-approved methods also include the Last In First Out (LIFO) method (items made or bought last are assumed to be sold first) or the First In First Out (FIFO) method (items made or bought first are assumed to be sold first).

In the LIFO method, the value of inventory is calculated by multiplying the number of units sold by the cost per unit, using the cost your company paid for the most recently purchased inventory first and then working your way back to inventory your company purchased earlier in the current period or prior periods. There are various shortcuts and techniques that are permitted to be used to compute LIFO inventory that make this calculation a less laborious process.

In the FIFO method, the value of inventory is calculated by multiplying the number of units sold by the cost per unit starting with the earliest purchased inventory and working towards more recent stock.

Use of LIFO for income tax reporting, however, imposes a statutory obligation on the taxpayer company to use LIFO for financial reporting purposes as well. This is referred to as the "LIFO conformity rule". While LIFO is a legal practice in the US, it is not permitted in inventory accounting in other nations, where FIFO is more standard.

Inventory Ratio Analysis

Inventory is a large investment for many companies, so it is important that this asset be managed wisely. Too little inventory means lost sales opportunities, whereas too much inventory means unproductive investment of resources and extra costs related to the financing, storage, care and protection of the inventory. Ratio analysis is used to measure how well management is performing at maintaining just the right amount of inventory for the needs of their business.

Once calculated, inventory ratios can be compared to the previous years' ratios for the company, the ratios of direct competitors, industry ratios and the ratios of companies in other related industries. The insights gained from the inventory management ratio analysis could be used to augment an analysis of the general strength and stability of a company, with the full data available in the annual report, including financial statements and notes to the financial statements.

Inventory ratio analysis relates to how efficiently the company's investment in its inventory is being managed. Two specific ratios can be used to assess how efficiently management is handling inventory:

- The first ratio, inventory turnover, measures the number of times an average quantity of inventory was bought and sold during the period.
- The second ratio, number of days' sales in inventory, measures the average number of days it takes to complete the cycle between buying and selling inventory.

Inventory Turnover Ratio and Number of Days' Sales

Inventory Turnover Ratio = COGS/Average Inventory

Inventory turnover ratio is computed by dividing cost of goods sold by average inventory. The ratio measures the number of times inventory rotated through the sales cycle for the period.

Days' Sales in Inventory = Ending Inventory/COGS x 365

The Days' Sales in Inventory (DSI) ratio is calculated by dividing the value of your ending inventory by the cost of goods sold, then multiplying the result by the number of days in the year (or number of days in a shorter period as necessary). This ratio allows companies to see, on average, how many days it takes to sell inventory and turn product into cash flow.

The results yielded by computing inventory management ratios would, of course, depend on the valuation methodology elected by management, so care should be used when comparisons are made to the previous years' ratios for the company, the ratios of direct competitors, industry ratios and the ratios of companies in other related industries.

There are distortive effects that can occur when computing inventory management ratios during the COVID-19 pandemic, because there are widespread inventory shortages on many essential items (lumber and other building materials, semiconductors, automobiles, etc.). This is causing companies to re-think their previous strategies of "just-in-time" inventory acquired from a single supplier due to the financial risks of an interruption in the supply chain. As a result, management of many companies are accumulating (some might say "hording") larger quantities of inventory and seeking multiple, alternative suppliers to avoid an unforeseen interruption in the supply of key components.

There may be valid business reasons for the accumulation of larger than usual quantities of these key components, which will result in reduction in inventory turnover and a corresponding increase in days' sales in inventory. Time will tell whether this change in inventory management is temporary or permanent—but it will need to be a consideration in interpreting the results of inventory management ratio analysis.

To summarize, inventory is a critically important asset of any merchandising or manufacturing company. Proper inventory accounting and management ensures a smooth, uninterrupted production process and an optimized investment in the goods most vital to customer demand.

[**Editors' Note**: Browse all installments of Know Thy Numbers/Know Thy Business, starting at the beginning with 'Know Thy Numbers' Installment #1 – Welcome to the Jungle, an Introduction to the Series.

To learn more about this and related topics, you may want to attend the following webinars: Valuation; EBITDA and Other Scary Words; Finance and Accounting 101.]

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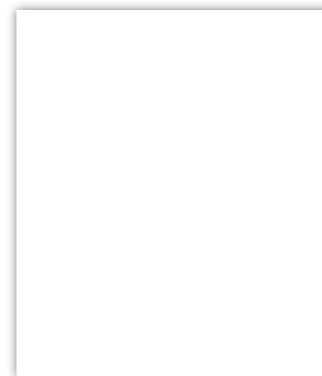
1. Master Glossary of Financial Accounting Standards Board's (FASB's) Accounting Standards Codification (ASC) ↵

2. FASB Master Glossary ↵

About Michael Pakter



Michael D. Pakter has more than 40 years of experience in forensic accounting, investigations and litigation services in numerous industries and diverse engagements, including more than 20 years of experience in economic damages and business valuations. State, Federal and Bankruptcy Courts, as well as arbitrators, have recognized him as an expert in forensic accounting, economic...

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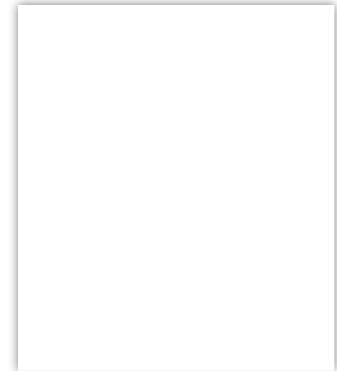

Ralph Nach has more than 40 years of experience in the accounting profession in a variety of capacities including audit partner, quality control director, and external peer reviewer. He has also served as a partner in the National Office of Accounting and Auditing of the fifth largest international accounting firm, the U.S. Chief Learning Officer…

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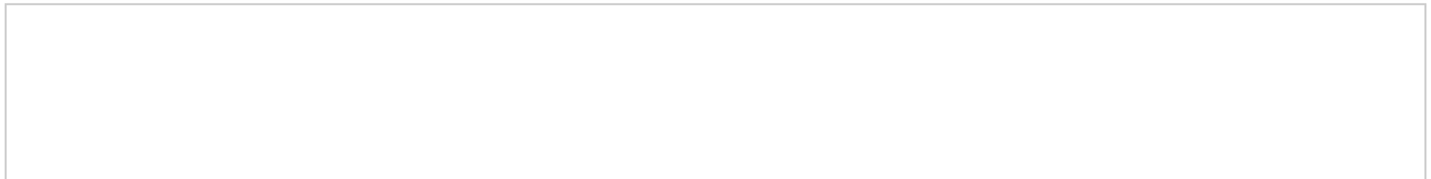

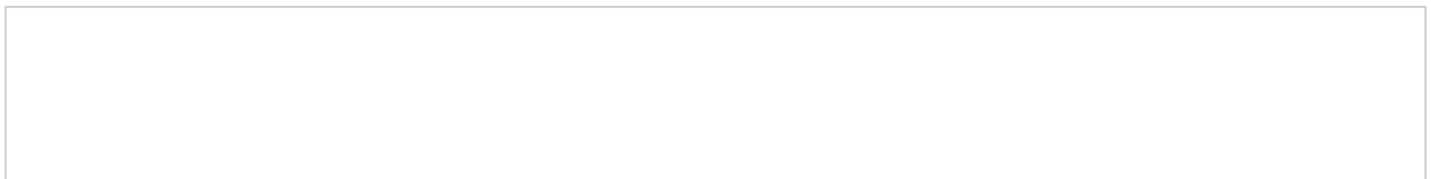

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