

Congress of the United States
JOINT COMMITTEE ON TAXATION
Washington, DC 20515-6453

JUN 12 2006

MEMORANDUM

TO: Mark Prater and Pat Heck

FROM: Thomas A. Barthold *T.A.B.*

DATE: June 12, 2006

RE: Present law and background related to the last-in, first-out method of inventory accounting, in connection with a hearing of the Senate Committee on Finance on June 13, 2006.

This is in response to your request for background information on inventory accounting in advance of the Senate Committee on Finance public hearing on corporate tax issues, scheduled for June 13, 2006. One of the issues which may be addressed is the use of the last-in, first-out ("LIFO") method of inventory accounting. This memorandum, prepared by the staff of the Joint Committee on Taxation, provides a description and comparison of various methods of inventory accounting and a discussion of present law governing inventory accounting for Federal income tax purposes.

A. Inventory Accounting Methods

1. In general

In general, the inventory of a business includes those items that are held for sale in the ordinary course of business, as well as the raw materials that will be used in producing items for sale. Inventory items that are in the production process but not yet finished also are considered part of inventory. Inventory accounting refers, broadly, to the process of measuring the value of the inventory at the beginning and the end of an accounting period, as well as the costs of inventory items acquired and the cost of goods sold during the accounting period.¹

A simple formula describes the relationship of these items:

Beginning Inventory + Purchases - Cost of Goods Sold = Ending Inventory

¹ While inventory accounting can be performed using any accounting period, the terms accounting period and year are used interchangeably throughout this memorandum.

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Because the beginning inventory is equal to the prior period's ending inventory, it is a known quantity. Similarly, the cost of purchases during the period generally is known. Thus, the process of inventory accounting largely relates to allocating the sum of beginning inventory and current-period purchases between those items sold during the period and those which remain on hand at the end of the period. This determination is important because it has a direct impact on the net income reported by the business. Costs allocated to cost of goods sold offset sales proceeds in the current period, reducing current-period income. Costs allocated to ending inventory are deferred and will offset sales proceeds in future periods.

2. Description and comparison of inventory accounting methods

Specific identification

One method of inventory accounting requires the specific identification of those items of inventory that are sold during the year and those that remain on hand in ending inventory. If this specific identification can be made, the income reported on the sale of each item reflects the actual difference between the sale proceeds and the historic cost of each item. In addition, ending inventory reflects the exact cost of those items remaining on hand. The effect of any inventory price fluctuations (the difference between the actual cost of goods sold and the market price, or replacement cost)² is reflected in net income.

The use of the specific identification method may not be practical in cases of fungible goods or inventories that contain a very large number of items. If individual items are not identified when sold, assumptions must be made regarding the flow of goods (and their related costs) through the business's inventory.³ These cost flow assumptions include the first-in, first-out ("FIFO") method, the last-in, first-out ("LIFO") method, and the average cost method.

² When costs are rising, this may be referred to as inflationary gain. However, inflation is not the only factor that could increase per-unit costs; for example an increase in the per-unit quality caused by using a greater quantity of underlying raw materials might increase per-unit costs despite constant prices of raw materials. In addition, the cost of specific inventory items may rise as market conditions change independent of overall inflation.

³ The assumptions which must be made when not using the specific identification method will almost never reflect the actual flow of goods and costs. In evaluating the merits of a given assumption, one might consider the degree to which the assumption is perceived to match the actual flow of goods and costs as well as its ease of use.

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First-in, first-out

Under the FIFO method, it is assumed that the first items entered into the inventory are the first items sold. Because the earliest acquired units are deemed to be sold first, ending inventory is valued at the most recent prices; the effect of price fluctuations (i.e., the difference between the current market prices and those actually paid by the business or the inflationary gain) is reflected in cost of goods sold (and therefore in current income). When costs are rising, the FIFO method results in a lower measure of cost of goods sold and, consequently, a higher measure of income.

Last-in, first-out

In general

Under the LIFO method, it is assumed that the last items entered into the inventory are the first items sold. Because the most recently acquired or produced units are deemed to be sold first, cost of goods sold is valued at the most recent costs; the effect of cost fluctuations is reflected in the ending inventory, which is valued at the historical costs rather than the most recent costs. Compared to FIFO, LIFO produces net income which more closely reflects the difference between sale proceeds and current market cost of inventory. When costs are rising, the LIFO method results in a higher measure of cost of goods sold and, consequently, a lower measure of income when compared to the FIFO method. The inflationary gain experienced by the business in its inventory is generally not reflected in income, but rather, remains in ending inventory as a deferred gain until a future period in which sales exceed purchases.⁴

Dollar value LIFO

Under a variation of the LIFO method, known as dollar value LIFO, inventory is measured not in terms of number of units but rather in terms of dollar value relative to a base cost. While the mechanical application of dollar value LIFO is beyond the scope of this memorandum, it is important to note that the use of dollar value LIFO permits the "pooling" of dissimilar items into a single inventory calculation. Thus, LIFO can be applied to a taxpayer's entire inventory in a single calculation even if the inventory is made up of a variety of items that are not subject to the same unit of measure. For example, a single dollar value LIFO calculation

⁴ When sales exceed purchases, the business must treat a portion of its beginning inventory as having been sold. This results, to some extent, in recognition of previously deferred gain and is generally referred to as a LIFO liquidation.

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can be performed for an inventory that includes both yards of fabric and sewing needles. This effectively permits the deferral of inflationary gain to continue even as the inventory mix changes or certain goods previously included in inventory are discontinued by the business.

Average cost methods

Average cost methods of inventory accounting differ from LIFO and FIFO in that they require the business to assign an identical cost amount to all units of inventory. This per-unit cost represents the average cost of all units of inventory available for sale.⁵ This method reflects the inherent assumption that each sale includes some number (or fraction) of units from each prior purchase. There are many variations of average cost methods. For example, some methods use a simple average of inventory unit prices, while others use a weighted average based on the number of units actually purchased at each price.

Over a period of time during which prices move in one direction, either increasing or decreasing, average cost methods generally result in cost of goods sold, ending inventory, and net income measures which fall somewhere between those computed under FIFO and LIFO. The degree of proximity to either LIFO or FIFO depends on a number of factors, including how frequently the average cost is recalculated and the business's sales volume relative to its inventory levels.

Example of inventory accounting methods

The following example shows the application of various inventory accounting methods under a simple fact pattern.

Assumptions

Assume that a business's beginning inventory is comprised of the following:

⁵ For purposes of this discussion, the term "average cost method" refers to the use of an average of beginning inventory cost and current-period purchases. This is often referred to as a moving average cost method. This method should be distinguished from the use of average cost for valuing individual inventory layers when using variations of the FIFO and LIFO methods.

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Date Purchased	Units	Per Unit Cost	Total Cost
2003	10	\$1.00	\$10.00
2004	10	\$1.06	\$10.60
2005	20	\$1.12	\$22.40
Total Beginning Inventory	40	N/A	\$43.00

Assume further that the business purchased, in 2006, 20 units of inventory at a per-unit cost of \$1.18. The total cost of 2006 purchases is \$23.60.

Finally, assume that in 2006 the business sold 20 units of inventory at \$1.50 each for total proceeds of \$30.

FIFO method

Under the FIFO method, it is assumed that the 20 units sold in 2006 were the first units purchased (i.e., those purchased in 2003 and 2004). The total cost of those units is \$20.60, so the business reports gross sales of \$30 and net income from sales of \$9.40.

The ending inventory includes 40 units and is assumed to be comprised of those units purchased in 2005 and 2006, with a total cost of \$46.⁶

LIFO method

Under the LIFO method, it is assumed that the 20 units sold in 2006 were the last units purchased (i.e. those purchased in 2006). The total cost of those units is \$23.60, so the business reports gross sales of \$30 and net income from sales of only \$6.40.

⁶ The inventory formula presented on page one, using the FIFO method, is as follows:

$$\text{Beg. Inv. } (\$43) + \text{Purchases } (\$23.60) - \text{Cost of Goods Sold } (\$20.60) = \text{End. Inv. } (\$46)$$

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The ending inventory includes 40 units and is assumed to be comprised of those units purchased in 2003, 2004, and 2005, with a total cost of \$43.⁷

Average cost method

Under the average cost method, the business calculates the average cost of all units available for sale. The total cost of those units is \$66.60 (\$43 beginning inventory plus \$23.60 current year purchases). This \$66.60 is divided by 60 (the total number of units), producing a per-unit average cost of \$1.11. This average cost is multiplied by the number of units sold (20) to produce a cost of goods sold of \$22.20. Thus, the business reports gross sales of \$30 and net income from sales of \$7.80.

The ending inventory includes 40 units, each of which is also valued at the average cost of \$1.11. Thus, ending inventory is \$44.40.⁸

Analysis

Over the years in which the business purchased inventory units, inflation caused the per-unit cost to increase. As of 2006, the per-unit price had reached \$1.18. Therefore, the 2003 units had appreciated by \$0.18 each, for total inflationary gain of \$1.80. Similarly, the 2004 units had appreciated by \$0.12 each, for total inflationary gain of \$1.20. Aggregate inflationary gain in the 2003 and 2004 units was \$3.

Under the FIFO method, the 2003 and 2004 units were deemed sold in 2006, so the combined \$3 of inflationary gain was reflected in the business's net income. By contrast, under the LIFO method, the 2003 and 2004 units were deemed to remain in ending inventory and the business was deemed to have sold the units purchased at current prices. Thus, none of the \$3 inflationary gain was reflected in net income. This \$3 is the difference between the net income under the FIFO method of \$9.40 and the net income under the LIFO method of \$6.40.⁹ If prices

⁷ The inventory formula presented on page one, using the LIFO method, is as follows:

$$\text{Beg. Inv. } (\$43) + \text{Purchases } (\$23.60) - \text{Cost of Goods Sold } (\$23.60) = \text{End. Inv. } (\$43)$$

⁸ The inventory formula presented on page one, using average cost method, is as follows:

$$\text{Beg. Inv. } (\$43) + \text{Purchases } (\$23.60) - \text{Cost of Goods Sold } (\$22.20) = \text{End. Inv. } (\$44.40)$$

⁹ The \$3 difference can also be seen in the ending inventory valuations. The ending inventory under the FIFO method is closer to current replacement cost, whereas the ending inventory under the

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are rising, the FIFO method will always produce a higher measure of net income than the LIFO method by including inflationary gains in net income to a greater extent.¹⁰

Under the average cost method, a portion of the inflationary gain was allocated to net income and a portion was allocated to ending inventory. Accordingly, the net income computed under the average cost method is less than that computed under the FIFO method but greater than that computed under the LIFO method.

B. Inventory Accounting under the Internal Revenue Code

1. Taxpayers who must keep inventories

In general, for Federal income tax purposes, taxpayers must keep inventories on an accrual basis if the production, purchase, or sale of merchandise is a material income-producing factor to the taxpayer.¹¹

2. Permissible methods of inventory accounting

In general

In general, inventory methods used for Federal income tax purposes must conform to the best accounting practices in the taxpayer's trade or business and must clearly reflect income.¹² The use of the specific identification method is permitted under regulations, and the FIFO method is mandated for taxpayers who do not elect to use LIFO and for whom the use of specific

LIFO method is \$3 lower, reflecting a deferred gain which will be recognized in net income in future periods when the 2003 and 2004 units are ultimately sold.

¹⁰ In the example, the 2005 units also had appreciated. However, the 2005 units were not assumed sold under either cost flow assumption, and therefore the inflationary gain in those units was not recognized in net income under either method.

¹¹ Sec. 471(a) and Treas. Regs. sec. 1.471-1. This requirement applies regardless of the taxpayer's overall method of accounting. Cash method taxpayers generally deduct costs in the year in which they are paid, but may not do so with respect to the cost of inventory items.

¹² Sec. 471(a).

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identification is impossible.¹³ Under section 472 of the Code, any taxpayer may elect to use the LIFO method, regardless of whether use of the LIFO method would otherwise meet the general requirements discussed above.

Further discussion of the LIFO method

Conditions for use of LIFO method

The LIFO method may be adopted as of the end of any taxable year. Electing taxpayers must apply the method in a consistent manner from year to year and must value inventories at cost rather than the lower of cost or market.

Electing taxpayers must also establish to the satisfaction of the Secretary of the Treasury that the taxpayer has not used a method other than LIFO in calculating its net income as reported to shareholders, owners, creditors, or potential creditors.¹⁴ This so-called “LIFO conformity requirement” is more stringent than the general requirement that accounting methods be the same as those used to keep the taxpayer’s books. That requirement, which applies to all inventory methods, has been held to be satisfied when sufficient records are kept to reconcile the taxpayer’s books with the tax return.

In the case of LIFO conformity, no method other than LIFO may be used for the computation of profit or loss for external reporting purposes for the full taxable year. A non-LIFO method may be used for interim reporting purposes (partial years), for internal management purposes, for the purpose of reporting asset valuations, and several other areas specifically excepted by regulations.¹⁵

Under limited circumstances, a non-LIFO method may be reflected in supplementary or explanatory material. This includes footnotes to the primary income statement itself so long as all footnotes are grouped together and accompany the income statement in a single report.¹⁶

¹³ Treas. Reg. sec. 1.471-2(d) provides that “goods taken in the inventory which have been so intermingled that they cannot be identified with specific invoices will be deemed to be the goods most recently purchased or produced.”

¹⁴ Sec. 472(c).

¹⁵ Treas. Reg. sec. 1.472-2(e).

¹⁶ Treas. Reg. sec. 1.472-2(e)(3)(i).

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Also included in the supplementary or explanatory exception are disclosures which are clearly identified as such. The use of a different variation of LIFO method for external reporting purposes from the variation of LIFO method used for tax purposes does not constitute a violation of the conformity requirement.

Special rules for qualified liquidations of LIFO inventories

In general, assuming rising prices, taxpayers using LIFO have an incentive to maintain or build inventory levels rather than allowing them to fall. So long as inventory levels are steady or growing the taxpayer never is deemed to have sold any of its older, lower-cost inventory, and inflationary gain is deferred indefinitely. However, in a period in which the inventory level falls, the taxpayer necessarily will (absent a special rule) be deemed to have sold some units purchased in a prior period, and the inflationary gain in those periods will be recognized in taxable income.¹⁷

In certain circumstances, reductions in inventory levels may be beyond the control of the taxpayer. Section 473 of the Code mitigates the adverse effects in certain specified cases by allowing a taxpayer to claim a refund of taxes paid on LIFO inventory profits resulting from the liquidation of LIFO inventories if the taxpayer purchases replacement inventory within a defined replacement period. The provision generally applies when a decrease in inventory is caused by reduced supply due to government regulation or supply interruptions due to the interruption of foreign trade.

Simplified rules for certain small businesses

In 1986, the Congress enacted a simplified dollar value LIFO method for certain small businesses.¹⁸ In doing so, the Congress acknowledged that the LIFO method is generally considered to be an advantageous method of accounting, and that the complexity and greater cost of compliance associated with LIFO, including dollar value LIFO, discouraged smaller taxpayers from using LIFO.¹⁹

¹⁷ By contrast, inflationary gain is generally recognized in earlier periods under the FIFO method, so taxpayers using FIFO do not have a similar incentive to maintain or build inventory levels.

¹⁸ Sec. 474(a).

¹⁹ Joint Committee on Taxation, *General Explanation of the Tax Reform Act of 1986 (H.R. 3838, 99th Congress; Public Law 99-514)*, (JCS-10-87), May 4, 1987, p. 482.

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To qualify for the simplified method, a taxpayer must have average annual gross receipts of \$5 million or less for the three preceding taxable years.²⁰ Under the simplified method, taxpayers are permitted to calculate inventory values by reference to changes in published price indexes rather than comparing actual costs to base period costs.

Policy considerations

Proponents of the LIFO method argue that the method provides the most accurate reflection of current-period income because it matches relatively current costs against current sales revenues. They point out that the taxpayer will have to replace the inventory to continue in business and that by including the most recent additions to the inventory in cost of goods sold, the required cost of replacing the inventory is more closely projected.

However, FIFO proponents argue that LIFO permits deferral of inflationary gains in a taxpayer's inventory even when those gains arguably have been realized by the business. Outside of the inventory context, inflationary gains are generally taxed when the gain is realized (i.e., the appreciated asset is sold). Furthermore, the use of earlier acquired items to value ending inventory understates net worth in times of rising prices and as a result understates the income which measures the change in net worth for a given period. It is also noted that since ending inventory under LIFO is controllable by the purchase of additional units at year-end, the LIFO approach is susceptible to manipulation after most of the results for the year are known to the taxpayer.

In addition, FIFO proponents argue that a business whose inventory turns over with regularity should not value inventory as if it includes items purchased many years ago, as may frequently be the case under LIFO. However, LIFO proponents counter that, although there may be turnover in inventory, it is highly unlikely that there is a time when there are no units in the inventory at all. They view this perpetual layer of inventory as a required condition of doing business and best valued at the time the layer was established. LIFO accomplishes this, while FIFO would misstate it by assigning more recent prices experienced after the layer came into existence.

Average cost supporters are satisfied by none of the above arguments and say that if it cannot be determined which item from an intermingled group was sold, the only responsible approach is to use some form of average of all the costs in the inventory account.

²⁰ Sec. 474(c).