

The IPIC LIFO Guide



**Prepared by
LIFO-PRO, INC.**

LIFO Services & Software
11620 Arbor Street, Suite 100
Omaha, NE 68144
(402) 330-8573
(877) 848-6583 fax
lifopro@lifopro.com
www.lifopro.com

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Overview

The Inventory Price Index Computation (IPIC) method allows taxpayers to use published external indexes to calculate inflation for the purpose of valuing LIFO inventories. The IPIC method was first authorized by the IRS in 1982 in order to provide an approved method that would simplify LIFO calculations & make LIFO more accessible to smaller taxpayers.

A taxpayer using the IPIC method must assign appropriate Bureau of Labor Statistics (BLS) Consumer Price Index (CPI) or Producer Price Index (PPI) categories to inventory items in order to measure the amount of inflation used for LIFO calculations. Manufacturers & wholesalers are required to use PPI while retailers are allowed to use either CPI or PPI. These indexes are used to calculate category inflation indexes. Category inflation indexes are then weighted by inventory dollars (taxpayers using the optional 10% Method must also use BLS weights) to compute a current year inflation index for each pool. Taxpayers using the IPIC method can use the IPIC pooling method for which pools are created using broad CPI or PPI major groups (and not the individual categories). Use of the IPIC pooling method is not mandatory & other authorized pooling methods may be used. The pool cumulative indexes are used to deflate the inventory current-year cost (FIFO or average cost) to base period prices, which is then compared to the prior year's inventory valued at base period prices. If the current year's inventory at base is greater than the previous year's inventory at base, the increment is multiplied by the pool cumulative inflation index to price the LIFO layer. If the current year's inventory at base is less than the previous year's inventory at base, the decrement erodes a previous layer (or multiple layers) & is priced using the index(es) originally used to price the layer(s).

IPIC Method Origin

On March 16, 1982 the Department of Treasury published IRS Reg. § 1.472-8(e)(3) as Treasury Decision 7814 regarding the IPIC method. This IPIC method is commonly referred to as "Simplified LIFO". The Simplified LIFO term was first used by the IRS to refer to a method of using published indexes authorized by IRS Code §474 that could be used by very small businesses, originally defined as companies with three-year average annual gross receipts of \$2 million (later revised to \$5 million) or less. Very few taxpayers ever used this method & now the Simplified LIFO term is used by CPAs to describe the IPIC method. The purpose of the IPIC method is to simplify the use of LIFO accounting by allowing companies to use published indexes.

Since the 1940s the IRS has allowed broad line retailers (i.e., department stores & discount chains) to use published government indexes. The National Retail Federation contracted with the BLS to compile a special set of Department Store Indexes (DSI) as a subset of the Consumer Price Indexes (CPI). Broad line retailers could then use pools corresponding to the DSI categories & utilize one index per pool, which greatly simplified their LIFO calculations.

The prospect of using published indexes was very appealing to food retailers. In 1975 the Food Merchandisers LIFO Advisory Committee of the Food Marketing Institute (FMI) began to work towards the goal of gaining IRS approval for their members to use published indexes. The concept of using published indexes was appealing to food retailers for the same reasons it was to the broad lines retailers, i.e., because of the great difficulty in calculating internal inflation indexes. The cost to develop indexes specifically for food retailers was deemed to be too great & the use of a single Food at Home CPI for all goods would not have provided sufficient accuracy, so the committee devised what resulted in the IPIC Method regulations using existing published indexes & establishing rules to provide a good balance between precision & simplicity. In January 1983, the FMI published a booklet entitled *Handbook for LIFO Tax Valuations Inventory Price Index Computation Method (IPIC)* which

was a guide for use of the IPIC Method for supermarket chains. Use of the IPIC method has allowed companies to avoid the onerous task of calculating internal indexes which is particularly difficult for smaller firms. The IPIC Method is not without its drawbacks. The 10 Percent method, which was mandatory in the original 1982 IPIC Regs., requires a complicated two-tiered weighting calculation in which multiple indexes for each pool were first weighted by BLS Weights of Relative Importance & then by actual inventory dollars. While small taxpayers were allowed to use 100% of the inflation calculated with the IPIC method, all other taxpayers were allowed to use only 80% for tax purposes.

The 2002 IPIC Regulations

On May 19, 2000 the IRS published proposed changes to the IPIC LIFO Regulations under Treasury Regulations Section 1.472-8(e)(3) & solicited comments regarding the proposed regulations. A public hearing was held in Washington, D.C. on September 15, 2000 on the proposed regulations.

On January 8, 2002 the IRS issued final Regulations § 1.472-8(e)(3) in Treasury Decision 8976. The following is a synopsis of most important changes encompassed in the new Regs:

- **100% inflation** - All taxpayers may now use 100% of inflation calculated using IPIC for tax purposes. The elimination of the "20% haircut" should encourage more widespread use of IPIC.
- **Use of 10% categories & BLS Weights** - The use of this method was mandatory under the old Regulations but is now optional. Taxpayers now have the option of using only their actual FIFO inventory balances to calculate weighted average pool indexes. Having this option provides for simplification of pool index calculations for companies that can sort their inventories into the Most Detailed CPI or PPI categories the new Regulations require & taxpayers for whom assigning BLS categories to their inventory in greater detail would be burdensome or impossible can still use the IPIC method.
- **Elimination of requirement to use cost complements** - The requirement to make stage of production index conversions using gross margin percentages, (i.e., convert the CPI retail selling price indexes to a cost basis for companies not using Retail LIFO) was well intentioned by the IRS but created numerous problems in practical application. This change is greatly welcomed by any company to whom this applied under the old Regulations.
- **Use of CPI categories by retailers** - Many retailers using CPI categories who do not use the Retail Inventory Method would have been forced to use PPI categories under the proposed Regulations. Under the final new Regulations, these companies can still use CPI categories & can do so without making cost complement adjustments that the old Regulations required. The use of PPI categories for these retailers would have been burdensome because the CPI categories correlate much better with their inventory mix than the PPI categories.
- **Use of Weighted Harmonic mean** - Since the great majority of taxpayers have used the Weighted Arithmetic Mean in the past, this will require a change for most taxpayers. The new method always produces less inflation or greater deflation than using the Weighted Arithmetic Mean method. The decrease in LIFO benefits this produces is relatively small for most taxpayers (much less compared to using 100% vs. 80% of inflation), though this difference will be significant for some. A likely source of confusion will be the requirement that the Weighted Harmonic Mean is to be used only for pool index FIFO dollars weighting calculations & not for the Category Index BLS weighting calculations required for calculations using the 10 percent categories & BLS Weights method.
- **Change in definition of 10% categories** - Most taxpayers who continue to use the 10 percent categories & BLS Weights method under the new Regulations will need to sort their inventories in greater detail. This is because the new Regulations definition of the 10% categories threshold is the sum of each pool's FIFO inventory values. The old Regulations specified that the denominator for the 10% categories was "total inventory value" which almost all taxpayers interpreted to mean

either the sum of their FIFO inventory values, the sum of their FIFO inventory values on LIFO, or the sum of their FIFO inventory values for which the IPIC method was used. A small minority of taxpayers used the sum of each pool's FIFO inventory values as the 10% categories threshold. Not only does the new definition of 10% categories require more detailed BLS category assignment, it makes this process more complicated because instead of there being one threshold amount for all inventories, there will now be as many different 10% thresholds as there are pools.

IPIC Method Advantages & Disadvantages

Advantages

- **Index calculation simpler than internal index in certain cases** - Use of a published index precludes the need to calculate an internal index unless companies switch for tax LIFO only. Internal index calculations can be a major undertaking for manufacturers & can be avoided altogether if companies use the IPIC method.
- **IRS audit exposure reduced for past years** - Companies switching to the IPIC method are provided a "Safe Harbor" by the IRS with respect to methods used in years prior to the change. IRS audit exposure may be eliminated in these areas:
 - **Pooling** - Many companies use pooling methods not authorized by the IRS. Taxpayers may elect the optional IPIC pooling rules thereby establishing an acceptable pooling method.
 - **Statistical sampling** - Many companies use internal index sampling methods not acceptable to the IRS. For example, a company's sampling method may exclude new items.
 - **Other** - Some manufacturers still use the components-of-cost method despite its prohibition by the IRS. Some manufacturers also incorrectly apply raw materials only indexes to total inventory dollars including labor & overhead dollars. Companies can eliminate exposure from use of these methods by adopting IPIC.
- **Easy means of switching from the double-extension method** - The IRS has been reluctant to permit changes from this submethod to the link-chain method, especially for companies whose annual turnover of inventory items is not rapid. Taxpayers can make this change without IRS consent when electing the IPIC method & electing the link-chain submethod as an automatic approval change.
- **Higher inflation indexes possible** - Some companies have found CPI or PPI inflation rates to be consistently higher than their internal index inflation. For most large supermarket chains the advantage of using CPI vs. internal indexes has been substantial. An annual positive differential of 1% between CPI or PPI inflation & a company's internal index inflation would reduce taxable income by \$1 million annually for a company with \$100 million in total inventory at FIFO cost at the beginning of a year.
- **Fewer pools possible** - Supermarket chains not using IPIC LIFO are required to maintain as many as 12 pools. Supermarket chains using IPIC LIFO use between 3 & 6 pools because IPIC LIFO allows pooling based on the 8 different CPI Major Groups & this is the number of pools typically required using this method. Having fewer pools will produce additional LIFO benefits because layer erosions are fewer since decreases in formerly separate pools will be offset by increases in others when pools are combined.
- **IPIC LIFO need not be also used for financial reporting** - Companies may adopt IPIC for tax purposes while continuing to use internal indexes for book LIFO. Higher tax LIFO expense may result without increasing the amount of the book LIFO expense if the internal indexes used for financial reporting are less than the IPIC tax indexes.

Disadvantages

- **Implementation time** – Developing a means to sort inventory by the appropriate CPI or PPI categories can require considerable time & effort. The annual BLS CPI or PPI category assignment task is often time-consuming for companies with any of the following situations:
 - Large amount and variety of items
 - Multiple stages of production
 - Significant percentage of new items introduced into product mix annually
- **Separate Book & Tax calculations for companies required to continue using internal indexes for Book & IPIC for Tax** – Although there are hundreds (if not thousands) of companies that use IPIC LIFO for Book & Tax, most publicly-traded companies along with some larger private corporations are required to maintain internally-calculated inflation indexes for financial reporting while using IPIC LIFO for Tax, meaning a company must maintain separate Book & Tax LIFO layer histories.
- **Certain goods are difficult or unable to be mapped to a BLS category** – The BLS has multiple BLS PPI categories for certain items, and determining the “correct” category is dependent on material composition. For example, there are often two possible PPI categories for plumbing fitting, and determining the correct code requires knowing if the product is made of plastic or metal. For many various items, this is often burdensome or impossible to determine, meaning judgement calls must often be made. Furthermore, the BLS has limited or no coverage for certain types of inventories, meaning a “catch-all” category must be used in the absence of a more applicable one.
- **Higher inflation not guaranteed** - Higher CPI or PPI inflation than for internal indexes historically is no guarantee that it will in the future.

IPIC Method LIFO Calculation Procedures

1. **BLS Category Assignment** – all items on LIFO are required to be assigned a Consumer or Producer Price Index category. Some companies assign these categories by product hierarchy (category, class, departments, groups, lines etc.) to preclude doing so on an item-by-item basis.
2. **Inflation Index Calculation** – front-end exercise to compute the following input variables required to complete the back end of the LIFO calculation:
 - a. **Current-year cost balance (CYC)** – total average-cost or FIFO on LIFO balance.
 - b. **Current year inflation index** – involves comparing current vs. prior period BLS price indexes. The detailed IPIC LIFO inflation index steps are described later in this guide.
3. **LIFO Reserve Calculation** – computation of increments/decrements, LIFO inventory, reserve & expense (income) values (detailed steps shown in [LIFO Inventory Training Basics & Audit Guide](#))

BLS Inflation Index Options

The Regs. permit retailers to choose either Consumer Price Indexes (CPI) or Producer Price Indexes (PPI). All other taxpayers must use PPI. The *Table 2 CPI for All Urban Consumers (CPI-U): U. S. city average, by detailed expenditure category* is used for CPI. The *Table 9 PPIs for commodity and service groupings and individual items* or *Table 11. PPIs for the net output of industries and their products* can be used for PPI. Use of PPI Table 11 indexes rather than Table 9 PPI is extremely rare because the main difference between these tables is in the organization (Table 9 is by commodity type & Table 11 is by industry) & there are Table 9 index categories corresponding to almost every Table 11 index category. The references in the Regs. to the PPI Detailed Report tables are Table 6 for commodities & Table 5 for industries. The BLS changed the numbers of these tables in 2014 so that Table 9 is now the commodities table & Table 11 is now the industries table.

LIFO Pooling Method Options for IPIC Users

Use of the IPIC pooling method is not mandatory for companies using the IPIC method. The following are alternative pooling methods provided by the IRS:

- **By line, type, or class of goods** – Wholesalers & retailers can use separate pools for each major line, type, or class of goods. Customary business practices for a trade or industry determine what constitutes a major line, type, or class of goods. Authorized by Regs. § 1.472-8(c).
- **Natural business unit pooling** – A pooling method authorized by Regs. § 1.472-8(b)(1) for manufacturers & processors. A Natural Business Unit (NBU) includes all inventory items related to a product line or related product lines, including raw materials, work in process, & finished goods. Distinct business units require separate pools. A natural business unit may be defined based on divisions established by internal management, separate production facilities or processes, or separate financial records. Manufacturers that also purchase goods for resale are required by the IRS in Rev. Rul. 79-290, Rev. Rul. 82-192 & PLR 8842061 to use separate pools for manufactured goods & goods purchased for resale.
- **Multiple pools** – Companies may group together similar items in a pool even if they are not all within the same natural business unit. Grouping goods together to form a pool may be based on such factors as the similarity or interchangeability of raw materials, the similarity of the production processes, the similarity of the use of the products, standard practices within the trade or industry, & whether the goods are treated similarly by a company's management. Authorized by Regs. § 1.472-8(b)(3)(i).
- **Raw materials content** – Goods with similar raw materials, including the raw material content of work-in-process & finished goods may be grouped together to form a pool for manufacturers or processors. Raw materials that are not similar in nature may not be grouped together in the same pool even if they are processed or manufactured into the same finished product. Authorized by Regs. § 1.472-8(b)(3)(ii).

To maximize tax savings, companies should use as few pools as possible because this will reduce the likelihood of decrements because decreases in inventory values will be offset by increases in others for groupings of inventory items included in the same pool. Decrements result in lower-cost goods being included in cost of goods sold which increases taxable income.

IPIC Pooling Method Guidelines

The IPIC method Regs. allow for IPIC LIFO taxpayers to optionally elect to use the IPIC LIFO pooling method. This method is referred to as the IPIC 5% pooling method. Under this method, pools are established for each PPI Table 9 2-digit category or CPI Major Group which includes 5% or greater of the taxpayer's total FIFO inventory balances on LIFO. A single de minimis or all other pool will include the inventory balances represented by the less than 5% 2-digit PPI codes or CPI Major Group. If the total FIFO inventory balances for this all other pool is less than 5%, these 2-digit PPI codes or CPI Major Groups may be included in the largest pool. This determination is made upon election of the IPIC method & the Regs. provide for review of the pools used every other year in which case more or less pools may be required as determined by the same 5% rule.

CPI IPIC Pools (BLS CPI Major Expenditure Category Groups)

Unlike for the PPI, the BLS does not introduce new CPI categories & discontinue old ones every three months. The BLS restructured the entire CPI series beginning in January 1998, though & similar restructurings may occur in the future.

The 2002 New Regs specified that LIFO taxpayers using Consumer Price Indexes & the IPIC Pooling Method should use the CPI major expenditure categories (i.e., major groups) as their IPIC pools. These Major Groups are not defined in the Regs. but appear to be these:

Pool #	CPI Code	CPI Major Expenditure Group	Pool Name
1	SAF	Food & Beverages	Food & Beverages
2	SEHE	Fuel Oil & Other Fuel	Housing
2	SAH3	Household Furnishings & Operations	Housing
3	SAA	Apparel	Apparel
4	SAT1	Private transportation (Inc. gasoline)	Transportation
5	SAM1	Medical Care Commodities	Medical Care
6	SAR	Recreation	Recreation
7	SEEA	Educational Books & Supplies	Education & Communication
7	SEEE	Information & Information Processing	Education & Communication
8	SAG	Other Goods & Services	Other Goods & Services
8	SEGA	Tobacco & Smoking Products	Other Goods & Services
8	SEGB	Personal Care Products	Other Goods & Services
8	SEGE	Miscellaneous Personal Goods	Other Goods & Services

PPI IPIC Pools (BLS PPI Major Commodity Groups)

Similar to IRS CPI Regs., taxpayers using Producer Price Indexes & the IPIC pooling Method should use the PPI major commodity groups as their IPIC LIFO pools, and are as follows:

Pool #	PPI Code	BLS PPI Major Commodity Group & Pool Name
01		Farm Products
02		Processed Foods & Feeds
03		Textile Products & Apparel
04		Hides, Skins, Leather & Related Products
05		Fuels & Related Products & Power
06		Chemicals & Allied Products
07		Rubber & Plastic Products
08		Lumber & Wood Products
09		Pulp, Paper, & Allied Products
10		Metal & Metal Products
11		Machinery & Equipment
12		Furniture & Household Durables
13		Nonmetallic Mineral Products
14		Transportation Equipment
15		Miscellaneous Products

BLS PPI Code Hierarchy

Each two-digit General Category is comprised of successively more-detailed three-digit, four-digit, six-digit, & eight-digit categories. For example, the 02 – Processed foods & feeds PPI category includes 9 three-digit categories:

Three-digit 02 - Processed foods & feeds categories

PPI Code	PPI Commodity Name
021	Cereal & bakery products
022	Meats, poultry, & fish
023	Dairy products
024	Processed fruits & vegetables
025	Sugar & confectionery
026	Beverages & beverage materials
027	Fats & oils
028	Miscellaneous processed foods
029	Prepared animal feeds

Four-digit 021 – Cereal & bakery product categories

PPI Code	PPI Commodity Name
0211	Bakery products
0212	Flour & flour base mixes & doughs
0213	Milled rice
0214	Other cereals

Six-digit 0211 – Bakery product categories

PPI Code	PPI Commodity Name
021101	White pan bread
021104	Other bread
021105	Bread type rolls
021107	Sweet yeast goods
021108	Soft cakes
021109	Pies
021121	Cookies, crackers, & related products

Eight-digit 021104 – Other bread categories

PPI Code	PPI Commodity Name
02110401	White hearth bread
02110402	Dark wheat bread
02110404	Other variety bread

There are changes made every three months in the PPI codes published by the BLS. Some of the PPI codes shown in this section have been discontinued since this guide was first written but they are used here to illustrate how the hierarchy of PPI codes is organized.

PPI Most-Detailed Categories

A most-detailed category is one that does not include any other categories. Eight-digit categories are always most-detailed categories. There are numerous most-detailed categories, however, that have fewer than eight digits. *021101 White pan bread* is a six-digit category that does not include any eight-digit categories, hence it is a most-detailed category. *0232 Butter* & *0234 Ice cream & frozen desserts* are each examples of four-digit categories that are most-detailed categories because they do not include any six-digit categories. Sometimes three-digit categories are considered most-detailed categories because they include only four-digit & six-digit categories with the same category name (e.g., *138 Glass containers* consists entirely of *1381 Glass containers* & *138101 Glass containers*); in these cases, the three, four, & six-digit categories will have identical indexes & BLS weights. Because of this, which categories are most-detailed categories cannot be determined based simply on the number of digits in the commodity code.

BLS Category Assignment Options

10 Percent Method vs. Most-Detailed Categories Method

The IRS Regs. describe an optional method that taxpayers may use for assigning inventory items to BLS categories & for determining category inflation indexes called the 10 Percent method. The 10 Percent method is intended to simplify the use of the IPIC method by allowing taxpayers to sort their inventories into fewer, less-detailed categories than are required for the alternative Most-Detailed Categories method. While the 10 Percent method makes the task of assigning inventory to BLS categories less burdensome, there is a trade-off involved because the math required to calculate category inflation indexes is more complex. The Regs. require taxpayers electing to use the 10 Percent method to first weight inflation indexes with BLS weights, then with inventory dollars. Taxpayers using the Most-Detailed Categories method only use inventory dollars to weight inflation indexes.

Taxpayers are allowed to select either the 10 Percent method or the Most-Detailed Categories method for assigning BLS categories to their inventory dollars & calculating pool indexes. Many retailers still use the retail inventory method & do not have inventory systems that allow them to track the actual costs of specific goods at their stores. Requiring taxpayers to sort inventory into most-detailed categories, therefore, would have been a formidable burden for most retailers. The real value of the 10 Percent method is that it allows taxpayers carrying many different inventory items to reduce the burden of assigning all of their IPIC LIFO inventories to BLS categories.

LIFO-PRO, Inc. has performed numerous pro-forma calculations comparing the results of the two methods & over time there is little difference. As a practical matter, taxpayers should consider the following when deciding which index calculation method to use:

1. Time & cost associated with assigning less (10% method categories) or more-detailed categories
2. Whether they have software that automates the 10 Percent method pool index calculations

Most-Detailed Categories Method

Regs. § 1.472-8(e)(3)(iii)(C)(1) states that taxpayers using the Most-Detailed Categories method “must assign each item in a dollar-value pool to the most-detailed BLS category of the selected BLS table that contains that item.” This simply means that all inventory items must be assigned to each most-

detailed category of the BLS table selected by the taxpayer (CPI or PPI) for items that are present in inventory. To think of it more simply, BLS category assignment under this method must be performed on an item by item basis.

BLS Category Assignment Considerations

- Companies that sort their inventory balances using 10% categories are required to use the 10 Percent method
- Companies that sort their inventory by most-detailed CPI or PPI categories may also use BLS Weights & 10% rollups in performing their pool index calculations
- Taxpayers may switch from one IPIC pool index calculation method to the other after the initial adoption of the IPIC Method, but this requires filing a Form 3115
- Once this change in this method is made, the taxpayer cannot change to the alternative method for a five year period.

Consideration	10% Method		Most-Detailed	
	Pro	Con	Pro	Con
BLS category assignment simplification	✓			
BLS category assignment complexity				✓
Pool index calculation complexity		✓		
Pool index calculation simplification			✓	

10 Percent Method BLS Category Assignment

IPIC Regs. § 1.472-8(e)(3)(iii)(C)(2) describe a three-step process to assign inventory items to BLS categories when using the 10 Percent method:

1. First, when the current-year inventory value of a specific item is 10% or more of the pool total, that item must be assigned to the most-detailed category that includes that item.
2. Second, for items not assigned to BLS categories in the first step, the taxpayer must examine successively less-detailed categories to determine whether the combined value of the categories included within them is 10% or greater, a process known as “rolling up,” or performing “10% roll-ups.” This step must be repeated until all items in the pool have been rolled up to a less-detailed category level where the 10% threshold is met. The highest level that items can be rolled up to is the General Category level.
3. Third, items not assigned after the previous two steps (i.e., due to the hierarchical structure of BLS categories) must be identified & segregated.

In addition, Regs. § 1.472-8(e)(3)(iii)(D)(5) defines a less-detailed category (in the context of determining a category inflation index) as a BLS category that:

- A) subsumes (i.e., includes, or incorporates in a more comprehensive category) two or more BLS categories;
- B) does not have a single assigned item whose current-year cost is 10% or more of the current-year cost of all items in the dollar-value pool;
- C) has at least one item in at least one of the subsumed BLS categories; and
- D) has at least one subsumed BLS category that either does not have any assigned items or is a separate 10% BLS category.

Based on these Regs. sections, three types of index categories may be identified:

- **Most-Detailed 10% Categories** - Any most-detailed category with a FIFO balance greater than 10% of the pool sum of FIFO balances is an index category by itself. BLS weights will not be applied to these categories when performing index calculations; only actual inventory dollar weighting will be used. Also, these categories are excluded from the roll-ups used to create Other 10% Categories. Most-Detailed 10% Categories are those that are assigned inventory dollars in Step 1 of Regs. § 1.472-8(e)(3)(iii)(C)(2).
- **Other 10% Categories** - These categories, which are always less-detailed categories, are those with aggregated FIFO balances (for the categories they include) that exceed 10% of the pool sum of FIFO balances. BLS weighting is used for Other 10% Categories in category index calculations. Other 10% Categories are those that are assigned inventory dollars in Step 2 of Regs. § 1.472-8(e)(3)(iii)(C)(2).
- **Remaining Categories Grouping** - This is the aggregation of all categories which remain after the procedures described above. Due to the hierarchical structure of the BLS categories it is possible that some categories may not be rolled up so that they are included in an Other 10% Category. There might not be any Remaining categories for a given pool. BLS weighting is used for remaining categories in category index calculations. Remaining categories are those that are identified & segregated in Step 3 of Regs. § 1.472-8(e)(3)(iii)(C)(2).

Category Representation

A taxpayer that uses the 10 Percent method does not need to break down their inventory dollars to the level of greatest detail but it is necessary to account for whether the most-detailed categories actually have items present in inventory. The reason for this is that only the indexes & BLS weights of categories actually present are used for pool index calculations. If category representation is not performed, the BLS weights for items present within a company’s product mix may not be included in the LIFO calculation. Similarly, failing to perform category representation may cause BLS the BLS weights for items not present within a company’s product mix to be included in the LIFO calculation. For this reason alone, it’s highly recommended to use software when using the 10 Percent method.

10 Percent Categories Determination

Assigning inventory dollars to BLS categories is a data-gathering process that precedes pool index calculations. The mechanics of the 10 Percent method pool index calculations determines the appropriate BLS category assignments when using the 10% method. This means that changes in the inventory mix or pooling may require assigning different BLS categories if using the 10% method.

Examples

Example 1 – CPI: This company uses CPI & does not have fuels on LIFO. The following CPI Major Groups each include at least 5% of the total FIFO inventory balances:

BLS IPIC CPI Pools:

Pool #	CPI Code	CPI Category Name	CPI Major Expenditure Group
1	SAF	Food & Beverages	Food & Beverages
2	SAG	Other Goods & Services	Other Goods & Services
2	SEGA	Tobacco & Smoking Products	Other Goods & Services
2	SEGB	Personal Care Products	Other Goods & Services
2	SEGE	Miscellaneous Personal Goods	Other Goods & Services
3	-	All Other Goods	All Other Goods*

*The sum of the other six Major Groups' FIFO inventory balances is greater than 5% of total inventory, so they will be combined in a third All other goods pool.

Pool 1 Food & Beverages BLS CPI 10% Categories

CPI Code	CPI Category Name
SAF111	Cereals & bakery products
SAF112	Meats, poultry, fish & eggs
SEFJ	Dairy & related products
SAF113	Fruits & vegetables
SAF114	Nonalcoholic beverages & beverage materials
SEFN01	Carbonated drinks
SAF115	Other food at home
SEFR02	Candy & chewing gum
SEFT03	Snacks
SEFW	Alcoholic beverages at home

Pool 2 Other Goods & Services BLS 10% Categories

CPI Code	CPI Category Name
SEGA01	Cigarettes
SEGA02	Tobacco products other than cigarettes
SEGB	Personal care products
SEGE	Miscellaneous personal goods

Pool 3 All Other Goods 10% Categories:

CPI Code	CPI Category Name
SAH	Housing
SEHN01	Household cleaning products
SEHN02	Household paper products
SEHN03	Miscellaneous household products
SAA	Apparel
SETC02	Vehicle accessories other than tires
SAM	Medical care
SEMB01	Internal & respiratory over-the-counter drugs
SAR	Recreation
SERG	Recreational reading materials
SAE	Education & communication

Example 2 – PPI: This company uses PPI & has fuels on LIFO. The following PPI 2-digit codes each include at least 5% of the total FIFO inventory balances:

BLS IPIC Pools:

Pool #	PPI Code	PPI Major Commodity Group/Name
1	02	Processed foods & feeds
2	05	Fuels & related products & power
3	06	Chemicals & allied products
4	15	Miscellaneous products

The sum of the other 11 PPI 2-digit codes inventory balances is less than 5% of total inventory balances so they will be included with the largest pool.

Pool 1 Processed Foods & Feeds (02) & All Other 10% Categories

PPI Code	PPI Commodity Name
01	Farm products
02	Processed foods & feeds
025503	Candy & nuts
0261	Alcoholic beverages
02620609	Noncarbonated soft drinks
026207	Bottled carbonated soft drinks
02890172	Chips (potato, corn, etc.)
03	Textile products & apparel
04	Hides, skins, leather & related products
07	Rubber & plastic products
08	Lumber & wood products
09	Pulp, paper & allied products
10	Metal & metal products
11	Machinery & equipment
12	Furniture & household durables
13	Nonmetallic mineral products
14	Transportation equipment

025503 Candy & nuts, 02620609 Noncarbonated soft drinks, 026207 Bottled carbonated soft drinks, & 02890172 Chips (potato, corn, etc.) will each probably include at least 10% of Pool 1's inventory balances. *0261 Alcoholic beverages* includes canned & bottled beer & other malt beverages, wine, & distilled spirits. If any of those categories of alcoholic beverages is likely to include 10% of the pool total, then more detailed categories should be used for BLS category assignment to inventory items. *02 Processed foods & feeds* can be used for BLS category assignment to inventory items that are all other food & beverage categories because the pool's 10% threshold is not likely to be met by aggregating ("rolling up") inventory balances at any four-digit or three-digit level included in the *02* PPI 2-digit code. Similarly, all other inventory in Pool 1 can be sorted at the 2-digit level because no other PPI 2-digit code will likely include 10% or more of the pool total. In fact, some of these PPI 2-digit codes will probably not have any inventory balances—*10 Metal & metal products & 13 Nonmetallic mineral products*, for example.

Pool 2 Fuels & Related Products & Power (05) 10% Categories

PPI Code	PPI Commodity Name
057103	Unleaded premium gasoline
057104	Unleaded regular gasoline
057105	Unleaded mid-premium gasoline
057303	#2 diesel fuel
057604	Lubricating & similar oils

Each of these are likely to include 10% of the pool total.

Pool 3 Chemicals & Allied Products (06) 10% Categories

PPI Code	PPI Commodity Name
06	Chemicals & allied products
0638	Pharmaceutical preparations
0675	Cosmetics & other toilet preparations

It may be necessary to use one or more 8-digit category included in *0638* for BLS category assignment to inventory items. For example, if *063802 Central nervous system*, *063805 Respiratory system*, & *063807 Vitamins, nutrients & hematinic preparations* were each more than 10% of the pool total then those would be used as BLS categories & all other pharmaceutical preparations would be assigned into *0638*.

Pool 4 Miscellaneous Products (15) 10% Categories

PPI Code	PPI Commodity Name
15	Miscellaneous products
152101	Cigarettes
15250101	Other tobacco products

152101 Cigarettes & *15250101 Other tobacco products* are most detailed categories that are likely to include 10% of the pool total. All other goods in this pool can be assigned 2-digit BLS PPI codes.

Inflation Index Calculation Options**Most-detailed Categories Method Pool Index Calculations**

The math involved in the pool index calculations is simpler with this method because it is not necessary to use BLS Weights & perform 10% roll-ups. A typical retail grocer using this method would need to sort their inventory by approximately 80 CPI categories. Pool index calculations can be summarized by these three steps:

1. **Category Inflation Index** = Current Year PPI ÷ Previous Year PPI
2. **Harmonic Dollars Weighted Extension** = Current-year Cost Balance ÷ Category Inflation Index
3. **Inventory Price Index** = \sum Current-year Cost Balance ÷ \sum Harmonic \$s Weighted Extensions

Most-detailed Categories Method Pool Index Calculation Example:

Example 1 – CPI

A Convenience Store chain using CPI & the Most Detailed Categories method sorted their Other goods & services pool's inventory into the following categories:

CPI Code	Category Name	(1) Y/E FIFO \$s
SAG	OTHER GOODS & SERVICES	
SEGA	Tobacco & smoking products	
SEGA01	Cigarettes	9,875,000
SEGA02	Tob. products other than cigarettes	1,500,000
SEGB	Personal care products	
SEGB01	Hair, dental, shaving & misc.	325,000
SEGB02	Cosmetics, perfume, bath, nail prep.	300,000
SEGE	Misc. personal goods	500,000
Current-Year Cost Pool Total		\$12,500,000

The current year indexes are then divided by the previous year indexes for each category, which produces the December 2004-to-December 2005 inflation index expressed as a decimal.

CPI Code	(2) CPI Dec-05	(3) CPI Dec-04	(4) = (2) ÷ (3) Category Inflation
SEGA01	207.6	196	1.059184
SEGA02	154.6	147.1	1.050986
SEGB01	102.1	101.7	1.003933
SEGB02	173.1	169.2	1.02305
SEGE	86.4	86.6	0.997691

The FIFO inventory amounts for each category are then divided by category inflation to calculate harmonic dollar-weighted extensions.

CPI Code	(1) Y/E FIFO \$s	(4) Category Inflation	(5) = (1) ÷ (4) Harmonic \$ - Wtd. Extension
SEGA01	9,875,000	1.059184	9,323,218
SEGA02	1,500,000	1.050986	1,427,232
SEGB01	325,000	1.003933	323,727
SEGB02	300,000	1.02305	293,241
SEGE	500,000	0.997691	501,157
CYC Total	\$12,500,000		\$11,868,574

The last step is to divide the total pool FIFO balances by the sum of the harmonic dollar-weighted extensions.

Y/E FIFO \$s (CYC)	÷ Sum of Extensions	= Pool Inflation Index
\$12,500,000	\$11,868,574	1.053201

This pool index will then be multiplied times the previous year’s cumulative deflator index to produce the current year’s cumulative deflator index for this pool.

Example 2 – PPI: A Convenience Store chain using PPI & the Most Detailed Categories method sorted their Miscellaneous goods (15) pool’s inventory into the following categories:

PPI Code	Category Name	(1) Y/E FIFO \$s
15	MISC. PRODUCTS	
15110154	Toys, excl. games & hobbies	40,000
15110156	Dolls & stuffed toy animals	60,000
152101	Cigarettes	9,875,000
15250101	Other tobacco products	1,500,000
1542	Photographic supplies	150,000
159404	Costume jewelry & novelties	50,000
15950201	Ball point pens, incl. roller pens	75,000
15950208	Markers, fn. pnt. & brd. tipped	5,000
15960313	Watches, clocks, cases, & parts	20,000
159A0901	Other misc. products, n.e.c.	50,000
159C0101	Reproduction of audio discs & video	50,000
	Current-year Cost Pool Total	\$11,875,000

Using a December “appropriate month”, the current & prior period indexes are divided for each category, which produces the December 2004 to December 2005 inflation index as a decimal. This example includes two instances of missing indexes, which are common when using PPI. A preliminary index for December 2005 was not published for *15110154 Toys, etc.* so the current year & previous year indexes for the next less detailed category, *151101 Toys, games, & children’s vehicles* were used. *15250101, 152501 & 1525* were introduced in December 2005, so there are no previous year indexes for those categories. The current year & previous year indexes for *152 Tobacco products, incl. stemmed & redried* were used instead.

	(2)	(3)	(4) = (2) ÷ (3)
PPI Code	PPI Dec-05	PPI Dec-04	Category Inflation
15110154	127	125.9	1.008737
15110156	127.7	124.4	1.026527
152101	548.5	516.3	1.062367
15250101	460.8	435.2	1.058824
1542	120.9	114.8	1.053136
159404	153.5	147.8	1.038566
15950201	163.2	157.5	1.03619
15950208	127.1	122.2	1.040098
15960313	131.4	130.4	1.007669
159A0901	140.2	139.3	1.006461
159C0101	98.7	98.2	1.005092

The FIFO balances for each category are then divided by the category inflation indexes to calculate harmonic dollar-weighted extensions or current year inventory balances deflated to balances expressed in prior year prices.

	(1)	(4)	(5) = (1) ÷ (4)
PPI Code	Y/E FIFO \$s	Category Inflation	Harmonic \$ - Wtd. Extension
15110154	40,000	1.008737	39,654
15110156	60,000	1.026527	58,449
152101	9,875,000	1.062367	9,295,283
15250101	1,500,000	1.058824	1,416,667
1542	150,000	1.053136	142,432
159404	\$50,000	1.038566	48,143
15950201	75,000	1.03619	72,381
15950208	5,000	1.040098	4,807
15960313	20,000	1.007669	19,848
159A0901	50,000	1.006461	49,679
159C0101	50,000	1.005092	49,747
CYC Total	\$11,875,000		\$11,197,089

The last step is to divide the total pool FIFO dollars by the sum of the harmonic dollar-weighted extensions.

Y/E FIFO \$s (CYC)	÷ Sum of Extensions	= Pool Inflation Index
\$11,875,000	\$11,197,089	1.060544

This pool index will then be multiplied times the previous year's cumulative deflator index to produce the current year's cumulative deflator index for this pool.

10 Percent Method Pool Index Calculations

The 10 Percent method was devised to provide a happy medium between pool index calculation simplicity & the effort required to sort inventories by CPI & PPI categories. Pool Inventory Price Index (IPI) calculations can be summarized by these four steps:

1. **Current Year Inflation Index** = *Current Year PPI ÷ Previous Year PPI*
2. **Category Inflation Index** = $\sum [BLS\ Weight \times Current\ Year\ Inflation\ Index] \div \sum BLS\ Weights$
3. **Harmonic Dollars Weighted Extensions** = *Current-year Cost ÷ Current Year Inflation Index*
4. **Inventory Price Index** = $\sum Current-year\ Cost \div \sum Harmonic\ Dollars\ Weighted\ Extensions$

BLS Weights

The PPI categories in Table 9 represent a market basket of goods & BLS weights are a measure of each categories' relative weight, of price data sampled by the BLS, in proportion to the entire market basket. As an example, the BLS weight of 02 PROCESSED FOODS & FEEDS is equal to the sum of the BLS weights for the 9 three-digit categories that are included in that General Category.

PPI Code	PPI Commodity Name	2003 BLS Weight	% of Total
02	PROCESSED FOODS & FEEDS	9.911	
021	Cereal & bakery products	1.143	11.53%
022	Meats, poultry, & fish	2.575	25.98%
023	Dairy products	1.144	11.54%
024	Processed fruits & vegetables	0.575	5.80%
025	Sugar & confectionery	0.651	6.57%
026	Beverages & beverage materials	1.539	15.53%
027	Fats & oils	0.265	2.67%
028	Miscellaneous processed foods	1.26	12.71%
029	Prepared animal feeds	0.759	7.66%
	Sum of 3-digit 02 categories BLS Weights	9.911	100%

To illustrate the practical implications of the use of BLS weights for IPIC calculations using the 10 Percent method, consider the following example in which the inflation index (current-year appropriate month price index divided by previous-year appropriate month price index) for 021104 Other bread is equal to the sum of the BLS-weighted inflation indexes for the 3 eight-digit categories included in 021104.

PPI Code	PPI Commodity Name	(1)	(2)	(3)	(4)	(5)	(6)
		2003 BLS Weight	$= (1) \div \sum (1)$ Relative Weight (% of Total)	July '04 PPI	July '03 PPI	Inflation Index	BLS Weighted Extension
021104	Other bread	0.08		202.4	203.2	0.99606	
02110401	White hearth bread	0.03	37.50%	216.2	220.6	0.98005	0.36752
02110402	Dark wheat bread	0.03	37.50%	190.1	194.5	0.97738	0.36652
02110404	Other variety bread	0.02	25.00%	202.7	193.4	1.04809	0.26202
	BLS Weights Sum =	0.08					0.99606

The preceding example is mathematically identical to the following computation in which the percent-to-totals (a.k.a., relative weighting) in Column (2) are eliminated, the BLS weights are multiplied times the inflation indexes to produce BLS weighted extensions, & the sum of the BLS weights is divided by the sum of the BLS weighted extensions.

PPI Code	PPI Commodity Name	(1)	(2)	(3)	(4)	(5)
		2003 BLS Weight	July '04 PPI	July '03 PPI	$= (2) \div (3)$ Inflation Index	$= (1) \times (4)$ BLS Weighted Extension
021104	Other bread	0.08	202.4	203.2	0.99606	
02110401	White hearth bread	0.03	216.2	220.6	0.98005	0.02940
02110402	Dark wheat bread	0.03	190.1	194.5	0.97738	0.02932
02110404	Other variety bread	0.02	202.7	193.4	1.04809	0.02096
	BLS Weights Sum =	0.08				0.07968
	BLS Weighted Extensions Sum ÷ BLS Weights Sum =					0.99606

These examples demonstrate that the inflation indexes of less-detailed categories are derived from the BLS weights & inflation indexes of the more-detailed categories they include. This means that if the 10 Percent method is used, rather than weighting the inflation indexes of 02110401, 02110402, & 02110404 with their respective BLS weights, then dividing the sum of the BLS weighted extensions by the sum of the BLS weights, the inflation index of 021104 can be used *if each of the categories 021104 includes are present in inventory*. If any of the three 8-digit categories included in 021104 is not present in the ending inventory (a single item, in this case a loaf of bread, is sufficient for the category to be considered present in inventory), then the inflation index for 021104 must be calculated using the inflation indexes & BLS weights of the more-detailed categories which are actually present in inventory.

BLS weighting is only used for categories which represent less than 10% of the pool's total FIFO dollars. For categories representing an amount greater than 10% of the pool total, their inflation indexes are weighted only by the inventory dollars assigned to them.

10-Percent Method Pool Index Calculation Example:

Example 1- CPI

This example shows a pool index calculation using CPI & the Ten Percent method. The pool’s total FIFO inventory balance is \$23,500,000 so the 10% threshold is \$2,350,000. For inventory balances assigned to a 10% category, an “X” indicates that a category has items present in inventory & an “*” (asterisk) indicates that a category has no items present in inventory:

CPI Code	Category Name	(1) Y/E FIFO \$s
SAF	FOOD & BEVERAGES:	
SAF11	-Food at home:	
SAF111	--Cereals & bakery products:	1,880,000
SEFA	---Cereals & cereal products:	
SEFA01	----Flour & prepared flour mix	X
SEFA02	----Breakfast cereal	X
SEFA03	----Rice, pasta, cornmeal	X
SEFB	---Bakery products:	
SEFB01	----Bread	X
SEFB02	----Fresh biscuits, rolls, muff.	X
SEFB03	----Cakes, cupcakes & cook.	X
SEFB04	----Other bakery products	X
SAF112	--Meats, poultry, fish & eggs:	1,645,000
SAF1121	---Meats, poultry & fish:	
SAF11211	----Meats:	
SEFC	-----Beef & veal:	
SEFC01	-----Uncooked ground beef	*
SEFC02	-----Uncooked beef roasts	*
SEFC03	-----Uncooked beef steaks	*
SEFC04	-----Uncooked other beef & vl.	*
SEFD	-----Pork:	
SEFD01	-----Bacon, brkfst. saus. & rel.	X
SEFD02	-----Ham	*
SEFD03	-----Pork chops	*
SEFD04	-----Other pork, incl. roasts	*
SEFE	-----Other meats	X
SEFF	----Poultry:	
SEFF01	----Chicken	*
SEFF02	----other poultry incl. turkey	*
SEFG	----Fish & seafood:	
SEFG01	----Fresh fish & seafood	*
SEFG02	----Processed fish & seafood	X
SEFH	---Eggs	X
SEFJ	--Dairy & related products:	1,410,000
SEFJ01	---Milk	X
SEFJ02	---Cheese & related products	X
SEFJ03	---Ice cream & related products	X
SEFJ04	---Other dairy & related	X
SAF113	--Fruits & vegetables:	705,000

SAF1131	---Fresh fruits & vegetables:	
SEFK	----Fresh fruits:	
SEFK03	-----Citrus fruits	*
SEFK04	-----Other fresh fruits	*
SEFL	----Fresh vegetables:	
SEFL01	-----Potatoes	*
SEFL02	-----Lettuce	*
SEFL03	-----Tomatoes	*
SEFL04	-----Other fresh vegetables	*
SEFM	---Processed fruits & veg.	
SEFM01	----Canned fruits & veg.	X
SEFM02	----Frozen fruits & veg.	X
SEFM03	----other proc. fruits & veg.	X
SAF114	--Nonalc. bev. & bev. mat.	3,055,000
SEFN	---Juices & nonalc. drinks:	
SEFN01	----Carbonated drinks	3,525,000
SEFN02	----Frozen noncarb. juic. & dr.	X
SEFN03	----Nonfr. Noncarb. juic. & dr.	X
SEFP	---Bev. mat. Incl. coffee & tea	
SEFP01	----Coffee	X
SEFP02	----Other bev. mat. incl. tea	X
SAF115	--Other food at home:	2,115,000
SEFR	---Sugar & sweets:	
SEFR01	----Sugar & artific. sweeteners	X
SEFR02	----Candy & chewing gum	3,760,000
SEFR03	----Other sweets	X
SEFS	---Fats & oils:	
SEFS01	----Butter & margarine	X
SEFS02	----Salad dressing	X
SEFS03	----Other fats & oils incl. p.b.	X
SEFT	---Other foods:	
SEFT01	----Soups	X
SEFT02	----Frozen & freeze dried prep.	X
SEFT03	----Snacks	2,820,000
SEFT04	----Spices, etc.	X
SEFT05	----Baby food	X
SEFT06	----Other miscellaneous foods	X
SEFW	-Alcoholic beverages at home:	2,585,000
SEFW01	--Beer, ale & other malt bev.	X
SEFW02	--Distilled spirits at home	X
SEFW03	--Wine at home	X
	Pool Current-Year Cost Total	\$23,500,000

Four category inflation index calculations will not require the use of BLS weights. Three most-detailed categories: *SEFN01* Carbonated drinks, *SEFR02* Candy & chewing gum & *SEFT03* Snacks exceed the 10% threshold so category inflation & harmonic dollar-weighted extensions are calculated for these categories without using BLS weights. The inventory balances aggregated at *SEFW* exceed 10% of the pool total & all categories included in it (*SEFW01*, *SEFW02* & *SEFW03*) are present in inventory so

SEFW's category inflation index is also calculated without using BLS weights. The calculations for these category inflation indexes are shown below.

CPI Code	(2)	(3)	(4)
	CPI Dec-05	CPI Dec-04	= (2) ÷ (3) Category Inflation
SEFN01	133.1	127.5	1.043922
SEFR02	111.4	107.5	1.036279
SEFT03	181.3	171.4	1.05776
SEFW	171.5	170.9	1.003511

The inventory balances sorted at SAF114 exceed 10% of the pool total but not all categories included in it have their balances aggregated at that level. The SEFN01 balances are excluded because the 10% threshold was met at the most-detailed category level. BLS weights will be used to calculate the category inflation index at the SAF114 level. The calculations for these category inflation indexes are shown below.

CPI Code	(2)	(3)	(4)	(5)	(6)
	July '04 PPI	July '03 PPI	= (2) ÷ (3) Inflation Index	BLS Weights	= (4) x (5) BLS Weighted Extension
SEFN02	111.7	111.5	1.00179	0.025	0.025045
SEFN03	107.4	105.7	1.01608	0.269	0.273326
SEFP01	162.3	145.5	1.11546	0.1	0.111546
SEFP02	115.9	115.4	1.00433	0.174	0.174754
			Sum =	0.568	0.584672

Sum of Weighted Extensions	÷ Sum of BLS Weights	= Category Index
0.584672	0.568	1.029351

Similarly, the balances sorted using all other categories will be “rolled up” to SAF11 where the total aggregated balances will exceed 10% but BLS weighting will be required because not all categories included in SAF11 are present (some are missing due to category inflation index calculations at more-detailed levels & others because they are not present in inventory). The calculations for these category inflation indexes are shown below.

CPI Code	(2) July '04 PPI	(3) July '03 PPI	(4) = (2) ÷ (3) Inflation Index	(5) BLS Weights	(6) = (4) x (5) BLS Weighted Extension
SEFA01	171.6	165.4	1.03749	0.05	0.051874
SEFA02	201.3	205.7	0.97861	0.221	0.216273
SEFA03	167.1	165	1.01273	0.128	0.129629
SEFB01	126.9	123.3	1.0292	0.225	0.231569
SEFB02	126.1	123.1	1.02437	0.109	0.111656
SEFB03	213.9	209.4	1.02149	0.22	0.224728
SEFB04	205.9	206.9	0.99517	0.23	0.228888
SEFD01	120.3	124.8	0.96394	0.147	0.141700
SEFE	180.4	178.9	1.00839	0.282	0.284364
SEFG02	108.2	106.9	1.01216	0.127	0.128544
SEFH	154.7	152.6	1.01376	0.094	0.095294
SEFJ01	128.7	124.4	1.03457	0.324	0.335199
SEFJ02	182.3	181.4	1.00496	0.252	0.253250
SEFJ03	179.1	178.4	1.00392	0.147	0.147577
SEFJ04	121.9	120.1	1.01499	0.126	0.127888
SEFM01	119.1	112.6	1.05773	0.133	0.140678
SEFM02	122.6	117	1.04786	0.076	0.079638
SEFR01	154.3	142.7	1.08129	0.051	0.055146
SEFR03	118.6	116.6	1.01715	0.055	0.055943
SEFS01	131.2	135.6	0.96755	0.083	0.080307
SEFS02	105.6	110.3	0.95739	0.07	0.067017
SEFS03	116.3	113.8	1.02197	0.104	0.106285
SEFT01	211.4	207.4	1.01929	0.092	0.093774
SEFT02	154.3	152.9	1.00916	0.241	0.243207
SEFT04	185.2	178.4	1.03812	0.208	0.215928
SEFT05	127.4	123.2	1.03409	0.072	0.074455
SEFT06	112.4	110.8	1.01444	0.301	0.305347
			Sum =	4.168	4.226158

Sum of Weighted Extensions	÷ Sum of BLS Weights	= Category Index
4.226158	4.168	1.013953

The FIFO inventory balances can now be divided by category inflation indexes to compute the harmonic dollar-weighted extensions.

CPI Code	(1) Y/E FIFO \$s	(4) = (2) ÷ (3) Inflation Index	(5) = (1) x (4) BLS Weighted Extension
SAF11	7,755,000	1.013954	7,648,280
SAF114	3,055,000	1.029351	2,967,889
SEFN01	3,525,000	1.043922	3,376,690
SEFR02	3,760,000	1.036279	3,628,366
SEFT03	2,820,000	1.05776	2,666,012
SEFW	2,585,000	1.003511	2,575,956
CYC Total	\$23,500,000		\$22,863,193

The last step is to divide the total pool FIFO inventory balance by the sum of the harmonic dollar-weighted extensions.

Y/E FIFO \$s (CYC)	÷ Sum of Extensions	= Pool Inflation Index
\$2,585,000	\$2,575,956	1.003511

This pool index will then be multiplied times the previous year’s cumulative deflator index to produce the current year’s cumulative deflator index for this pool.

Example 2 – PPI: The pool’s total FIFO inventory balance is \$11,875,000 so the 10% threshold is \$1,187,500. Two most-detailed categories—152101 Cigarettes & 15250101 Other tobacco products—exceed the 10% threshold so category inflation & harmonic dollar-weighted extensions are calculated for these categories without using BLS weights. The FIFO inventory balances for all of the other categories are aggregated at successively less-detailed levels. These “roll-ups” continue until all balances are aggregated at the two-digit level. The BLS weights of each category present in inventory is then multiplied times their respective category inflation (the quotient of current-year PPI divided by previous-year PPI) to produce BLS weighted extensions.

PPI Code	(1) BLS Weights	(2) Inflation Index	(3) = (1) x (2) BLS Weighted Extension
15110154	0.031	1.00874	0.031271
15110156	0.006	1.02653	0.006159
1542	0.178	1.05314	0.187458
159404	0.023	1.03857	0.023887
15950201	0.017	1.03619	0.017615
15950208	0.01	1.0401	0.010401
15960313	0.017	1.00767	0.01713
159A0901	0.044	1.00646	0.044284
159C0101	0.03	1.00509	0.030153
Total	0.356		0.368359

The sum of the BLS weighted extensions is divided by the sum of the BLS weights.

Sum of Weighted Extensions	÷ Sum of BLS Weights	= Category Index
0.368359	0.356	1.034716

Each category index—for 152101 Cigarettes, 15250101 Other tobacco products, & for the categories aggregated at the 2-digit level—is divided into the respective FIFO balances to calculate harmonic dollar-weighted extensions.

PPI Code	(1) Y/E FIFO \$s	(4) Inflation Index	(6) = (4) ÷ (5) Harmonic \$ Weighted Extension
15-Remaining	500,000	1.034716	483,224
152101	9,875,000	1.062367	9,295,283
15250101	1,500,000	1.058824	1,416,667
Totals	\$11,875,000		\$11,195,174

The last step is to divide the total pool FIFO balances by the sum of the harmonic dollar-weighted extensions.

YE FIFO \$s (CYC)	÷ Sum of Extensions	= Pool Index
11,875,000	11,195,174	1.060725

This pool index will then be multiplied times the previous year’s cumulative deflator index to produce the current year’s cumulative deflator index for this pool.

Other LIFO Related Submethod Options

Double-Extension v. Link-Chain Index Method

The double-extension method is the term used to describe calculation of cumulative indexes by dividing current year prices by base year prices for individual inventory items. The link-chain method is the term used to describe calculation of current year indexes by dividing current year prices by prior year prices, which is then multiplied by the prior year cumulative index to calculate the current year cumulative index. The prior year link-chain cumulative indexes would have been determined in a similar fashion. Either the double-extension or link-chain methods may be used by IPIC taxpayers. Use of the double-extension method by non-IPIC method retailers is very rare because this method is not practical for companies with rapid turnover of inventory items. In our opinion, the double-extension method should never be elected for IPIC taxpayers because discontinuation of CPI or PPI categories will require complicated index calculations that are avoided if the link-chain method is used. Use of the double-extension method can also cause greatly distorted inflation or deflation rates when there are substantial inventory mix changes from one year to the next solely as a result of the change in mix.

IPIC Index Month Options

The Regs. provide options to certain taxpayers regarding the selection of CPI or PPI months. Determination of appropriate index months for both IPIC & non-IPIC method taxpayers can be somewhat confusing because past IRS Regs. & other guidance in this area have been neither clear nor consistent. One item of confusion has been the definition of “current-year costs”. This could mean the valuation method (FIFO or average cost) used to determine general ledger inventory balances (gross of the LIFO reserve) or the method used to value LIFO increments. Many taxpayers & CPAs in the past have assumed current-year costs was only the method of valuing LIFO increments because of the pre-December 2005 Form 970 line 6a caption which reads “Method used to figure the cost of goods in the closing inventory over those in the opening inventory”. Such thinking led to the use of “dual indexes” whereby separate indexes were used to: 1) convert year end inventory balances to base year costs (deflator index), & 2) value the current year increment (inflator index). While it is still not clear what the intent of the IRS terminology & rules in this area really were in the past, the new Regs. published in 2002, the new Form 970 (as of December 2005) & the Dual Index Methods Proposed Coordinated Issue paper issued in April 2003 by the IRS Inventory Technical Advisor make it clear that:

1. Dual indexes methods are no longer permitted.
2. The term “current-year costs”, at least as it pertains to LIFO taxpayers, refers only to the three time periods during the year (end of year, beginning of year or middle of the year) from which the appropriate index month for the single LIFO index may be selected. IRS LIFO Regs. § 1.472-8(e)(2)(ii) provides these current-year cost method options:
 - The actual cost of goods most recently purchased or produced (latest acquisitions).
 - The actual cost of the goods purchased or produced during the taxable year in the order of acquisition (earliest acquisitions).
 - The average unit cost of all of the goods purchased or produced throughout the taxable year divided by the total number of units purchased or produced (12 month moving average).
 - Any other method that clearly reflects income (this option is not applicable for IPIC taxpayers because use of one of the three other options will be more practical).

Since there are PPI & CPI inflation indexes compiled & published for each month, IPIC taxpayers must decide which month’s indexes are to be used for pool index calculations. These are referred to as the “appropriate month” in the Regs.

Appropriate Month Selection Options

The Regs. provide options to taxpayers regarding the selection of CPI or PPI months depending on their current year cost method & their history of inventory production or purchases throughout the year. These index months are referred to as the appropriate month in the Regs. The Regs. allow retailers using the retail method to only use the month of their year end as their appropriate month. The IRS definition of “retail method” is LIFO calculations for which retail inventory balances are converted to base year retail indexes using retail selling price inflation indexes. This definition differs from the commonly used retail industry term Retail Inventory Method (RIM) which is the method commonly used to reduce retail inventory balances to a cost balance using departmental purchase & price change data. Other taxpayers (other than retailers using the retail method) have the option of electing one of the following two appropriate month selection options:

1. **Annual selection** - Annually determining an appropriate month for each pool. The appropriate month is the month most consistent with the taxpayer’s current-year cost method & the taxpayer’s

history of inventory production or purchases throughout the year. The appropriate month can change from year to year.

2. **Representative appropriate month** - Making an election to use the same representative appropriate month for every year. This representative month must also be a month consistent with the taxpayer's current-year cost method & the taxpayer's history of inventory production or purchases throughout the year.

If the latest acquisitions current-year cost method is selected, the appropriate month will either be the year end month or a month or two earlier than the year end month. If the earliest acquisitions current-year cost method is selected, the appropriate month will be one of the first months of the year.

Reg. § 1.472-8(e)(3)(iii)(B)(3) provides examples of months deemed to be appropriate months for various current-year cost & taxpayer's history of inventory production or purchases throughout the year combinations.

Although various CPAs have touted the ability to use different appropriate months for different pools & different months for different years as an improvement in the New Regs., doing so almost always creates additional complications in the annual index calculations without any compensating tax savings benefit. This is because the cumulative amount of inflation will be the same over time once the IPIC method is adopted & changing the appropriate month from year to year or using different appropriate months for different pools only complicates the calculations by requiring index calculations using either more than or less than 12 months' inflation.

Most companies have historically used the most recent purchases current-year cost method. A fairly common practice for these IPIC taxpayers not required to use the last month of the year as the appropriate month (by virtue of being a retailer using the retail method), is to use an appropriate month earlier than the last month of the year to facilitate quicker LIFO calculations. Before the advent of the BLS Web site which makes PPI & CPI available within about 15 days after month end, this was a useful technique but is not really necessary now. Another planning idea was to elect the earliest acquisitions current-year cost method so that the first month of the year can be used as the appropriate month. This is an option no longer available based on the IRS's clarification of the definition of current-year cost in their 2000 Dual Index Issues Paper.

Producer Price Index Timeframe Options

The BLS publishes Preliminary indexes around the 15th of the following month (e.g., Preliminary August indexes are made available around September 15). All indexes are subject to revision four months after their original publication—these are Final indexes. Taxpayers may choose to use either Preliminary or Final indexes, but they must be consistent in their use (i.e., both Current Year indexes & Previous Year indexes must be Preliminary, or both must be Final). As a practical matter, taxpayers should use Preliminary indexes in order to perform IPIC calculations in a timely manner.

Companies using PPI must be aware of the issue of missing indexes. The PPI categories in Table 9 are not a static list because new categories are added & others discontinued on a regular basis. In July & January of each year the BLS publishes an Appendix in the PPI Detailed Report identifying which new categories have been added & which categories have been discontinued. It is not uncommon for the BLS to stop publishing indexes for some categories months before they are officially discontinued. Also, there are categories for which the BLS publishes indexes only sporadically, such as for seasonal produce (e.g., 01110203 Cherries).

Cost or Retail LIFO Method for Retailers

Retailers adopting LIFO for the first time will need to decide whether to use retail or cost LIFO. Historically, those companies with warehouse inventories used cost LIFO because of the difficulty of converting warehouse cost inventory balances to retail values. Companies without warehouse inventories using the IPIC method typically used retail LIFO because this did not require conversion of retail basis CPI to a cost basis using cost complements as required by the old (pre-2002) IPIC LIFO Regs. We believe most retailers would be better off using cost LIFO regardless of whether they have warehouse inventories. The reason for this is that the annual LIFO expense using retail LIFO is affected by margin changes from the prior year (this is not the case for cost LIFO) & this makes the planning for the amount of LIFO expense less predictable.

Stores Inventory BLS Category Assignment Options

Most retailers use the 10 Percent method because this allows them to reduce time spent assigning BLS categories to their inventory items & use fewer less detailed CPI or PPI codes. Supermarkets using CPI, for example, must make BLS category assignments to their inventories by 33 less-detailed CPI categories rather than about 100 most-detailed categories as required by use of the Most-Detailed Categories method. Supermarkets using PPI that use the 10 Percent method must sort their inventories by about 55 less-detailed PPI categories rather than about 200 most-detailed categories as required by use of the Most-Detailed Categories method

The 10 Percent method entails more complicated pool index calculations but this is not an issue if the LIFO-PRO software is used because the necessary BLS weighting & dollar weighting is completely automated.

Most retailers that maintain warehouse inventories have warehouse inventory accounting systems that produce sufficient detail to allow breakdown of these balances by the required CPI or PPI categories. This is because these systems typically keep track of cost per item. Some companies' store inventory accounting systems also include sufficient cost per item data to allow breakdown of these balances by the required CPI or PPI categories but at this point, the majority of retailers don't have this luxury. For store inventories, the traditional inventory accounting method for at least some departments has been some variation of the Retail Inventory Method for which retail balances are known by department & cost by department balances are calculated by use of standard gross profit margins for these departments.

While any means of breaking store inventories down by CPI or PPI categories may be considered, the most common way to do this has been to get these breakdowns from physical inventory counts. When this procedure is used, the physical inventory counts planning need to incorporate these aspects:

Inventory count instructions-The inventory service should be provided the list of CPI or PPI categories required for IPIC method calculations. These are referred to as "LIFO counts". While a few of the CPI or PPI categories may correspond to the regular physical count breakdowns, this will be a special LIFO count listing. The inventory service may or may not be instructed to make the normal count breakdowns in addition to the LIFO counts. An inventory service should be able to provide both the normal & LIFO breakdowns from the same physical count. This is accomplished by making different store layout maps (what shelf space belongs in the various breakout categories). Making LIFO counts in addition to normal counts often entails an additional fee from the inventory service & a 40% premium to do this is not unusual.

Sample size-For companies having only a few stores, they may well make LIFO counts for all stores. For companies with numerous stores, LIFO counts are made for a sample of stores & the sample stores' CPI or PPI category distribution is used for the total of all stores' inventory balances. The IRS provides no guidelines for this type of sampling. The IPIC LIFO Regs. make no mention of whether sampling is an appropriate means of obtaining the CPI or PPI category breakdowns, but this type of sampling has been used by retail grocers for 20 years without substantial IRS challenge of this practice. The sampling plan should take into account different store size, formats & location or other factors that could cause one store to have a significantly different inventory mix than another store. It is not uncommon for the same LIFO count stores for one year to be LIFO count stores in succeeding years because this eliminates the need for the inventory service to make LIFO count layouts for more stores.

Once the physical counts have been taken & the LIFO count sheets are available, there are several things that need to be taken into consideration including:

- Most count categories will have retail selling price totals but some may be cost totals
- Some departments may not be counted & back room goods are usually not counted
- There will usually be departments, such as pharmacy, for which the non-LIFO physical counts are broken down that correspond exactly to CPI or PPI categories. If physical counts are made for all stores at or near year end, a company may decide that the stores' total for pharmacy per all counts (LIFO or not) is more accurate than extrapolating the LIFO count breakdown percentages to the entire inventory.
- Once the stores total balances by CPI or PPI categories have been accumulated, the warehouse balances, if applicable, should be added to these totals.
- Cost-only or cost & retail balances required—Only cost balances by CPI or PPI category are required for cost LIFO taxpayers but both cost & retail balances by CPI or PPI category is required for retail LIFO taxpayers.

Missing PPI Treatment Options

The IRS IPIC LIFO Regulations issued in January, 2002 specify that what we call the "Substitute Index Method" be used for categories for which indexes are missing (for either the current or prior year for the applicable index month) but for which the categories have not been discontinued (what we refer to as "sporadic index categories"). We believe the use of the Substitute Index Method is also the most practical way to handle missing indexes for categories discontinued for which a replacement category is not added by the BLS until the same month.

Regulations § 1.472-8(e)(3)(iii)(D)(4) states that "...If the BLS has revised the applicable BLS table for a taxable year, a taxpayer must compute the category inflation index for each BLS category for which the taxpayer cannot compute a category inflation index in accordance with paragraph (e)(3)(iii)(D)(3) of this section (affected BLS category) using a reasonable method, provided the method is used consistently for all affected BLS categories within a particular taxable year." This Reg. paragraph goes on to say "The compound category inflation index described in paragraph (e)(3)(iii)(D)(4)(ii) of this section is a reasonable method of computing the category inflation index for an affected BLS category.'

The Compound Inflation method entails the multiplication of partial year inflation rates for both the discontinued & replacement categories. We believe this method is not as practical as the Substitute

Index Method & the use of the Substitute Index Method will generally produce indexes not significantly different from those calculated using the Compound Category Inflation Index method.

It is important to use a current list of PPI categories in order to minimize the problems associated with missing indexes. LIFO-PRO, Inc. performs extensive research on an ongoing basis to identify discontinued categories & their likely replacements.

Using the IPIC LIFO Method for Financial Reporting

A 1982 AICPA LIFO Issues Paper titled *Simplified LIFO for Financial Reporting Purposes* stated that the IPIC method was an acceptable method for financial reporting unless “it is apparent that the external index structure & its application do not reflect a company’s experience.” The other GAAP issue when switching from non-IPIC LIFO (internal index) to IPIC LIFO is whether this is a change to a preferable method. In a perfect world, this change should seldom be a preferable method because one would normally assume that internal indexes are a better measure of a company’s inflation than government price indexes. The reason the IPIC method may be preferable for some companies is that most companies use shortcuts in their internal index calculation method that may render those indexes less accurate than external indexes.

It has been our experience that auditors are less likely to object to changes to the IPIC method for financial reporting purposes for private companies but these objections are common for publicly traded companies. We have seen several cases of companies being allowed to make the change to the IPIC method if the historical comparison of pro-forma IPIC method calculations to the actual internal indexes shows the IPIC method producing a similar amount of inflation over the past two or three years as internal index inflation.

While the LIFO conformity rules included in the Regs. Sec. 1.472-2(e) require the use of the LIFO method for financial reporting if it is used for tax purposes, it does not require that the LIFO methods be the same. Most U.S. based publicly traded supermarket chains use internal indexes for financial reporting LIFO & the IPIC method for tax. An often-overlooked aspect of the conformity rule is that while taxpayers cannot have goods on LIFO for tax but not book, there is no reason why taxpayers cannot have more goods on LIFO for book than for tax. A company could reduce their book LIFO expense by having consistently deflationary goods on LIFO for book but not for tax subject to the limitations of Lower-of-Cost-or-Market accounting.

IRS Rules & Regulations

Eligibility to Use the IPIC Method & IRS Filing Requirements

With the issuance of the New IPIC LIFO Regs. in 2002, all taxpayers are eligible to use the IPIC method. A Form 3115 Application for Change in Accounting Method is required to be filed to change from a non-IPIC LIFO method to the IPIC method. This type of change is normally an automatic approval change for which the Form 3115 due date is the same as for the Form 1120 including extension. A Form 970 Application to Use LIFO Inventory Method is required to be filed for changes to the IPIC method even for companies already using a non-IPIC LIFO method. No Form 3115 filing fee is required for automatic approval accounting method changes. Taxpayers not already using the LIFO method need only to file a Form 970 to adopt LIFO (IPIC or otherwise) & the Form 970 due date is the same as for the Form 1120 including extension.

IPIC Method IRS Automatic Approval Changes

The IRS allows a number of automatic approval changes to and within the IPIC method, for these automatic changes, the following applies:

- Change is made on a cut-off basis, meaning that no prior-period adjustments (i.e. §481(a) adjustments) are required & the change is made as of the year that the IRS Form 3115 Change in Accounting Method is filed; if a company were to switch to the IPIC method for their 12/31/2018 year end, the IPIC method change would be effective as of 01/01/2018 if the IRS Form 3115 is filed with their 2018 year end 1120(s)
- No IRS users fee required to adopt the change
- Form may be filed after the year end, meaning a company can decide to make the change between their tax year end and 1120(s) filing deadline

LIFO Election Scope Expansions

A fairly common practice among retail grocers historically has been to exclude certain departments from LIFO. Perhaps 40% or so of these companies have excluded fresh meats & produce. Many also excluded bakery, deli, floral & pharmacy departments. One of the reasons these departments were not on LIFO was that meat & produce are commodity goods whose prices & inflation indexes can fluctuate greatly which results in unpredictable LIFO expense amounts. Another reason for these departments' exclusion from LIFO is that internal indexes are difficult to calculate for commodity items. Using the IPIC LIFO method precludes the need to calculate internal inflation indexes using a company's actual costs.

Our recommendation with respect to the LIFO election scope for grocery retailers is that all food & beverage goods be on LIFO because over time all food & beverage categories prices have risen. Meats & produce are typically not a large enough portion of total inventories that their volatile price indexes will greatly affect the total LIFO expense. Use of the IPIC method makes calculation of indexes for commodity items simple, so this reason for excluding departments from LIFO is not applicable for LIFO taxpayers.

Repooling

If the makeup of pools changes as a result of switching to the IPIC method, reconfiguration of pools, or "repooling" is required. To do this, inventory must be sorted by the categories required (using either the Most-Detailed Categories method or the 10 Percent method) by the new pooling configuration as well as those categories required by the old pooling scheme. The result of this is that portions of individual old pools are allocated to different new pools. A repooling matrix illustrates this below:

Old Pool	New Pools % of Old Pools					Total
	1	2	3	4	5	
A	20%	25%	30%	15%	10%	100%
B	10%	-	85%	-	5%	100%
C	55%	33%	-	-	12%	100%
D	20%	25%	30%	15%	10%	100%
E	10%	35%	40%	7%	8%	100%
F	5%	40%	10%	10%	35%	100%
G	-	15%	10%	45%	30%	100%
H	2%	-	30%	40%	28%	100%

Old pools B & C are each split into three pieces as shown above, pools G & H are each split into four pieces & the other pools are each split into five pieces. The seven pieces coming from the old pools that now belong in new pool 1 are combined. The same combination procedure is then applied to the other pools. Pool splitting & combination procedures are described in Regs. §1.472-8. The measurement date for the allocation is the year end before the new pooling method is implemented. The repooling matrix percentages are calculated using the FIFO balances as of the year end of the pooling method change despite the fact that the LIFO layer histories being repooled are as of the year end prior to the method change.

Pooling for Separate Corporations

The IRS Regs. require separate sets of LIFO pools to be maintained for each separate corporation regardless of whether consolidated federal tax returns are filed. Qualified Subchapter S subsidiary corporations (Q-Subs) & certain other legal entities may be “disregarded entities” in the eyes of the IRS & separate LIFO pools need not be maintained for disregarded entities for tax purposes. No such separate set of LIFO pools for different corporations requirement exists for GAAP & book LIFO calculations for a “consolidated” set of pools are not uncommon.

Changing Corporate Status

Companies that change from “C” corporations to Subchapter S corporations are required by the IRS Regs. to recapture their LIFO reserve. This is required for tax purposes only because there is no corresponding GAAP requirement.

IPIC Method Shortcuts

It is not uncommon for smaller companies to use certain IPIC Regs. provisions but not others. One of the most commonly-used shortcut is what we call “Simplified Simplified LIFO”. An example of this is in the grocery industry whose pools are the traditional grocery retail pools such as grocery, meat, produce, HABA (Health and beauty aids), pharmacy, tobacco & alcoholic beverages. This shortcut entails using a single CPI category for each pool. Use of this shortcut allows for the use of a “less-detailed” CPI category which is the best match for that pool, thereby significantly reducing the time otherwise spent assigning the appropriate BLS categories to inventories on an item by item basis (i.e. For example, the *SAF11 Food at home* index is normally used for the grocery pool & the *SAF1121 Meats, poultry & fish* index is used for the meat pool).

Use of this shortcut method will probably not produce substantially higher or lower inflation, in the long run, compared to the proper application of the IPIC method. This is probably why some companies use this, i.e. they think that if the results are about the same as for using the proper methods, there is little chance of IRS adjustment. While this may be true, the IRS could terminate a company’s LIFO elections if it does not retain the books & records necessary to recalculate past years’ LIFO inventories using the proper methodology. “Inadequate books & records” is a reason specifically listed in the Regs. warranting LIFO termination.

LIFO-PRO Report Table of Contents

External Index Reports (IPIC LIFO CPI/PPI)

IPIC LIFO Calculation Summary Report (Report 23S) - This is a summary report by pool and in total showing the IPIC method pool indexes for the current year as well as the prior and current year cumulative indexes, FIFO and LIFO inventory balances, LIFO reserve, and LIFO expense.

IPIC LIFO Index Calculation Report (Report 23) - This shows the details of the pool index calculations using Harmonic Mean Weighting specified in the IRS Regulations.

IPIC LIFO Index by PPI Code Report (Report 24) - This report shows the current and prior year inflation indexes and calculation of current year category inflation index for all PPI categories.

Replaced & Discontinued PPI Codes Report (Report 25) - This report shows the PPI categories assigned to inventory balances on the Excel input schedule which have been discontinued or recoded. Separate sections are printed for: 1) Categories that replacements were automatically made by the LIFO-PRO software 2) Categories that replacements will be made for future periods based on when the categories were discontinued.

IPIC 5% Method Proof Report (Report 26) - Shows which of the 8 CPI or 15 PPI BLS Major Category or Commodity Groups are to be LIFO pools based on inclusion of 5% or more of total inventory per IRS Reg. Sec. 1.472-8(c)(2) for establishing pools.

IPIC Data Input Sheet - This is the source document for external index calculations as it shows the Excel file imported into the software containing BLS categories & inventory balances.

Data Input Report (Report 3) - This report & screen can be used for external index users wishing to perform interim estimates using current period inventory balances, a user-defined BLS index period range & the product mix used for the last period closed (prior period).

IPIC LIFO Calculation Summary Report (Report 23S)

HVAC Equip & Supplies Wholesaler

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SUMMARY OF IPIC LIFO INDEX CALCULATIONS BY POOL SUMMARY REPORT 23S

FOR PERIOD ENDED Dec, 2018

-----POOL-----		Cumulative	Cumulative	Current	LIFO	LIFO	LIFO	
NO.	NAME	Index	Index	Year Index	EXPENSE	INVENTORY	RESERVE	
		12/31/2017	12/31/2018	12/31/2018				
		CURRENT						
		YEAR COST						
1	Chemicals and allied products(06)	1,158,892	1.595962	1.616186	1.012672	14,502	805,670	353,222
2	Metal and metal products(10)	29,359,510	1.581350	1.654731	1.046404	1,301,983	19,701,784	9,657,726
3	Machinery and equipment(11)	33,531,598	1.585259	1.663731	1.049501	1,581,558	22,338,037	11,193,561
	Total/Averages	64,050,000			1.047391	2,898,042	42,845,491	21,204,509

Inflation rates are Nov 2018 PPI Prelim indexes divided by Nov 2017 Prelim indexes as shown on Report 24

IPIC data file used for calculations:Y:\LIFOPRO1\SAMPLE_HVAC_WHOLESALE\DIS\Sample_HVAC_DIS_2018YE.xlsx-DIS2018Book

There were missing indexes for 6 categories. Indexes used were those for the next less detailed category.

Optional IPIC Methods used:

10% Method used(BLS Weights used)?: 10% Method not used

U.S. Bureau of Labor Statistics inflation indexes source: PPI Detailed Reports Table 9

This is a summary report by pool and in total showing the IPIC method pool indexes for the current year as well as the prior and current year cumulative indexes, FIFO and LIFO inventory balances, LIFO reserve, and LIFO expense.

IPIC LIFO Index Calculation Report (Report 23)

HVAC Equip & Supplies Wholesaler

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DETAIL OF IPIC LIFO INDEX CALCULATIONS BY POOL REPORT 23
FOR PERIOD ENDED Dec, 2018

-----PPI CATEGORY----- ----- NAME -----	CATEGORY NUMBER	YEAR-END INVENTORY BALANCE	% OF POOL INV.	CATEGORY INDEX FROM REPORT 24	HARMONIC DOLLARS WEIGHTED QUOTIENT
POOL NUMBER:1 Chemicals and allied products(06)					
-Other chemicals and allied products	067	350,315	30.23%	1.024512	341,934
---Industrial gases	067903	575,770	49.68%	.996038	578,060
---Adhesives and sealants	067904	150,364	12.97%	1.036657	145,047
---Other miscellaneous chemical products	067909	63,272	5.46%	1.038980	60,898
----Salt, evaporated and solar	06790904	19,170	1.65%	1.038980	18,451 ><
Pool 1 Totals/Weighted average pool index		1,158,892	100.00%	1.012672	1,144,391
				Pool index	
POOL NUMBER:2 Metal and metal products(10)					
---Pressure and soil pipe & fittings, cast iron	101502	153,856	0.52%	1.042427	147,594
----Copper and copper alloy pipe and tube	10250239	1,132,817	3.86%	.907574	1,248,181
---Other nonferrous mill shapes	102519	16,720	0.06%	1.078799	15,499
--Nonferrous wire and cable	1026	122,461	0.42%	1.018337	120,256
--Hand and edge tools	1042	202,444	0.69%	1.024401	197,622
-Plumbing fixtures and fittings	105	1,411,370	4.81%	1.048271	1,346,380
--Vitreous china plumbing fixtures and china & earthenware bathroom accessories	1052^	100,387	0.34%	1.048271	95,764 ><
--Plumbing fixture fittings and trim	1054	22,637	0.08%	1.064293	21,270
---Plumbing fixtures, fittings, and trim	105402	148,960	0.51%	1.063984	140,002
----Bath and shower fittings	10540211	708,628	2.41%	1.092474	648,645
----Lavatory and sink fittings	10540218	2,083,604	7.10%	1.064944	1,956,539
----Miscellaneous plumbing fixtures, fittings, and trim	10540223	646,742	2.20%	1.031849	626,779
--Enameled iron & metal sanitary ware	1056^	34,536	0.12%	1.020751	33,834
-Heating equipment	106	235,298	0.80%	1.051024	223,875
--Steam and hot water equipment	1061	4,373,695	14.90%	1.042644	4,194,812
--Furnaces and heaters, including parts	1062	4,074,192	13.88%	1.052391	3,871,369
--Other heating equipment, non-electric, including parts	1063^	3,460,332	11.79%	1.036280	3,339,186
--Domestic water heaters	1066	4,377,407	14.91%	1.080717	4,050,463
---Metal doors and frames (except storm)	107102^	46,981	0.16%	1.069291	43,937
--Metal tanks	1072	414,588	1.41%	1.099944	376,917
--Sheet metal products	1073	394,594	1.34%	1.068695	369,230
----Sheet metal air-conditioning ducts and stove pipe	10730120	2,231,638	7.60%	1.006849	2,216,457
----Other sheet metal work	107301G				
----Sheet metal roof ventilators, louvers, & dampers for heating, ventilation, and air conditioning	107301G1	160,380	0.55%	1.056568	151,793 ><
---Ornamental and architectural metal work	107408				
----Metal grilles, registers and air diffusers	10740811	556,509	1.90%	1.147114	485,139 ><
---Fabricated metal pipe, tube, and fittings	107411^	1,896,199	6.46%	1.046351	1,812,201
--Fabricated steel plate	1076^	53,318	0.18%	1.018946	52,327
--Bolts, nuts, screws, rivets, and washers	1081	19,056	0.06%	1.043796	18,256
---Steel nails, staples, tacks, spikes and brads	108812^	31,425	0.11%	1.139934	27,568
----Other fabricated metal products	10890589	248,735	0.85%	1.102318	225,647
Pool 2 Totals/Weighted average pool index		29,359,510	100.00%	1.046404	28,057,542
				Pool index	
POOL NUMBER:3 Machinery and equipment(11)					
--Finished lubricants	0576	26,155	0.08%	1.090909	23,976
--Miscellaneous rubber products	0713	142,580	0.43%	1.018154	140,038
---Rubber and plastics hose	071304	15,299	0.05%	1.040000	14,711
---Plastic construction products	072106	82,374	0.25%	1.004398	82,013
----Plastics pipe	07210603	984,362	2.94%	.934711	1,053,119
----Plastics pipe fittings and unions	07210604	1,367,790	4.08%	1.062500	1,287,331
----Plastics plumbing fixtures	07210605	474,115	1.41%	1.031967	459,428
----Other plastic construction products	07210606	55,509	0.17%	1.028860	53,952
--Consumer, institutional, and commercial products, n.e.c.	072B	48,750	0.15%	1.033358	47,176
---General millwork	082101				

IPIC LIFO Index Calculation Report (Report 23)

HVAC Equip & Supplies Wholesaler

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**DETAIL OF IPIC LIFO INDEX CALCULATIONS BY POOL REPORT 23
FOR PERIOD ENDED Dec, 2018**

-----PPI CATEGORY----- ----- NAME -----	CATEGORY NUMBER	YEAR-END INVENTORY BALANCE	% OF POOL INV.	CATEGORY INDEX FROM REPORT 24	HARMONIC DOLLARS WEIGHTED QUOTIENT
----Stock wood kitchen cabinets, related cabinetwork and countertops	08210102	31,925	0.10%	1.018061	31,359
----Stock wood bathroom vanities and related bathroom cabinetwork including	08210104	15,219	0.05%	1.034736	14,708 ><
--Pressure-sensitive products	0916^	170,425	0.51%	1.062637	160,379
--Power-driven handtools, including parts and attachments	1132	975,047	2.91%	1.018562	957,279
--Pumps, compressors, and equipment	1141	1,468,093	4.38%	1.039670	1,412,076
--Air purification equipment and industrial and commercial fans and blowers	1147	5,063	0.02%	1.044837	4,845
---Fan, blower, air purification equipment	114701	42,568	0.13%	1.044837	40,742
-----Air filters for air-conditioners and furnaces, etc., of 2400 CFM or less, except	114701431	387,479	1.16%	1.053571	367,776
-----Industrial and commercial fans and blowers	11470145	108,775	0.32%	1.067259	101,920
--Air conditioning and refrigeration equip	1148	7,133,207	21.27%	1.052348	6,778,376
---Unitary air-conditioners, except air source heat pumps	114802^	207,085	0.62%	1.069412	193,644
---All other miscellaneous refrigeration and air-conditioning equipment	114806^	99,843	0.30%	.994318	100,413
---Heat transfer equipment, including heat pumps	114807	10,340,642	30.84%	1.064982	9,709,688
----Heat pumps	11480734	415,113	1.24%	1.064457	389,976
---Parts and accessories for air conditioning and heat transfer equipment	114809^	646,683	1.93%	1.041618	620,845
--Miscellaneous general purpose equipment	1149	274,418	0.82%	1.038362	264,280
---Metal valves, except fluid power	114902	1,022,757	3.05%	1.055783	968,719
----Industrial ball valves, incl. manual and power operated	11490202	28,248	0.08%	1.078117	26,201
----Industrial plug valves	11490204	14,062	0.04%	1.031788	13,629
----Automatic regulating and control valves	11490211	29,663	0.09%	1.063818	27,883
---Metal pipe fittings, flanges, and unions	114903^	1,886,437	5.63%	1.056138	1,786,165
---Filters and strainers	114908	118,651	0.35%	1.013300	117,093
--Service industry machinery and parts	1168	122,061	0.36%	1.017298	119,986
-Electrical machinery and equipment	117	21,731	0.06%	1.019417	21,317
--Motors, generators, motor generator sets	1173	231,138	0.69%	1.038334	222,604
-Miscellaneous instruments	118	413,048	1.23%	1.017553	405,923
--Automatic environmental controls for monitoring residential, commercial, and	1181^	2,856,794	8.52%	1.050000	2,720,756
---Household refrigeration equipment	124103				
----Parts and attachments for household refrigerators and freezers	12410339	9,727	0.03%	1.004069	9,688 ><
---Other major household appliances including room air-conditioners	124104	194,845	0.58%	1.004431	193,985
--Insulation materials	1392	988,089	2.95%	1.060190	931,992
--Cut stone and stone products	1395	44,068	0.13%	1.035779	42,546
----Other motor vehicle parts	14120508	13,131	0.04%	.996310	13,180
--Medical and surgical appliances and supplies	1563	18,630	0.06%	1.016224	18,332
Pool 3 Totals/Weighted average pool index		33,531,598	100.00%	1.049501	31,950,050
				Pool index	
GRAND TOTAL INVENTORY DOLLARS		64,050,000			

Inflation rates are Nov 2018 PPI Prelim indexes divided by Nov 2017 Prelim indexes as shown on Report 24.

IPIC data file used for calculations: Y:\LIFOPRO1\SAMPLE_HVAC_WHOLEALER\DIS\Sample_HVAC_DIS_2018YE.xlsx-DIS2018Book

>< No index published for this category. Indexes(this year & last) for the next less detailed category containing this category were used.

^This category subsumes a more detailed PPI category but it is not listed because there is a single such category and the inflation rate is identical to this category's and no \$s were assigned to it.

Company data folder= Y:\LIFOPRO1\Sample_HVAC_Wholesaler\LPSW_Data_Files\

LIFO-PRO software version used: 18Aug2019. Program file path= C:\SmallVersionWithFSO-Net-121718

BLS folder= C:\SmallVersionWithFSO-Net-121718\bls\

This shows the details of the pool index calculations using Harmonic Mean Weighting specified in the IRS Regulations.

IPIC LIFO Index by PPI Code Report (Report 24)

HVAC Equip & Supplies Wholesaler

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DETAIL OF IPIC LIFO INFLATION INDEXES REPORT 24
FOR PERIOD ENDED Dec, 2018

-----PPI CATEGORY----- ----- NAME -----	CATEGORY NUMBER	Prelim Prelim --BLS INDEXES--		CUR YEAR
		Nov 2018	Nov 2017	INFLATION INDEX To Report 23
POOL NUMBER:1 Chemicals and allied products(06)				
-Other chemicals and allied products	067	204.8	199.9	1.024512 INDEX USED
---Industrial gases	067903	251.4	252.4	.996038 INDEX USED
---Adhesives and sealants	067904	263.0	253.7	1.036657 INDEX USED
---Other miscellaneous chemical products	067909	215.9	207.8	1.038980 INDEX USED
----Salt, evaporated and solar	06790904	215.9	207.8	1.038980 INDEX USED(067909) TF
POOL NUMBER:2 Metal and metal products(10)				
--Pressure and soil pipe & fittings, cast iron	101502	405.4	388.9	1.042427 INDEX USED
----Copper and copper alloy pipe and tube	10250239	201.3	221.8	.907574 INDEX USED
---Other nonferrous mill shapes	102519	230.0	213.2	1.078799 INDEX USED
--Nonferrous wire and cable	1026	249.9	245.4	1.018337 INDEX USED
--Hand and edge tools	1042	239.3	233.6	1.024401 INDEX USED
-Plumbing fixtures and fittings	105	275.8	263.1	1.048271 INDEX USED
--Vitreous china plumbing fixtures and china & earthenware bathroom accessor	1052^	275.8	263.1	1.048271 INDEX USED(105) TP
--Plumbing fixture fittings and trim	1054	322.8	303.3	1.064293 INDEX USED
---Plumbing fixtures, fittings, and trim	105402	322.6	303.2	1.063984 INDEX USED
----Bath and shower fittings	10540211	272.9	249.8	1.092474 INDEX USED
----Lavatory and sink fittings	10540218	160.7	150.9	1.064944 INDEX USED
----Miscellaneous plumbing fixtures, fittings, and trim	10540223	317.5	307.7	1.031849 INDEX USED
--Enameled iron & metal sanitary ware	1056^	231.2	226.5	1.020751 INDEX USED
-Heating equipment	106	271.9	258.7	1.051024 INDEX USED
--Steam and hot water equipment	1061	293.4	281.4	1.042644 INDEX USED
--Furnaces and heaters, including parts	1062	206.9	196.6	1.052391 INDEX USED
--Other heating equipment, non-electric, including parts	1063^	248.5	239.8	1.036280 INDEX USED
--Domestic water heaters	1066	409.7	379.1	1.080717 INDEX USED
---Metal doors and frames (except storm)	107102^	260.8	243.9	1.069291 INDEX USED
--Metal tanks	1072	197.0	179.1	1.099944 INDEX USED
--Sheet metal products	1073	217.8	203.8	1.068695 INDEX USED
----Sheet metal air-conditioning ducts and stove pipe	10730120	176.4	175.2	1.006849 INDEX USED
----Other sheet metal work	107301G	110.2	104.3	1.056568
----Sheet metal roof ventilators, louvers, & dampers for heating, ventilation, an	107301G1	110.2	104.3	1.056568 INDEX USED(107301G) 1
---Ornamental and architectural metal work	107408	308.0	268.5	1.147114
----Metal grilles, registers and air diffusers	10740811	308.0	268.5	1.147114 INDEX USED(107408) TF
---Fabricated metal pipe, tube, and fittings	107411^	106.1	101.4	1.046351 INDEX USED
--Fabricated steel plate	1076^	220.5	216.4	1.018946 INDEX USED
--Bolts, nuts, screws, rivets, and washers	1081	200.2	191.8	1.043796 INDEX USED
---Steel nails, staples, tacks, spikes and brads	108812^	172.7	151.5	1.139934 INDEX USED
----Other fabricated metal products	10890589	195.0	176.9	1.102318 INDEX USED
POOL NUMBER:3 Machinery and equipment(11)				
--Finished lubricants	0576	428.4	392.7	1.090909 INDEX USED
--Miscellaneous rubber products	0713	201.9	198.3	1.018154 INDEX USED
---Rubber and plastics hose	071304	252.2	242.5	1.040000 INDEX USED
---Plastic construction products	072106	228.4	227.4	1.004398 INDEX USED
----Plastics pipe	07210603	113.1	121.0	.934711 INDEX USED
----Plastics pipe fittings and unions	07210604	168.3	158.4	1.062500 INDEX USED
----Plastics plumbing fixtures	07210605	125.9	122.0	1.031967 INDEX USED
----Other plastic construction products	07210606	213.9	207.9	1.028860 INDEX USED

IPIC LIFO Index by PPI Code Report (Report 24)

HVAC Equip & Supplies Wholesaler

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**DETAIL OF IPIC LIFO INFLATION INDEXES REPORT 24
FOR PERIOD ENDED Dec, 2018**

-----PPI CATEGORY----- ----- NAME -----	CATEGORY NUMBER	Prelim Prelim CUR YEAR --BLS INDEXES-- INFLATION		
		Nov 2018	Nov 2017	INDEX To Report 23
--Consumer, institutional, and commercial products, n.e.c.	072B	139.4	134.9	1.033358 INDEX USED
---General millwork	082101	253.2	244.7	1.034736
----Stock wood kitchen cabinets, related cabinetwork and countertops	08210102	107.1	105.2	1.018061 INDEX USED
----Stock wood bathroom vanities and related bathroom cabinetwork including	08210104	253.2	244.7	1.034736 INDEX USED(082101) P
--Pressure-sensitive products	0916^	193.4	182.0	1.062637 INDEX USED
--Power-driven handtools, including parts and attachments	1132	175.6	172.4	1.018562 INDEX USED
--Pumps, compressors, and equipment	1141	264.7	254.6	1.039670 INDEX USED
--Air purification equipment and industrial and commercial fans and blowers	1147	230.7	220.8	1.044837 INDEX USED
---Fan, blower, air purification equipment	114701	230.7	220.8	1.044837 INDEX USED
----Air filters for air-conditioners and furnaces, etc., of 2400 CFM or less, excep	114701431	118.0	112.0	1.053571 INDEX USED
----Industrial and commercial fans and blowers	11470145	168.2	157.6	1.067259 INDEX USED
--Air conditioning and refrigeration equip	1148	195.0	185.3	1.052348 INDEX USED
---Unitary air-conditioners, except air source heat pumps	114802^	181.8	170.0	1.069412 INDEX USED
---All other miscellaneous refrigeration and air-conditioning equipment	114806^	210.0	211.2	.994318 INDEX USED
---Heat transfer equipment, including heat pumps	114807	118.0	110.8	1.064982 INDEX USED
----Heat pumps	11480734	115.6	108.6	1.064457 INDEX USED
---Parts and accessories for air conditioning and heat transfer equipment	114809^	180.2	173.0	1.041618 INDEX USED
--Miscellaneous general purpose equipment	1149	281.5	271.1	1.038362 INDEX USED
---Metal valves, except fluid power	114902	335.0	317.3	1.055783 INDEX USED
----Industrial ball valves, incl. manual and power operated	11490202	437.5	405.8	1.078117 INDEX USED
----Industrial plug valves	11490204	233.7	226.5	1.031788 INDEX USED
----Automatic regulating and control valves	11490211	191.7	180.2	1.063818 INDEX USED
---Metal pipe fittings, flanges, and unions	114903^	312.3	295.7	1.056138 INDEX USED
---Filters and strainers	114908	243.8	240.6	1.013300 INDEX USED
--Service industry machinery and parts	1168	247.0	242.8	1.017298 INDEX USED
-Electrical machinery and equipment	117	115.5	113.3	1.019417 INDEX USED
--Motors, generators, motor generator sets	1173	219.4	211.3	1.038334 INDEX USED
-Miscellaneous instruments	118	202.9	199.4	1.017553 INDEX USED
--Automatic environmental controls for monitoring residential, commercial, anc	1181^	178.5	170.0	1.050000 INDEX USED
---Household refrigeration equipment	124103	98.7	98.3	1.004069
----Parts and attachments for household refrigerators and freezers	12410339	98.7	98.3	1.004069 INDEX USED(124103) TF
---Other major household appliances including room air-conditioners	124104	136.0	135.4	1.004431 INDEX USED
--Insulation materials	1392	200.8	189.4	1.060190 INDEX USED
--Cut stone and stone products	1395	170.8	164.9	1.035779 INDEX USED
----Other motor vehicle parts	14120508	108.0	108.4	.996310 INDEX USED
--Medical and surgical appliances and supplies	1563	206.7	203.4	1.016224 INDEX USED

IPIC data file used for calculations:Y:\LIFOPRO1\SAMPLE_HVAC_WHOLEALER\DIS\Sample_HVAC_DIS_2018YE.xlsx-DIS2018Book

No index published for categories above with PPI Code in parenthesis in rightmost column. Indexes(this year & last) for the next less detailed category(indicated in parenthesis) containing this category were used. The letter T in the rightmost column indicates this year's index was missing and the letter P indicates the prior year's index was missing.

^This category subsumes a more detailed PPI category but it is not listed because there is a single such category and the inflation rate is identical to this category's and no \$s were assigned to it.

This report shows the current and prior year inflation indexes and calculation of current year inflation index for all PPI categories.

Replaced & Discontinued PPI Codes Report (Report 25)

HVAC Parent

9/23/2019 6:05:39 PM

PPI CATEGORY REASSIGNMENTS REQUIRED FOR DISCONTINUED & RECODED CATEGORIES REPORT 25
FOR PERIOD ENDED DEC, 2018

-----REPLACEMENT PPI CATEGORY-----	BLS CAT	-----REPLACED(DISCONTINUED) PPI CATEGORY-----	BLS CAT	DATE	FIFO \$\$
-----NAME-----	NUMBER	-----NAME-----	NUMBER	DISCON'D	ASSIGNED
Furnaces and heaters, including parts	106201	Warm air furnaces, humidifiers, & elect. comfort eq.	10620132	6/1999	31,925
Other heating equipment, non-electric, including parts	10630161	Gas burners over 400 mbh	10630116	6/1999	46,981
Domestic heating stoves	10640141	Wood/coal stoves, air tight	10640126	6/1999	18,630
Unitary air-conditioners, except air source heat pumps	11480222	Ground and ground water source heat pump	11480223	12/2004	9,727
All other miscellaneous refrigeration and air-conditioning equipment	11480631	Icemaking machines	11480603	6/1997	19,056
All other miscellaneous refrigeration and air-conditioning equipment	11480631	Liquid chiller, centrifugal and reciprocating	11480623	12/2001	16,720
Heat transfer equipment, except dehumidifiers	11480732	Finned coils, all types	11480117	6/1997	31,425
Refrigerant compressors, except automotive	114808	Refrigerant compressors	114804	12/2011	44,068

The PPI category replacements listed above were made on Reports 23 & 24. The categories subject to replacement on those reports have the @ symbol suffix in their PPI code. FIFO balances should not be assigned to the discontinued categories in the future.

Categories discontinued but no reassignment made because there is more than one PPI category that could be used in its place:

Manual reassignment of category(s) are required for these on the Excel input schedule listing FIFO balances by PPI category

Cast iron heating boilers, radiators and convectors	10610106	Oil heating boilers	10610103	6/1999	142,580
Steel heating boilers (15 psi or less) and all hot water heating boilers (except parts)	10610112	Oil heating boilers	10610103	6/1999	

The categories below were recoded by the BLS on the date shown below. The prior periods' index history is retained for a recoded category; a new commodity code is assigned to a category that already exists.

Heat pumps	11480734	Heat pumps	11480134	12/2011	29,663
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This report shows the PPI categories assigned to inventory balances on the Excel input schedule which have been discontinued or recoded. Separate sections are printed for: 1) Categories that replacements were automatically made by the LIFO-PRO software 2) Categories that replacements will be made for future periods based on when the categories were discontinued.

IPIC 5% Method Proof Report (Report 26)

HVAC Equip & Supplies Wholesaler
IPIC POOLING METHOD EXCEPTION REPORT
FOR PERIOD ENDED DEC, 2018

8/18/2019 1:19:52 PM
REPORT 26

CURRENT-YEAR COST FOR EXISTING LIFO POOLS:		Inventory	% of
NO	PPI 2-DIGIT CODES	Balance	Total
1	Chemicals and allied products(06)	1,158,892	1.8%
2	Metal and metal products(10)	29,359,510	45.8%
3	Machinery and equipment(11)	33,531,598	52.4%
	Total	64,050,000	100.0%

CURRENT-YEAR COST FOR EACH PPI 2-DIGIT CODES:		Inventory	% of
NO	PPI 2-DIGIT CODES	Balance	Total
1	Farm products(01)	0	
2	Processed food(02)	0	
3	Textile products & apparel(03)	0	
4	Leather products(04)	0	
5	Fuels(05)	26,155	.0%
6	Chemical & allied products(06)	1,158,892	1.8%
7	Rubber & plastic products(07)	3,170,778	5.0%
8	Lumber & wood products(08)	47,144	.1%
9	Paper products(09)	170,425	.3%
10	Metal & metal products(10)	29,359,510	45.8%
11	Machinery & equipment(11)	28,848,604	45.0%
12	Furniture & household durables(12)	204,572	.3%
13	Nonmetallic mineral products(13)	1,032,157	1.6%
14	Transportation equipment(14)	13,131	.0%
15	Miscellaneous products(15)	18,630	.0%
	Total	64,050,000	100.0%

LIFO POOLS FOR EACH PPI 2-DIGIT CODE WITH > 5% OF TOTAL CURRENT-YEAR COST:

NO	PPI 2-DIGIT CODES	Inventory	% of
		Balance	Total
1	Metal & metal products(10)	29,359,510	45.8%
2	Machinery & equipment(11)	28,848,604	45.0%
3	All other(< 5%) pool	5,841,885	9.1%
	Total	64,050,000	100.0%

Shows which of the 8 CPI or 15 PPI BLS Major Category or Commodity Groups are to be LIFO pools based on inclusion of 5% or more of total inventory per IRS Reg. Sec. 1.472-8(c)(2) for establishing pools.

IPIC Data Input Sheet

Data Input Sheet for: Sample HVAC Equipment & Supplies Wholesaler
For the year ended: 12/31/2018

BLS Category Number	Year End Inventory Balance	BLS Category Description
067903	575,770	~~Industrial gases
114807	10,340,642	~~Heat transfer equipment, including heat pumps
1066	4,377,407	~~Domestic water heaters
1392	988,089	~~Insulation materials
1063	3,460,332	Other heating equipment, non-electric, including parts
1061	4,373,695	~~Steam and hot water equipment
1148	7,133,207	~~Air conditioning and refrigeration equip
1062	4,074,192	Furnaces and heaters, including parts
1141	1,468,093	~~Pumps, compressors, and equipment
1072	414,588	~~Metal tanks
1181	2,856,794	Automatic environmental controls for monitoring residential, commercial, and appliance use
1132	975,047	~~Power-driven handtools, including parts and attachments
107411	1,896,199	Fabricated metal pipe, tube, and fittings
1173	231,138	~~Motors, generators, motor generator sets
10730120	2,231,638	Sheet metal air-conditioning ducts and stove pipe
10250239	1,132,817	Copper and copper-base alloy pipe and tube
07210603	984,362	~~Plastics pipe
114806	99,843	All other miscellaneous refrigeration and air-conditioning equipment
105	1,411,370	~~Plumbing fixtures and fittings
118	413,048	~~Miscellaneous instruments
11480734	415,113	Heat pumps
124104	194,845	~~Other major household appliances including room air-conditioners
07210605	474,115	Plastics plumbing fixtures
067	350,315	~~Other chemicals and allied products
0916	170,425	Pressure-sensitive products
114809	646,683	Parts and accessories for air conditioning and heat transfer equipment
106	235,298	~~Heating equipment
114902	1,022,757	~~Metal valves, except fluid power
10540223	646,742	Other plumbing fixture fittings and trim
1168	122,061	~~Service industry machinery and parts
1026	122,461	~~Nonferrous wire and cable
1042	202,444	~~Hand and edge tools
10540211	708,628	Bath and shower fittings
10540218	2,083,604	Lavatory and sink fittings
1076	53,318	Fabricated steel plate
1149	274,418	~~Miscellaneous general purpose equipment
10740811	556,509	Metal grilles, registers and air diffusers
0576	26,155	~~Finished lubricants
067909	63,272	~~Other miscellaneous chemical products
10890589	248,735	Other fabricated metal products
1073	394,594	~~Sheet metal products
114908	118,651	~~Filters and strainers
114802	207,085	Unitary air-conditioners, except air source heat pumps
072B	48,750	Consumer, institutional, and commercial products, n.e.c.
114903	1,886,437	Metal pipe fittings, flanges, and unions
07210604	1,367,790	Plastics pipe fittings and unions
114701	42,568	~~Fan, blower, air purification equipment
105402	148,960	~~Plumbing fixture fittings and trim
072106	82,374	~~Plastic construction products
107301G1	160,380	<<No indexes for 5+ years>>Sheet metal roof ventilators, louvers, & dampers for heating, ventilation, and air-conditioning
11470145	108,775	~~Industrial and commercial fans and blowers
1056	34,536	Enameled iron & metal sanitary ware
06790904	19,170	Salt, evaporated and solar
101502	153,856	~~Pressure and soil pipe & fittings, cast iron

IPIC Data Input Sheet

Data Input Sheet for: Sample HVAC Equipment & Supplies Wholesaler
For the year ended: 12/31/2018

BLS Category Number	Year End Inventory Balance	BLS Category Description
11490202	28,248	Industrial ball valves, incl. manual and power operated
067904	150,364	~~Adhesives and sealants
114701431	387,479	Air filters for air-conditioners and furnaces, etc., of 2400 CFM or less, except parts
117	21,731	~~Electrical machinery and equipment
07210606	55,509	Other plastic construction products
1052	100,387	Vitreous china plumbing fixtures and china & earthenware bathroom accessories
0713	142,580	~~Miscellaneous rubber products
08210102	31,925	Stock wood kitchen cabinets, related cabinetwork and countertops
107102	46,981	Metal doors and frames (except storm)
1563	18,630	~~Medical and surgical appliances and supplies
108812	31,425	Steel nails, staples, tacks, spikes and brads
11490211	29,663	Automatic regulating and control valves
12410339	9,727	Parts and attachments for household refrigerators and freezers
1395	44,068	~~Cut stone and stone products
1081	19,056	~~Bolts, nuts, screws, rivets, and washers
102519	16,720	~~Other nonferrous mill shapes
1147	5,063	~~Air purification equipment and industrial and commercial fans and blowers
071304	15,299	~~Rubber and plastics hose
11490204	14,062	Industrial plug valves
08210104	15,219	Stock wood bathroom vanities and related bathroom cabinetwork including tops
14120508	13,131	Other motor vehicle parts
1054	22,637	~~Plumbing fixture fittings and trim
Sheet Total	64,050,000	

This is the source Excel sheet to be loaded into the LIFO-PRO software for external index calculations. The standard format is to list BLS categories in Column A & inventory balances in Column B. Companies using a non-IPIC pooling method that have more than one LIFO pool would enter the pool number in Column B & inventory balances in Column C. Retail LIFO users would enter balances at retail & cost in Columns B & C.

Data Input Report (Report 3)

HVAC Equip & Supplies Wholesaler

8/18/2019 1:28:57 PM

DATA INPUT FOR 12/31/2018 LIFO CALCULATIONS

LIFO-PRO Report 3

DATA FILE NAME:Y:\LIFOPRO1\Sample_HVAC_Wholesaler\LPSW_Data_Files\Sample_HVAC_DIS_2018YE.prn

LIFO Expense (Inc.) Components

-----POOL-----		C/Y COST	C/Y COST	INDEX	INDEX	LIFO	LIFO	LIFO	Inflation	Layer	Total
NO	NAME	12/31/2017	12/31/2018	12/31/2017	12/31/2018	EXPENSE	RESERVE	INVENTORY	Effect	Erosion	LIFO
										Effect	Expense
1	Chemicals and allied products(0	1,158,892	1,500,000	1.029652	1.012672	14,686	353,406	1,146,594	14,686		14,686
2	Metal and metal products(10)	29,359,510	30,000,000	1.020225	1.046404	1,330,386	9,686,129	20,313,871	E 1,362,400	-32,014	1,330,386
3	Machinery and equipment(11)	33,531,598	34,000,000	1.022747	1.049501	1,603,650	11,215,654	22,784,346	E 1,659,846	-56,196	1,603,650
	TOTALS OR WTD AVG	64,050,000	65,500,000	1.021713	1.047209	2,948,722	21,255,189	44,244,811	3,036,932	-88,210	2,948,722
	E-Layer erosion occurs for this pool.										

This report is primarily used for companies using internal indexes as it serves as the data input screen (Screen 3) for entering the front-end software input values required to complete the LIFO calculation. The blue-shaded fields are the front-end input values are entered by software users and serves as a source document for the variables used to complete the back-end of the LIFO calculation. This report automatically updates the LIFO expense, reserve, inventory & expense/income component fields shown to the right of the current period index columns after the blue-shaded input value fields have been entered. This report & screen is also used for external index users wishing to perform interim estimates using current period inventory balances, a user-defined BLS index period range & the product mix used for the last period closed (prior period).