

# Inventory Accounting After LIFO

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How the demise of LIFO could affect financial ratios

In a November 2007 letter to the Securities and Exchange Commission (SEC), the Financial Accounting Standards Board (FASB) and Financial Accounting Foundation asserted that investors would be better served if all U.S. public companies used accounting standards promulgated by a single global standard setter.<sup>1</sup> They suggested this would best be accomplished with an improved set of International Financial Reporting Standards (IFRS). Among many transition issues, a major concern relates to the last-in, first-out (LIFO) method of inventory accounting. While U.S. generally accepted accounting principles (GAAP) permits LIFO accounting, IFRS does not.

Concurrently, tax reform matters are being proposed by Congress. In November 2007, House Ways and Means Committee Chairman Charles B. Rangel (D-NY) introduced significant tax reform (HR 3970—*Tax Reduction and Reform Act of 2007*), which includes the repeal of LIFO. Some believe that Chairman Rangel is trying to beat the potential adoption of IFRS.<sup>2</sup> If LIFO methods are denied for financial statement purposes due to convergence with IFRS, then by definition under the current U.S. tax code, LIFO will be denied for tax.<sup>3</sup> From a tax revenue perspective, Congress has an incentive to repeal LIFO before IFRS adoption deems existing LIFO tax rules irrelevant. Such action would allow Congress to consider the increased tax revenue resulting from LIFO repeal as a “new revenue source,” rather than from the consequences of changing existing tax law. Under current congressional “pay go” rules for tax changes, all tax reductions must be paid for or offset with new tax revenue raisers.

Given the forces at work, it seems inevitable that the LIFO inventory accounting method will be repealed in the near future. Accordingly, the purpose of this

article is to examine the financial statement effects of eliminating LIFO from U.S. GAAP. In particular, we compute several key financial ratios based on reported (LIFO) data and compare these values to the same measures assuming use of FIFO (first-in, last-out). This is a significant issue for several reasons.

Since financial statements are an important source of firm-specific information for investors and creditors, statement users must be cognizant of changes in reported results that are not attributable to operating,

investing and financing policies. Further, many firms enter into contracts based on financial accounting data (for example, debt and executive compensation contracts). Repeal of LIFO would clearly affect such contract provisions. Accordingly, this article gives creditors, investors and other stakeholders a preview of the magnitude of the financial statement effects that would result from repeal of LIFO.

## Background

When a firm’s input prices remain constant, management’s choice of inventory accounting method has no

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*Analysts need to be aware of changes in key ratios that will occur if LIFO is repealed.*

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## Wheeling-Pittsburgh Corporation Example

The 2006 inventory footnote indicates that the LR ("Excess of current cost over carrying value") increased by \$35.426 million, from \$67.509 million to \$102,935 million:

Inventory (\$ thousands)	2006	2005
Total current cost	315,156	234,075
Excess of current cost over carrying value	(102,935)	(67,509)
Total carrying value	212,221	166,566

Condensed financial statements (including adjustments) appear below:

Income Statement	LIFO	Adjustment	FIFO
Net sales	1,770,765		1,770,765
COGS	1,621,799	(a) (35,426)	1,586,373
Gross margin	148,966		184,392
Other expenses	138,241		138,241
Income before taxes	10,725		46,151
Income taxes	4,244	(b) 12,399	16,643
Net income	6,481		29,508
Balance Sheet	LIFO	Adjustment	FIFO
Cash	21,842		21,842
Other current assets	378,645	(c) 102,935	481,580
Noncurrent assets	722,058		722,058
Total assets	1,122,545		1,225,480
Current liabilities	327,548		327,548
Noncurrent liabilities	402,514	(d) 36,027	438,541
Minority interest	106,290		106,290
Stockholders' equity	286,193	(e) 66,908	353,101
Total liabilities and equity	1,122,545		1,225,480

Adjustments:  
 (a) Reduce cost of goods sold by change in LR  
 (b) Increase income taxes by  $(\Delta LR)(0.35)$   
 (c) Add LR to inventory balance  
 (d) Increase noncurrent liabilities by  $(LR)(0.35)$   
 (e) Increase retained earnings by  $(LR)(1-0.35)$

For Wheeling-Pittsburgh, the 2006 LR is equal to 9.2 percent of reported assets. Converting from LIFO to FIFO increases net income by more than 350.0 percent. The estimated tax effect of LIFO repeal (35.0 percent of LR) represents 165.0 percent of cash. In addition, the following financial ratio effects occur:

Ratio	LIFO-based	FIFO-based	Percentage Change
Profitability (net income/sales)	0.4%	1.7%	325.0%
X activity (sales/average assets)	1.7	1.5	-11.8%
X solvency (average assets/average equity)	3.9	3.5	-10.3%
= ROCE	2.3%	8.9%	287.0%
Days to sell inventory	42.6	63.2	48.4%
Current ratio	1.2	1.5	25.0%

Exhibit 1. LR by Industry (U.S. Dollars in Millions, 2006)

Industry	Firms	Percentage of Industry	LR	Percentage of Total LR	Cumulative Percentage
Petroleum and natural gas	20	14.7	\$36,877.2	52.2	52.2
Steel works	20	34.5	6,215.7	8.8	61.0
Machinery	40	29.2	5,014.6	7.1	68.1
Chemicals	27	27.0	4,941.4	7.0	75.1
Automobiles and trucks	16	27.1	3,803.5	5.4	80.5
Retail	31	14.5	2,930.3	4.1	84.6
Wholesale	24	17.1	2,463.2	3.5	88.1
Business supplies	20	9.8	1,728.3	2.4	90.6
Miscellaneous	5	11.6	1,625.6	2.3	92.9
Construction materials	16	22.9	835.4	1.2	94.0
Tobacco products	4	57.1	740.0	1.0	95.1
Aircraft	6	26.1	736.3	1.0	96.1
Shipping containers	10	83.3	331.3	0.5	96.6
Consumer goods	17	29.8	329.3	0.5	97.1
Electrical equipment	10	20.4	280.9	0.4	97.5
Pharmaceutical products	6	2.6	256.5	0.4	97.8
Food products	10	16.7	184.6	0.3	98.1
Alcoholic beverages	2	14.3	181.8	0.3	98.3
Insurance	1	9.1	156.4	0.2	98.6
Rubber and plastic products	9	30.0	144.4	0.2	98.8
Printing and publishing	8	24.2	130.3	0.2	99.0
Nonmetallic mines	2	6.9	118.4	0.2	99.1
Shipbuilding, railroad equipment	2	16.7	113.2	0.2	99.3
Transportation	1	1.1	95.0	0.1	99.4
Business services	4	2.0	81.8	0.1	99.5
Medical equipment	5	2.9	67.0	0.1	99.6
Apparel	5	7.8	58.7	0.1	99.7
Defense	1	12.5	57.6	0.1	99.8
Measuring and control equipment	2	1.9	45.5	0.1	99.9
Electronic equipment	3	0.9	27.6	0.0	99.9
Computers	1	0.6	20.5	0.0	99.9
Textiles	3	30.0	18.6	0.0	99.9
Agriculture	1	7.7	14.0	0.0	100.0
Coal	1	6.7	13.0	0.0	100.0
Fabricated products	3	30.0	8.5	0.0	100.0
Recreational products	1	2.9	1.3	0.0	100.0
Total	337	11.4	\$70,647.7	100.0	100.0

effect on income taxes or reported operating results. However, inventory accounting methods can have significant effects when input prices are changing.<sup>4</sup> Under SEC Regulation S-X (Rule 5-02.6), firms using LIFO are required to disclose the LIFO reserve (LR), that is, the amount by which LIFO-based inventory differs from replacement or current cost.<sup>5</sup> The LR is a key disclosure in recasting financial statements to alternative inventory methods. In the usual case of rising inventory costs, LIFO understates the inventory balance *vis-à-vis* alternative accounting methods.

Based on data from Standard & Poor's Compustat database, positive LRs were reported in 2006 by more than 97 percent of firms with nonzero LRs.

In recasting the income statement from LIFO to FIFO, adjustments must be made to cost of goods sold (COGS) and income tax expense. FIFO-based COGS is computed as LIFO-based COGS minus the change in the LR ( $\Delta$ LR); FIFO-based income tax expense is computed as the reported amount plus  $\Delta$ LR times the statutory tax rate. On the balance sheet, adding LR to the inventory account adjusts

## Exhibit 2. Relative Magnitude of LR, 2006

### A. LR as a percentage of total assets (ranked by industry median)

Industry	25%	Median	75%
Steel works	3.1	8.9	13.7
Petroleum and natural gas	2.2	5.3	8.9
Wholesale	2.1	4.1	6.9
Machinery	0.8	2.6	4.8
Chemicals	1.1	2.0	5.0
Retail	0.4	1.5	3.8
Automobiles and trucks	0.7	1.2	2.7
Business supplies	1.0	1.1	2.0
Other	0.4	1.0	2.3
Total	0.6	1.7	4.5

### B. Percentage effect on net income, when the change in LR is positive (ranked by industry median)

Industry	25%	Median	75%
Steel works	4.6	22.6	52.2
Wholesale	4.1	6.3	9.5
Chemicals	2.3	3.8	4.4
Retail	1.0	2.9	4.6
Petroleum and natural gas	0.8	1.8	4.0
Machinery	0.6	1.8	3.9
Automobiles and trucks	0.6	1.8	2.8
Business supplies	0.6	1.6	3.2
Other	0.6	1.4	4.7
Total	0.7	2.1	5.5

### C. Percentage effect on net income, when the change in LR is negative (ranked by industry median)

Industry	25%	Median	75%
Business supplies	-31.4	-18.9	-7.9
Steel works	-21.7	-7.2	-3.0
Automobiles and trucks	-6.1	-4.0	-0.2
Retail	-26.5	-2.8	-0.7
Wholesale	-4.9	-2.6	-0.5
Chemicals	-7.1	-2.4	-0.9
Petroleum and natural gas	-4.1	-2.2	-0.7
Machinery	-11.5	-1.1	-0.8
Other	-2.8	-0.8	-0.2
Total	-6.1	-1.3	-0.5

### D. Estimated tax liability as a percentage of cash (ranked by industry median)

Industry	25%	Median	75%
Wholesale	12.1	50.5	167.0
Steel works	15.8	27.4	75.8
Petroleum and natural gas	12.8	19.6	44.6
Business supplies	5.0	19.6	116.8
Chemicals	11.6	17.3	31.8
Retail	1.8	16.6	24.6
Machinery	3.7	12.2	27.9
Other	1.9	6.6	24.4
Automobiles and trucks	2.3	5.8	13.7
Total	3.2	13.6	34.1

Notes: The columns labeled "25%" and "75%" present the 25th and 75th percentile values of the respective distributions.

Absolute percentage effect on net income from continuing operations (NI) is computed as  $|NI_{FIFO} - NI_{LIFO}| \div |NI_{LIFO}|$ .

Tax liability is estimated as the LR times the 35% statutory corporate tax rate in effect in 2006.

the balance to what would have been reported under FIFO. Two offsetting adjustments are made to the opposite side of the balance sheet. The fact that reported LRs are overwhelmingly positive means that use of FIFO in the past would have increased net income for most firms (higher inventory balance means lower COGS). Thus, retained earnings must be adjusted by LR times  $(1 - \text{statutory tax rate})$ . If past COGS were lower, pretax income and income taxes would have been higher. Thus, noncurrent liabilities are increased by LR times the statutory tax rate.<sup>6</sup>

As identified below, repeal of LIFO would have an especially large impact on firms in the steel works industry. Accordingly, the box on page 18 uses condensed financial statements for Wheeling-Pittsburgh Corporation to illustrate the financial statement effects of LIFO repeal and corresponding adoption of FIFO.

## Data and Descriptive Statistics

The sample is selected from all companies in the Compustat database.<sup>7</sup> In particular, we focus on the 337 firms reporting a nonzero LR in 2006. Exhibit 1 presents information regarding 2006 LRs, using the Fama and French industry classification scheme.<sup>8</sup> In 2006, the LRs for these firms totaled \$70.6 billion. More than half of this total (\$36.9 billion) is attributed to firms in the petroleum and natural gas industry.<sup>9</sup> Together with steel works, machinery, chemicals, automobiles and trucks, retail, wholesale and business supplies, these eight industries account for about 91.0 percent of the aggregate LR. A significant portion of firms in these industries report LRs, ranging from 9.8 percent of firms in business supplies to 34.5 percent of firms in steel works. Thus, financial statement users must exercise care in making interfirm ratio comparisons.

**Exhibit 3. Effect on Return on Common Equity, 2004–2006 (ranked by industry median absolute percentage change)**

Industry	25%	Median	75%
Steel works	10.0	21.0	33.6
	7.1	13.5	27.6
Petroleum and natural gas	22.9	30.8	40.8
	1.8	5.6	13.5
Wholesale	10.3	14.6	18.0
	1.4	5.4	13.3
Chemicals	7.6	15.3	20.6
	1.1	3.3	9.2
Automobiles and trucks	7.3	12.9	20.7
	0.6	2.4	6.4
Machinery	11.0	17.0	24.7
	0.9	2.3	5.9
Retail	6.1	11.7	16.4
	0.8	2.2	5.9
Other	7.1	13.7	20.5
	0.6	2.0	5.7
Business supplies	0.1	6.2	16.5
	0.9	1.9	8.8
Total	8.0	14.6	22.3
	0.8	2.7	8.1

Notes: The columns labeled “25%” and “75%” present the 25th and 75th percentile values of the respective distributions.

The first row is the LIFO-based ROCE; the second row is the absolute percentage change in ROCE, computed as  $|\text{ROCE}_{\text{FIFO}} - \text{ROCE}_{\text{LIFO}}| \div |\text{ROCE}_{\text{LIFO}}|$ .

Exhibit 2 presents firm-level, by-industry data regarding the relative magnitude of the LR (the columns labeled “25” and “75” present the 25th and 75th percentile values of the respective distributions). The eight industries comprising 91.0 percent of the aggregate LR are presented separately, with remaining industries classified as “Other.” Panel A of Exhibit 2 presents data regarding LR as a percentage of reported assets. Across all firms, the median is 1.7 percent of assets. The LR comprises more than 5.0 percent of total assets for 20.4 percent of firms and more than 10.0 percent of total assets for 6.2 percent of firms. Steel works has the highest median value at 8.9 percent.

The effect on net income of using LIFO depends on the sign of the change in the LR. When LR increases, LIFO-based income is lower than FIFO-based income. In 2006, about 75.0 percent of sample firms

reported increases in LR. The next two panels of Exhibit 2 summarize the percentage change in net income from continuing operations assuming repeal of LIFO and adoption of FIFO.<sup>10</sup> Panel B presents data for firms with *increases* in LR. Overall, the median increase in income is a modest 2.1 percent. However, the increase in income is greater than 5.0 percent for 28.1 percent of firms and exceeds 10.0 percent for 16.7 percent of firms. The steel works industry has the highest median increase (22.6 percent). Panel C presents data for firms with *decreases* in LR. Overall, the median decrease in income is 1.3 percent. The decrease is greater than 5.0 percent for 28.2 percent of firms and exceeds 10.0 percent for 20.0 percent of firms. The business supplies industry has the highest median decrease (18.9 percent).

Panel D quantifies the estimated tax burden associated with repeal of LIFO, relative to the amount of cash held. The tax burden is estimated as the LR times the 35.0 percent statutory corporate income tax rate. Many values for this ratio are substantial. Across all firms, the median value is 13.6 percent of cash. Further, 67.4 percent (55.8 percent) of firms have values in excess of 5.0 percent (10.0 percent). The burden is especially high for wholesale (median, 50.5 percent).

Based on their ranks for the measures appearing in Exhibit 2, the largest financial statement effects occur in four industries: steel works, wholesale, petroleum and natural gas and chemicals. Accordingly, subsequent analyses focus on these industries, with all remaining firms classified as “Other.”

## Financial Statement Ratio Effects of LIFO Repeal

Financial ratios are commonly used for evaluating various aspects of company performance. While financial analysis texts suggest adjusting ratios of companies that use LIFO for comparative purposes, such adjustments are not commonly made in ratios published by firms such as Standard & Poor’s. Therefore, analysts need to be aware of changes in key ratios that will occur if LIFO is repealed. Failure to understand this impact could lead to incorrect inferences when post-LIFO ratios are used.

**Return on common equity (ROCE).** ROCE is a key profitability measure in financial statement analysis,

## Exhibit 4. Additional Data on ROCE Changes, 2004–2006

### A. Decomposition of ROCE (ranked by industry median absolute percentage change in ROCE)

Industry	Profitability			Activity			Solvency		
	25%	Median	75%	25%	Median	75%	25%	Median	75%
Steel works	2.6	5.7	9.9	1.1	1.4	1.8	1.8	2.6	3.8
	7.5	22.9	44.9	-8.9	-5.4	-2.7	-6.4	-2.2	-0.5
Petroleum and natural gas	3.1	5.7	9.6	1.4	1.7	3.3	2.1	2.5	3.0
	1.7	7.3	16.5	-7.1	-4.3	-2.2	-6.1	-2.6	-1.0
Wholesale	1.0	2.8	4.7	1.8	2.6	4.2	1.8	2.5	3.0
	1.5	5.2	11.3	-7.3	-4.0	-1.8	-4.2	-1.4	-0.5
Chemicals	2.5	5.4	6.8	0.8	1.1	1.3	2.5	2.8	3.6
	2.4	4.4	11.0	-3.2	-1.5	-0.6	-3.2	-1.2	-0.3
Other	1.9	4.8	7.8	0.9	1.2	1.6	1.8	2.3	3.1
	0.6	1.8	5.5	-2.7	-1.1	-0.4	-1.3	-0.4	-0.1
Total	1.9	4.7	7.7	0.9	1.3	1.8	1.8	2.4	3.2
	0.7	2.4	8.4	-3.7	-1.4	-0.5	-1.9	-0.6	-0.1

Notes: The columns labeled “25%” and “75%” present the 25th and 75th percentile values of the respective distributions.

The first row is the LIFO-based ratio value; the second row is the percentage change (absolute change for profitability). Profitability = (Net income – Preferred dividends) ÷ Sales; Activity = Sales ÷ Average assets; and Solvency = Average assets ÷ Average common equity.

### B. Frequency of significant changes in ROCE components

	Profitability			Activity			Solvency		
	Overall	Top 4	Other	Overall	Top 4	Other	Overall	Top 4	Other
Change>5%	34.5%	58.3%	26.2%	17.6%	37.6%	10.6%	10.8%	25.8%	5.6%
Change>10%	23.0%	40.6%	17.0%	4.0%	10.7%	1.7%	5.0%	13.3%	2.2%

Top four industries include steel works, wholesale, petroleum and natural gas and chemicals.

as it measures returns to a firm’s owners. Along with growth in the book value of common equity, ROCE is a key value driver in the accounting-based residual income valuation model.<sup>11</sup> Exhibit 3 presents data regarding the *absolute* percentage change in FIFO-based versus LIFO-based ROCE for those firms with positive common equity balances.<sup>12</sup> To provide a broader representation of possible financial statement effects, data is presented over the period 2004 to 2006 (the first row for each industry grouping presents the distribution of LIFO-based ROCE,

while the absolute percentage change is presented in the second row). Overall, the median ROCE is 14.6 percent, while the median percentage change is 2.7 percent. The impact on ROCE exceeds 5.0 percent (10.0 percent) for 35.6 percent (21.6 percent) of firms. The largest industry median effect (13.5 percent) is for steel works, followed by petroleum and natural gas (5.6 percent) and wholesale (5.4 percent).

**Decomposition of ROCE.** In order to gain further insight into ROCE effects, the following decomposition is performed:

$$\begin{aligned} \text{ROCE} &= \text{Profitability} \times \text{Activity} \times \text{Solvency} \\ &= \frac{\text{Net income} - \text{Preferred dividends}}{\text{Sales}} \times \frac{\text{Sales}}{\text{Average assets}} \times \frac{\text{Average assets}}{\text{Average common equity}} \end{aligned}$$

## Exhibit 5. Additional Ratios, 2004–2006

**A. Days to sell inventory (ranked by industry median percentage change)**

Industry	25%	Median	75%
Petroleum and natural gas	11.6	16.5	21.5
	28.2	53.2	97.9
Steel works	39.8	50.0	69.3
	23.6	35.0	53.0
Wholesale	32.7	49.0	65.1
	7.4	14.5	30.6
Chemicals	43.7	55.5	68.6
	7.1	13.6	21.3
Other	42.4	64.1	92.3
	4.0	9.4	20.1
Total	39.0	58.9	83.6
	4.6	11.5	24.0

	Overall	Top 4	Other
Change>5%	74.8%	89.1%	70.0%
Change>10%	56.1%	79.2%	48.2%

**B. Current ratio (ranked by industry median percentage change)**

Industry	25%	Median	75%
Petroleum and natural gas	1.0	1.4	1.8
	10.3	14.6	19.2
Steel works	1.7	2.3	3.0
	9.3	14.0	19.5
Wholesale	1.4	1.9	2.5
	3.4	5.6	13.8
Chemicals	1.5	1.7	2.0
	2.4	4.5	8.0
Other	1.4	1.9	2.4
	1.1	3.0	6.4
Total	1.4	1.8	2.4
	1.4	3.8	8.8

	Overall	Top 4	Other
Change>5%	41.5%	69.0%	32.0%
Change>10%	20.4%	46.7%	11.4%

Notes: The columns labeled "25%" and "75%" present the 25th and 75th percentile values of the respective distributions.

The first row is the LIFO-based ratio value; the second row is the percentage change.

Top four industries include steel works, wholesale, petroleum and natural gas and chemicals.

Days to sell inventory =  $365 \div$  Inventory turnover, where Inventory turnover =  $\text{COGS} \div$  Average inventory. Current ratio =  $\text{Current assets} \div$  Current liabilities.

The results are presented in Panel A of Exhibit 4 (the first row for each industry grouping presents the distribution of the relevant LIFO-based ratio, while the second row presents percentage changes).

On an overall basis, the largest effect is on the profitability component of ROCE, with a median absolute change of 2.4 percent. The impact on the profitability ratio exceeds 5.0 percent for 34.5 percent of firms and exceeds 10.0 percent for 23.0 percent of firms. The effect on steel works (median change, 22.9 percent) is especially large. The effect on the activity component (median change, -1.4 percent) is more modest. While 17.6 percent of firms exhibit a change in excess of 5.0 percent, only 4.0 percent of firms have a change in excess of 10.0 percent. Finally, the median change for the solvency component is a mere -0.6 percent. Further, the effect exceeds 5.0 percent (10.0 percent) for only 10.8 percent (5.0 percent) of observations.

Panel B of Exhibit 4 presents data regarding the significance of changes in ROCE components for the top four industries compared to all other firms. As expected, the frequency of material changes in each ROCE component is much higher for the four separately identified industries. However, analysts who assume that significant effects do not exist outside of these industries do so at their own peril. For the profitability component, changes in excess of 5.0 percent (10.0 percent) occur for 26.2 percent (17.0 percent) of "Other" firms. For the activity component, changes in excess of 5.0 percent occur in 10.6 percent of observations. In contrast, significant changes in solvency are unusual (only 5.6 percent of observations exhibit a change in excess of 5.0 percent).

**Additional ratios.** While the ROCE decomposition identifies considerable effects on profitability, the effects on activity and solvency are less salient. In evaluating changes in activity, it is common to examine turnover associated with separate asset categories (for example, accounts receivable, inventory and fixed assets). Accordingly, Panel A of Exhibit 5 presents data on inventory turnover, converted to "days to sell" by dividing into 365 (the first row for each industry grouping presents the distribution of the LIFO-based ratio, while the second row presents percentage changes). Across all firms, the effect on this ratio is substantial (median change, 11.5 percent). In addition, changes in excess of 5.0 percent (10.0 percent) are observed for 74.8 percent (56.1 percent) of all observations. While the effects are larger for the top four industries, changes of

5.0 percent (10.0 percent) occur for 70.0 percent (48.2 percent) of observations for all other industries. Overall, inventory turnover is the ratio most significantly affected by LIFO repeal.

While the effects on solvency documented above are modest, financial statement users are also concerned with liquidity. As shown above, the ratio of taxes due from LIFO repeal to cash is considerable. Additional evidence regarding liquidity-related effects is presented by examining changes in the current ratio. Since reported LRs are overwhelmingly positive, repeal of LIFO will primarily increase observed current ratios (assuming that all taxes due are classified as noncurrent liabilities). Data with respect to current ratio effects are presented in panel B of Exhibit 5. Overall, the median effect on this ratio is a 3.8 percent increase. However, changes in excess of 5.0 percent are observed for 41.5 percent of all observations, while changes in excess of 10.0 percent occur 20.4 percent of the time. While the large effects are more concentrated in the top four industries, changes in excess of 5.0 percent are observed for nearly one-third of firms (32.0 percent) in "Other" industries.

### Implications for Loan Officers

Given recent standard-setting and legislative developments, it seems inevitable that the LIFO inventory accounting method will be repealed in the near future. This article documents the financial statement effects of LIFO repeal by comparing several key financial ratios based on reported (LIFO) data to the same measures assuming use of FIFO. We show that repeal of LIFO would create substantial tax liabilities for many firms. In addition, we document the magnitude of expected changes in profitability, activity, solvency and liquidity ratios.

While financial statement effects are particularly strong for the steel works, wholesale, petroleum and natural gas and chemicals industries, significant effects are also noted for other firms. These findings should be useful to decision makers, as they highlight possible

changes in reported results that are not attributable to firms' operating, investing and financing policies.

### Endnotes

- <sup>1</sup> See [http://72.3.243.42/FASB\\_FAF\\_Response\\_SEC\\_Releases\\_msw.pdf](http://72.3.243.42/FASB_FAF_Response_SEC_Releases_msw.pdf).
- <sup>2</sup> American Institute of Certified Public Accountants, 4 AICPA TAX SECTION E-ALERT 18, Nov. 1, 2007.
- <sup>3</sup> Internal Revenue Code Section 472(c) provides a condition that LIFO cannot be used for tax purposes unless it is also used for financial statement purposes.
- <sup>4</sup> See, for example, G. I. White, A. C. Sondhi and D. Fried, *THE ANALYSIS AND USE OF FINANCIAL STATEMENTS*, 3rd ed. (New York: John Wiley & Sons, Inc., 2003).
- <sup>5</sup> The LR is usually operationalized as the difference between LIFO- and FIFO-based cost of inventory. A positive (negative) LR reflects the cumulative amount that a company's pretax earnings have been reduced (increased) by using LIFO instead of FIFO.
- <sup>6</sup> Repeal of LIFO would result in immediate tax liabilities for firms with positive LR. As documented below, these liabilities can be substantial. Thus, we assume that any taxes due upon repeal of LIFO would be payable over an extended period and not classified as current liabilities. We further assume that these tax liabilities would not be discounted to present value on the balance sheet.
- <sup>7</sup> Due to data availability, our analysis is based on data from publicly traded firms. However, by all accounts, many privately held companies also utilize LIFO.
- <sup>8</sup> E. Fama and K. French, *Common Risk Factors in the Returns on Stocks and Bonds*, 33 J. FIN'L ECONOMICS 1 (Feb. 1993), at 3–56.
- <sup>9</sup> ExxonMobil has the largest LR (\$15.9 billion) at December 31, 2006.
- <sup>10</sup> As percentage changes cannot be computed for firms with net losses, percentage change in net income from continuing operations (NI) is computed as  $(NI_{\text{FIFO}} - NI_{\text{LIFO}}) \div |NI_{\text{LIFO}}|$ .
- <sup>11</sup> J. D. Stowe, T. R. Robinson, J. E. Pinto and D. W. McLeavey, *EQUITY ASSET VALUATION* (New York: John Wiley & Sons, Inc., 2007).
- <sup>12</sup> While only firms with positive common equity are included in the analysis, firms reporting net losses will have negative ROCE. Thus, percentage change in ROCE is computed as  $|ROCE_{\text{FIFO}} - ROCE_{\text{LIFO}}| \div |ROCE_{\text{LIFO}}|$ .

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