**WINNEBAGO'S USE OF LIFO**

**TEACHING NOTE**

**Summary:** David Frost and his wife, Anna, are trying to find an investment home for their accumulated “mad money”. As an avid Winnebago RV enthusiast, he is considering investing in Winnebago Industries. He discovers that Winnebago uses LIFO to value its inventories. Initially, David is not sure what the use of LIFO means when evaluating a company, however, comes to understand its significance. Consequently, he realizes that he must undertake a LIFO to FIFO conversion of the financial statements in order to more accurately analyze the company and, ultimately, make an investment decision.

**Courses:** Intermediate Financial Accounting, Financial Statement Analysis, International Accounting, Alternative Financial Accounting Frameworks.

**Learning Objectives:**

After studying this critical incident, students should be able to:

1. Access a company’s annual reports online.
2. Describe the reasons companies use LIFO and the limitations on its use.
3. Demonstrate the use of LIFO reserve as reported in notes to financial statements.
4. Describe a LIFO liquidation. Discuss the possible reason(s) for a decrease in the LIFO reserve.
5. Revise financial information after conversion of LIFO to FIFO.
6. Evaluate the importance of financial statement adjustments before analysis/comparison.

**Questions:**

1. (LO 2) What are some of the reasons that companies choose to use LIFO to value inventory? When is a company not allowed to use LIFO?

2. (LOs 1 & 3) Access the 2013 and 2012 annual reports of Winnebago Industries, Inc. at www.winnebagoind.com. Refer to Note 5. [You may also wish to access the 2011 annual report to refer to the note on inventories for that year.] What is Winnebago's LIFO reserve for 2011, 2012 and 2013?

3. (LOs 1, 2, 3, & 4) Why did Winnebago Industries' LIFO reserve decrease? What is a LIFO liquidation? Did Winnebago have a LIFO liquidation during 2011, 2012 or 2013?

4. (LOs 1, 2 & 3) Estimate the cash flow differences between LIFO and FIFO for Winnebago Industries, Inc. (assume a tax rate of 30%). Refer to Note 5.

5. (LOs 1, 2 & 3) How much has the company saved in income taxes (assume a tax rate of 30%) since switching to LIFO? Refer to Note 5.

6. (LOs 2 & 3) What will be the potential income tax effects for Winnebago if LIFO is no longer allowed for U.S. income tax reporting? (Assume a tax rate of 30 %.)

7. (LOs 1 & 6) Reproduce the ratios calculated by David before any adjustments to the financial statements. Include current ratio, return on assets, profit margin, asset turnover, gross profit margin and inventory turnover for 2011, 2012 and 2013. Discuss the relevance of each of these ratios.

8. (LOs 1, 5 & 6) Adjust the income statements for 2011, 2012, and 2013 to reflect the use of FIFO (first-in, first-out) to value inventories instead of LIFO (last-in, first-out). Assume the tax rate is 30%.On the balance sheet, restate ending inventory, total current assets, total assets, current income taxes payable, and current liabilities for 2011, 2012, and 2013.

9. (LO 6) Recompute David's financial ratios based on the revised financial statement information in Q8 and compare the results to those in Q7.

10. (LO 6) Evaluate the results of the calculated financial ratios resulting from the LIFO vs. FIFO financial statement information in Q7 and Q9. Make a recommendation to David Frost as to whether or not he should invest their “mad money” in Winnebago Industries. Justify your response.

**Questions and Answers:**

**1. (LO 2) What are some of the reasons that companies choose to use LIFO to value inventory? When is a company not allowed to use LIFO?**

Companies preparing financial reports under United States Generally Accepted Accounting Principles (U.S. GAAP) may choose among several inventory cost flow assumptions. For firms who sell high cost and/or unique items, such as automobiles, custom jewelry, or airplanes, the exact cost of the item is usually easily obtained and used to record the cost of goods sold. However, for most firms, the items sold are very similar and unit costs relatively small, so these firms will not keep track of specific unit costs. Thus, these firms will choose an inventory cost flow assumption, such as First-In, First-Out (FIFO), Weighted Average, or Last-In, First-Out (LIFO). The cost flow assumption does not have to match the physical flow of goods.

If prices are rising, companies may choose LIFO to maximize tax savings. LIFO will better match current costs of goods sold (COGS) with current revenues, and in an environment of rising costs, will result in higher COGS than other cost flow assumptions. Higher COGS results in lower net income and lower income tax. The U.S. Tax Code requires firms that use LIFO for tax purposes to also use LIFO for financial reporting purposes.

However, a company cannot switch back and forth from LIFO for tax purposes. Once it has elected LIFO, it may switch away from that method but is proscribed from returning to LIFO for tax purposes for a number of years thereafter.

Companies that prepare financial statements under International Financial Reporting Standards (IFRS) are not allowed to use LIFO.

**2. (LO 1 & 3) Access the 2013 and 2012 annual reports of Winnebago Industries, Inc. at www.winnebagoind.com. Refer to Note 5. [You may also wish to access the 2011 annual report to refer to the note on inventories for that year.] What is Winnebago's LIFO reserve for 2011, 2012 and 2013?**

|  |  |  |  |
| --- | --- | --- | --- |
| **(In thousands)** | **8/31/13** | **8/25/12** | **8/27/11** |
| LIFO Reserve | $ 29,844 | $ 31,024 | $ 31,637 |

**3. (LOs 1, 2, 3 & 4) Why did Winnebago Industries' LIFO reserve decrease? What is a LIFO liquidation? Did Winnebago have a LIFO liquidation during 2011, 2012 or 2013?**

Per Note 5 on Inventories, the LIFO reserve has decreased in fiscal years 2012 and 2013 “based on decreases in inflation partially offset by an increase in inventories.” The reference to an increase in inventory indicates that there was not a liquidation of inventory valued at previous years’ costs.

Looking at Note 5 from 8/27/11, the LIFO reserve increased from $29,563 thousand to $31,637 thousand during fiscal year 2011.

**4. (LOs 1, 2 & 3) Estimate the cash flow differences between LIFO and FIFO for Winnebago Industries, Inc. (assume a tax rate of 30%). Refer to Note 5.**

The cash flows affected will be for payment of income taxes. The choice of inventory cost flow assumption will affect cost of goods sold (COGS). The change in COGS is equal to the change in the LIFO reserve during the year. If the LIFO reserve increases, then COGS will also increase. This will decrease income before income taxes by the same amount, and in turn decrease the amount of income taxes that must be paid.

During fiscal year 2011, the LIFO reserve increased $2,074 thousand, thus increasing COGS and decreasing income before income taxes. Using the assumed tax rate of 30%, $2,074 thousand x .30 = $622.2. Thus cash flows increased by the decrease in income taxes for fiscal year 2011 in the amount of $622.2 thousand.

During fiscal year 2012, the LIFO reserve DECREASED $613 thousand, thus the amount of income taxes (cash outflow) INCREASED by $183.9 thousand.

During fiscal year 2013, the LIFO reserve once again decreased, this time by $1,180 thousand, thus the amount of income taxes (cash outflow) increased by $354 thousand.

**5. (LOs 1, 2 & 3) How much has the company saved in income taxes (assume a tax rate of 30%) since switching to LIFO? Refer to Note 5.**

This can be estimated at any point in time by taking the ending balance in the LIFO reserve and multiplying it times the tax rate. Thus at the end of fiscal year 2013 the LIFO reserve is $29,844 thousand. Multiplying this times 30% gives a total of $8,953.2 thousand saved in income taxes since switching to LIFO.

**6. (LOs 2 & 3) What will be the potential income tax effects for Winnebago if LIFO is no longer allowed for U.S. income tax reporting? (Assume a tax rate of 30%.)**

Winnebago Industries will immediately owe income taxes of $8,953.2 thousand as of the date of the change. Discontinuing LIFO for income tax purposes has been proposed by the U.S. Congress in the past, but not approved. As of now there are no plans to discontinue its use. However, as U.S. GAAP converges with IFRS (which does not allow the use of the LIFO inventory cost flow assumption for financial reporting) and as Congress attempts to increase tax revenues and/or simplify the tax code this issue may be revisited.

**7. (LO 1 & 6) Reproduce the ratios calculated by David before any adjustments to the financial statements. Include current ratio, return on assets, profit margin, asset turnover, gross profit margin and inventory turnover for 2011, 2012 and 2013. Discuss the relevance of each of these ratios.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **(In thousands)** |  |  |  |  |
| **Ratio** | **Formula** | **2013** | **2012** | **2011** |
| Current ratio = | Current assets ÷ Current liabilities | 223,850/70,354 | 187,068/61,018 | 164,854/51,318 |
| **Current ratio** |  | **3.18** | **3.07** | **3.21** |
| Return on assets = | Net income ÷ Average total assets | 31,953/297,608.5 | 44,972/262,999.5 | 11,843/233,642 |
| **Return on assets** |  | **10.7%** | **17.1%** | **5.1%** |
| Profit margin = | Net income ÷ Net revenues | 31,953/803,165 | 44,972/581,679 | 11,843/496,418 |
| **Profit margin** |  | **4.0%** | **7.7%** | **2.4%** |
| Asset turnover = | Net revenues ÷ Average total assets | 803,165/297,608.5 | 581,679/262,999.5 | 496,418/233,642 |
| **(In thousands)** |  |  |  |  |
| **Ratio** | **Formula** | **2013** | **2012** | **2011** |
| **Asset turnover** |  | **2.70** | **2.21** | **2.12** |
| Gross profit ratio = | Gross profit ÷ Net revenues | 84,631/803,165 | 43,680/581,679 | 39,754/496,418 |
| **Gross profit ratio** |  | **10.5%** | **7.5%** | **8.0%** |
| Inventory turnover = | Cost of goods sold ÷ Average inventory | 718,534/99,817.5 | 537,999/78,129.5 | 456,664/56,345.5 |
| **Inventory turnover** |  | **7.20** | **6.89** | **8.10** |

**Current ratio:** a liquidity ratio which measures the short-term ability of a company to pay its maturing obligations and meet unexpected needs for cash. It is a more dependable indicator of liquidity than working capital. In theory, the higher the current ratio, the more able a company is to meet its obligations. One must consider, however, the composition of the current assets with respect to liquidity in analyzing this ratio.

**Return on assets:** a measure of profitability that indicates the amount of net income generated by each dollar of assets. Thus, the higher the return on assets, the more profitable the company.

**Profit margin:** a measure of profitability that indicates what percentage of each dollar of net sales results in net income. Alternatively stated, it measures the extent by which selling price covers all expenses (including cost of goods sold). Profit margins vary greatly across industries.

**Asset turnover:** a measure of profitability that indicates how efficiently a company uses its assets to generate sales. Alternatively stated, it measures how many dollars of sales a company generates for each dollar invested in assets. Asset turnovers also vary considerably across industries. Within the same industry, however, a company with a higher asset turnover is operating more efficiently.

**Gross profit ratio:** a measure of profitability that indicates what percentage of each dollar of sales results in gross profit. It is considered to be more useful than the gross profit amount because it expresses a more meaningful relationship between gross profit and net sales. Gross profit ratios vary greatly across industries.

**Inventory turnover:** a liquidity ratio which measures the number of times the average inventory “turns over” (is sold) during the year. Generally, a higher inventory turnover signals an efficiently run business with minimal funds tied up in inventory. However, companies must guard against too high of an inventory turnover in which inventory shortages may lead to lost sales.

**8. (LO 1, 5 & 6) Adjust the income statements for 2011, 2012, and 2013 to reflect the use of FIFO (first-in, first-out) to value inventories instead of LIFO (last-in, first-out). Assume the tax rate is 30%. On the balance sheet, restate ending inventory, total current assets, total assets, current income taxes payable, and current liabilities for 2011, 2012, and 2013.**

To convert cost of goods sold (COGS) from LIFO to FIFO, the change in LIFO reserve [LIFO reserve at the end of the year (EOY) minus LIFO reserve at the beginning of the year (BOY)] is subtracted to arrive at COGS under FIFO.

**Income statements**

|  |  |  |  |
| --- | --- | --- | --- |
| **(In thousands)** |  |  |  |
|  | **2013** | **2012** | **2011** |
| Net revenues | $803,165 | $581,679 | $496,418 |
| \*Cost of goods sold | 719,714 | 538,612 | 454,590 |
| Gross profit | 83,451 | 43,067 | 41,828 |
| Operating expenses | 40,233 | 34,154 | 28,475 |
| Non-operating income | 696 | 581 | 658 |
| Income before income taxes | 43,914 | 9,494 | 14,011 |
| \*\*Provision (benefit) for taxes | 12,787 | (35,049) | 716 |
| Net income | $ 31,127 | $ 44,543 | $ 13,295 |

\* COGSFIFO = COGSLIFO - (LIFO reserve EOY - LIFO reserve BOY)

**2011 COGSFIFO:** 456,664 - (31,637 - 29,563)

**2012 COGSFIFO:** 537,999 - (31,024 - 31,637)

**2013 COGSFIFO:**718,534 - (29,844 - 31,024)

**\*\*** Equals Provision (benefit) for taxes under LIFO + (Change in LIFO Reserve x 30%)

2011: $94 + [2,074 x 30%]

2012: $(34,865) + [-613 x 30%]

2013: $13,141 + [1,180 x 30%]

**Selected balance sheet amounts**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **(In thousands)** |  |  |  |  |
|  | **2013** | **2012** | **2011** | **2010** |
| \*Inventories | 142,385 | 118,118 | 100,802 | 73,089 |
| Total current assets | 253,694 | 218,092 | 196,491 | n/a |
| TOTAL ASSETS | 338,989 | 317,096 | 271,564 | 256,920 |
|  |  |  |  |  |
| Income taxes payable | (354) | 164 | 726 | n/a |
| Current liabilities | 70,000 | 60,834 | 51,940 | n/a |
|  |  |  |  |  |

**\*** Ending inventory (FIFO) = Ending inventory (LIFO) + Ending LIFO Reserve

**9. (LO 6) Recompute David's financial ratios based on the revised financial statement information in Q8 and compare the results to those in Q7.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **(In thousands)** |  |  |  |  |
| **Ratio** | **Formula** | **2013** | **2012** | **2011** |
| Current ratio = | Current assets ÷ Current liabilities | 253,694/70,000 | 218,092/60,834 | 196,491/51,940 |
| **Current ratio** |  | **3.62** | **3.59** | **3.78** |
| Return on assets = | Net income ÷ Average total assets | 31,127/328,042.5 | 44,543/294,330 | 13,295/264,242 |
| **Return on assets** |  | **9.5%** | **15.1%** | **5.0%** |
| Profit margin = | Net income ÷ Net revenues | 31,127/803,165 | 44,543/581,679 | 13,295/496,418 |
| **Profit margin** |  | **3.9%** | **7.7%** | **2.7%** |
| Asset turnover = | Net revenues ÷ Average total assets | 803,165/328,042.5 | 581,679/294,330 | 496,418/264,242 |
| **Asset turnover** |  | **2.45** | **1.98** | **1.88** |
| Gross profit ratio = | Gross profit ÷ Net revenues | 83,451/803,165 | 43,067/581,679 | 41,828/496,418 |
| **Gross profit ratio** |  | **10.4%** | **7.4%** | **8.4%** |
| Inventory turnover = | Cost of goods sold ÷ Average inventory | 719,714/130,251.5 | 538,612/109,460 | 454,950/86,945.5 |
| **Inventory turnover** |  | **5.53** | **4.92** | **5.23** |

**Comparison of results:**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **2013** | | **2012** | | **2011** | |
|  | **LIFO** | **FIFO** | **LIFO** | **FIFO** | **LIFO** | **FIFO** |
| Current ratio | 3.18 | 3.62 | 3.07 | 3.59 | 3.21 | 3.78 |
| Return on assets | 10.7% | 9.5% | 17.1% | 15.1% | 5.1% | 5.0% |
| Profit margin | 4.0% | 3.9% | 7.7% | 7.7% | 2.4% | 2.7% |
| Asset turnover | 2.70 | 2.45 | 2.21 | 1.98 | 2.12 | 1.88 |
| Gross profit margin | 10.5% | 10.4% | 7.5% | 7.4% | 8.0% | 8.4% |
| Inventory turnover | 7.20 | 5.53 | 6.89 | 4.92 | 8.10 | 5.23 |

**10. (LO 6) Evaluate the results of the calculated financial ratios resulting from the LIFO vs. FIFO financial statement information in Q7 and Q9. Make a recommendation to David Frost as to whether or not he should invest their “mad money” in Winnebago Industries. Justify your response.**

Student responses will vary depending on their interpretation of the financial ratio data, however, some general observations/conclusions might include:

* Current ratio
  + generally speaking, a current ratio of greater than 3 is excellent
  + predictably, it is higher in all 3 years under FIFO than LIFO due to increased ending inventory balances using FIFO
  + no observable pattern over 3 years
* Return on assets
  + predictably, it is lower in all 3 years under FIFO than LIFO due to increased ending inventory balances using FIFO
  + no observable pattern over 3 years
* Profit margin
  + not materially different under FIFO vs. LIFO
  + no observable pattern over 3 years
* Asset turnover
  + predictably, it is lower in all 3 years under FIFO than LIFO due to increased ending inventory balances using FIFO
  + upward trend over 3 years
* Gross profit margin
  + not materially different under FIFO vs. LIFO
  + no observable pattern over 3 years, although 2013 is much improved.
* Inventory turnover
  + predictably, it is lower in all 3 years under FIFO than LIFO due to increased ending inventory balances using FIFO
  + no observable pattern over 3 years

Because LIFO results in "First-In, Still-Here" as far as ending inventory, ratios involving assets in the denominator will be higher when a company is using LIFO. Ratios that include assets in the numerator (such as the current ratio above) will be lower than under FIFO in a time of rising prices -- or if prices have been rising for most of the years in which the company has used LIFO.

All of the above underscore the need to convert the financial statement information from LIFO to FIFO in order to have an “apples to apples” comparison with other companies and, thus, be able to make an informed decision.

An ideal student response to David Frost on the advisability of investing in Winnebago will examine market conditions for the recreational vehicle industry. The Recreation Vehicle (RV) Industry Association's 2012 Industry Profile reported a 13.2% increase over 2011 in wholesale RV shipments, the highest level since 2007, and that the retail value of these shipments was 20% over the value in 2011.

U.S. News and World Report stated in a May 31, 2013 article that RV shipments in 2009 were less than 166,000, down from almost 400,000 per year in 2005 and 2006. However, the RV industry enjoyed 46% growth in 2010. The industry shipped nearly 290,000 units in 2012, and the totals shipped in 2013 was predicted to be close to 310,000.

However, the RV Industry Association reported shipments of slightly more than 321,000 units in 2013 in its industry report of April 9, 2014. This is an increase of 12.4% over 2012. The growth is expected to continue as the "baby boomers" move into retirement.

Ideally, students should also include a comparison of Winnebago's financial statement ratios (after adjustment to FIFO) to the industry averages. Additional computation of Winnebago's return on equity and long-term debt to equity ratios will also help to examine how well Winnebago is using financial leverage to increase returns to stockholders, and give a measure of the capital structure of the company. Comparing the long-term debt to equity ratios to the industry average may also provide some insight into Winnebago's ability to survive years when demand declines.

A reading of Winnebago's annual report should also reveal to the student that Winnebago has a substantial backorder for motor homes. The backlog of orders for motor homes increased by almost 120% from 2011 to 2012.

Students should also realize and point out to David that the recreational vehicle industry is a cyclical industry and thus its sales and resulting performance will fluctuate with economic conditions. When consumer credit becomes tight and consumer confidence dives (as during the "Great Recession" of 2008 and the following years) purchases of RVs will decrease.

***From 2011 Annual Report:***

**Note 5: Inventories**

Inventories consist of the following:

|  |  |  |
| --- | --- | --- |
| **(In thousands)** | **August 27, 2011** | **August 28, 2010** |
| Finished goods | $ 29,656 | $ 21,200 |
| Work-in-process | 31,966 | 24,897 |
| Raw materials | 39,180 | 26,992 |
| Total | 100,802 | 73,089 |
| LIFO reserve | (31,637) | (29,563) |
| Total inventories | $ 69,165 | $ 43,526 |

The above value of inventories, before reduction for the LIFO reserve, approximates replacement cost at the respective dates. Due to a liquidation of LIFO inventory values as a result of a reduction of inventory levels during Fiscal 2010, we recorded a reduction to LIFO reserves of $780,000, which is net of inflation. Of the $100.8 million inventory at August 27, 2011, $94.3 million is valued on a LIFO basis and the Towables inventory of $6.5 million is valued on a first-in, first-out (FIFO) basis.

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