

Adobe Connect: Libby Chapters 6 & 7

Longer Adobe Connect sessions, without participants, have been recorded, and the recordings and the underlying file are in Module 1. The longer versions are in mp4 format, which range from about 8 minutes – 15 minutes. .

Several topics are covered in these two chapters, which are complementary chapters.

Revenue & Receivables

- Revenue recognition
- Accounts Receivable
 - Bad Debts Expense
 - Allowance for Doubtful Accounts

Inventory and Cost of Goods Sold

- Inventory Methods. We will cover 4 methods: specific identification, average, FIFO, LIFO
 - These methods allocate cost of goods sold between cost of goods sold and ending inventory
 - These methods results in different amounts for cost of goods sold and ending inventory.
- Balance presentation, lower of cost of market
- LIFO Reserve (used when companies report US inventories on a LIFO basis but keep worldwide inventories on another method, e.g., FIFO).

Ratios

- Accounts receivable turnover and related average collection period
- Inventory turnover and related average number of days to sell inventory

Statement of Cash Flows (SCF)

- Adjustments for operational current assets and liabilities in SCF

REVENUE RECOGNITION CRITERIA

Sales should be recognized when

(1) **earned** and **realizable** (or **realized**).

FOB (free on board) determines ownership

- FOB Destination
- FOB Shipping Point

NET SALES & NET PURCHASES

Adjustments to Sales Price (Contra-Revenues). (These are not expenses)

- Credit card fees needed to generate the sales
- Sales returns and allowances
- Sales discounts

Adjustments to Purchase Price (Contra-Asset)

- Purchase returns and allowances
- Purchase discounts

Example:

Sales	2,800,000
Sales returns & allowances	(250,000)
Sales discounts	(100,000)
Net sales	2,450,000

Purchases	2,800,000
Purchase returns & allowances	(250,000)
Purchase discounts	(100,000)
Net purchases	2,450,000

Sales/Purchase Discount Example Problem.

Companies offer sales discounts on credit sales in order to accelerate the collection of cash and reduce exposure to bad debts. **The decision to offer sales discounts and take purchase discounts are critical management decisions.**

- **Tip for Managers.** *Many companies will adopt the policy of requiring purchasing managers to take all purchase discounts offered to reduce the cost of purchases.*

On January 1, the Wendeln Co. sold \$150,000 in merchandise inventory on account to the Grimm Co., which bought the merchandise as inventory. Terms were **3/10, n/25**. Wendeln's merchandise inventory had a cost of \$105,000.

- **Note: potential sales/purchase discount = \$150,000 x 3% = \$4,500 if paid within 10 days.**

Possible Outcomes

- If paid within the discount period
 - Seller receives less than the contractual amount and uses sales discounts (contra equity), which reduces net sales
 - Buyer pays less than contractual amount and uses purchase discounts (contra asset), which reduces net purchases
- If not paid within the discount period.
 - Seller collects full invoice amount
 - Buyer pays full invoice amount
- Buyer never pays and the receivable is written off

RECORD TRANSACTION**Wendeln, Seller****January 1**

Assets	=	Liabilities	+	Equity
Accounts receivable ↑ 150,000 Inventory ↓ 105,000				Sales ↑ 150,000 Cost of goods sold ↓ 105,000

January 1

Accounts receivable	150,000	
Sales		150,000
Cost of goods sold	105,000	
Inventory		105,000

Grimm, Buyer**January 1**

Assets	=	Liabilities	+	Equity
Inventory ↑ 150,000		Accounts payable ↑ 150,000		

January 1

Inventory (1)	150,000	
Accounts payable		150,000

(2) Could also record as “purchases”

Assume that Grimm paid the invoice *within the 10 days*; on January 8.

Wendeln, Seller

Note: Grimm pays \$145,500: $150,000 \times 97\% = 145,500$ cash paid/received

January 8

Assets	=	Liabilities	+	Equity
Cash ↑ 145,500 Accounts receivable ↓ 150,000				Sales discounts (1) ↓ 4,500

(1) Net sales decreases from 150,000 to 145,500

January 8

Cash	145,500	
Sales discounts (1)	4,500	
Accounts receivable		150,000

(1) Contra-revenue: net sales decreases from \$150,000 to \$145,500

Sales	150,000
Sales discounts	(4,500)
Net Sales	145,500

Grimm, Buyer**January 8**

Assets	=	Liabilities	+	Equity
Cash ↓ 145,500 Purchase discounts ↓ 4,500		Accounts payable ↓ 150,000		

January 8

Accounts payable	150,000	
Purchase discounts(2)		4,500
Cash		145,500

(2) Contra asset: inventory (net purchases) decreases from 150,000 to 145,500.

IF GRIMM PAYS OUTSIDE OF THE 10 DAY DISCOUNT PERIOD, THE GRIMM PAYS THE ENTIRE \$150,000 AMOUNT AND WENDELN COLLECTS THE ENTIRE \$150,000

ACCRUING BAD DEBTS EXPENSE AND ALLOWANCE FOR DOUBTFUL ACCOUNTS

GAAP requires us to *estimate bad debts expense* (for accounts that are estimated to be written off in future periods as uncollectible) *in the period that sales are recorded*. [**MATCHING PRINCIPLE**]

Managerial Accounting Method Choice. Managers normally choose between two methods to account for bad debts expense and the allowance for doubtful accounts:

- **percent of credit sales** (primary focus is the *income statement*, and matching, and it is usually easier to compute).
- **aging of accounts receivable** (primary focus is the *balance sheet*, requires a more detailed computation).

NOTE. This situation is common in accounting, where two methods have been developed, one income statement oriented and one balance sheet oriented.

First let's review the allowance for doubtful accounts account and review how it reconciles.

	Beginning balance
+	Bad Debts Expense
-	Accounts written off as uncollectible
=	Ending balance

In T Account form, note what increases (bad debts expense) and decreases (write-off accounts as uncollectible) the allowance account.

Allowance for Doubtful Accounts (1)

	Beginning Balance
Write-offs of accounts	Bad Debts Expense
	Ending balance

(1) *Alternate account titles include "allowance for bad debts, reserve for bad debts"*

THE TWO METHODS WILL ALMOST CERTAINLY RESULT IN DIFFERENT AMOUNTS.

Example. Assume, for convenience, that Kaul records bad debts at month-end. At January 31, the Kaul Co. had the following information **before any month-end journal entry to record bad debts expense.**

Cash sales	2,000,000
Credit sales	4,000,000
Accounts receivable	1,750,000
Allowance for doubtful accounts	115,000 (<i>credit balance</i>)

PERCENT OF CREDIT SALES METHOD

$$4,000,000 \times 7\% = 280,000$$

January 31

Assets	=	Lia	+	Equity
Allowance for doubtful accounts (1) ↓ 280,000				Bad debts expense (2) ↓ 280,000

(1) Note that the allowance for doubtful accounts increases, which decreases net accounts receivable

(2) Bad debts expense increases, which decreases net income and equity

Allowance for Doubtful Accounts

	115,000 beginning balance
	280,000 bad debts expense (computed)
	395,000 ending balance

January 31

Bad debts expense	280,000	
Allowance for doubtful accounts		280,000

ACCOUNTS RECEIVABLE AGING METHOD

Assume that Kaul estimates that at January 31 the balance in the allowance for doubtful accounts should be \$335,000. Show the effect on the balance sheet equation; then, record the adjusting journal entry.

$$335,000 \text{ required balance} - 115,000 \text{ beginning balance} = 220,000 \text{ adjustment}$$

January 31

Assets	=	Liabilities	+	Equity
Allowance for doubtful accounts ↓ 220,000				Bad debts expense ↓ 220,000

Allowance for Doubtful Accounts

	115,000 beginning balance
	220,000 bad debts expense
	335,000 ending balance (computed)

January 31

Bad debts expense	220,000	
Allowance for doubtful accounts		220,000

WRITE OFF AN ACCOUNT AS UNCOLLECTIBLE

The journal entry to write of a \$10,000 account that is deemed uncollectible is:

January 31

Allowance for doubtful accounts	10,000	
Accounts receivable		10,000

Note: the amount of net accounts receivable does not change, and expense is not affected

COST OF GOODS SOLD AND ENDING INVENTORY

The chapter covers 3 major topics

1. Ways to compute the cost of ending inventory

- Specific Identification
- LIFO
- FIFO
- Average

2. Balance Sheet Presentation

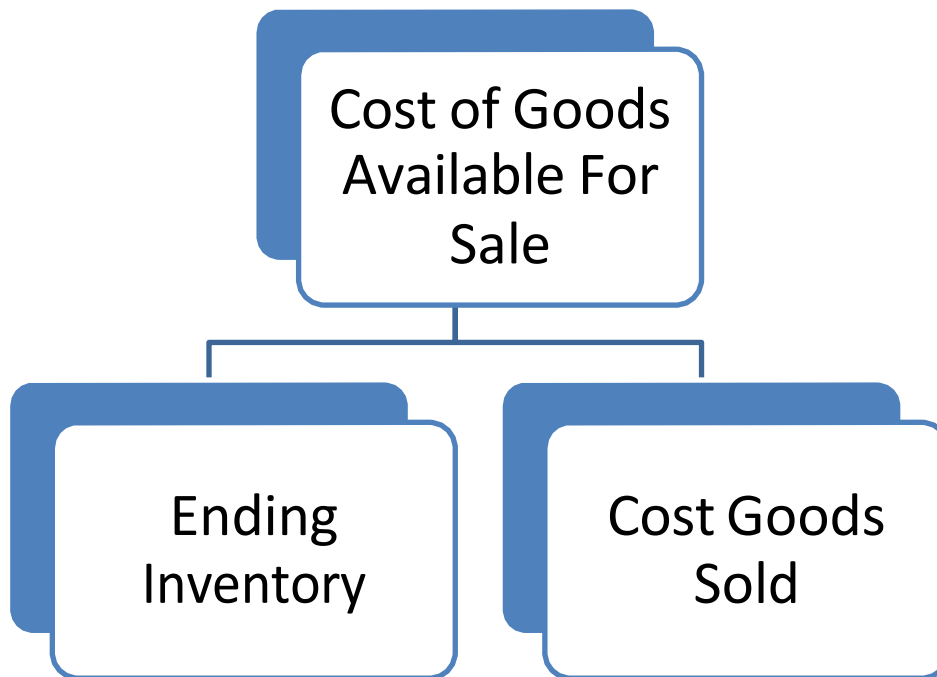
- Lower of Cost or Market

3. LIFO Reserve

- Used by U.S. Companies for U.S. Inventories when management uses one world-wide inventory method to track costs (assume FIFO) and then uses LIFO for U.S. Inventories
- Using LIFO minimizes taxes when prices are rising

COST OF GOODS AVAILABLE FOR SALE IS ALLOCATED BETWEEN ENDING INVENTORY AND COST OF GOODS SOLD.

The inventory valuation method chosen by management determines how the cost of goods available for sale amount is allocated between ending inventory and cost of goods sold.



MEMORIZE THE FOLLOWING RECONCILIATION

Beginning inventory
Cost of purchases (i.e., net purchases)*
Cost of goods available for sale
Less: **ending inventory** (shown on balance sheet)
Cost of goods sold (shown on income statement)

*For manufacturing firm, cost of goods manufactured

INVENTORY METHODS

Management Accounting Method Choice. Alternative inventory methods may be used to *determine the cost of ending inventory*. **The choice of method is a management choice.**

The text discusses four Inventory Costing Methods

- 1. Specific Identification**
- 2. First-In, First-Out Method (FIFO)**
- 3. Last-In, First-Out Method (LIFO)**
- 4. Average Cost Method**

EXAMPLE. The following information is available for May. Assume that the company uses the periodic method and computes cost of goods sold and ending inventory at month-end using the periodic method.

May Inventory	Units	Unit cost	Extension
Beginning Inventory	200	\$40.00	\$8,000
May 2	400	\$42.00	\$16,800
May 8	300	\$41.50	\$12,450
May 14	600	\$43.00	\$25,800
May 22	500	\$43.50	\$21,750
Units/Cost of Goods Available	2,000		\$84,800
Sales	1,400		
Ending inventory	600		

Specific Identification. Match units sold to units purchased based upon ID numbers

Average: $84,800 / 2,000 = \$42.40$ per unit

- **Ending inventory** $600 \times \$42.40 = \$25,440$
- **Cost of goods sold** $1,400 \times \$42.40 = \$59,360$
- Check: $\$25,440 + \$59,360 = \$84,800$

FIFO

- **EI** $(500 \times 43.50) + (100 \times 43.00) = 26,050$
- **CGS** $(200 \times 40.00) + (400 \times 42.00) + (300 \times 41.50) + 500 \times 43 = 58,750$
- Check: $\$26,050 + \$58,750 = \$84,800$

LIFO

- **EI** $(200 \times 40.00) + (400 \times 42) = 24,800$
- **CGS** $((500 \times 43.50) + (600 \times 43.00) + (300 \times 41.50)) = 60,000$
- Check: $\$24,800 + \$60,000 = \$84,800$

Summary, Inventory Methods

Management has the choice of adopting many inventory methods. The four basic methods are illustrated in the previous example.

Note that use of LIFO is only allowed in the United States.

- *LIFO is not allowed outside of the U.S. where companies report under International Financial Reporting Standards (IFRS).*
- *If LIFO is used for income tax purposes, then it must also be used for financial reporting (this is the LIFO conformity rule).*

The four methods produce slightly different amounts for cost of goods sold and ending inventory.

6. LOWER OF COST OR MARKET

Financial Reporting. Currently, U.S. GAAP calls for inventory to be presented at Lower of Cost of Market (LCM) on the balance sheet.

- Market value is defined as replacement cost.
- Cost is determined by one of the four inventory cost methods—specific identification, LIFO, FIFO, or weighted average.
- The account *Inventory Allowance to Reduce Inventory to Market*, a ***contra-asset*** account, is used if market is less than cost.
- The offset to the change in the allowance account is cost of goods sold.

STEPS IN LCM PROBLEM

1. Compute year-end inventory under the company's costing method
2. Compute year-end inventory at replacement cost
3. If replacement cost (market) is *greater than cost*, then the year-end LCM allowance = 0
4. If replacement cost (market) is *less than cost*, then the difference is the **amount of the year-end LCM allowance**
5. Adjust the LCM allowance account as needed

Example LCM. Assume that at December 31, the following information is available before the year-end LCM adjusting journal entry.

- The cost of ending inventory = 5,500,000
- The balance in the account “inventory allowance to reduce inventory to market” before adjustment is 60,000.
- The accounting staff determines that replacement cost = \$5,200,000.

$5,500,000 - 5,200,000 = 300,000$ year-end allowance necessary to reduce from cost to LCM.

Inventory Allowance to Reduce Inventory to Market

	60,000 beginning balance
	240,000 adjustment
	300,000 ending balance

December 31

Assets	=	Liabilities	+	Equity
Inventory Allowance... ↓ 240,000				Cost of goods sold ↓ 240,000

Note: the allowance account increases, which decreases assets.

December 31

Cost of goods sold	240,000	
Inventory allowance to reduce inventory to market		240,000

Change the Example. If the beginning balance in the allowance account before adjustment had been 330,000, then

Inventory Allowance to Reduce Inventory to Market	
	330,000 beginning balance
30,000 adjustment	
	300,000 ending balance

December 31

Assets	=	Liabilities	+	Equity
Inventory Allowance... ↑ 30,000				Cost of goods sold ↑ 30,000

Note: the allowance account increases, which decreases assets.

December 31

Inventory allowance to reduce inventory to market	30,000	
Cost of goods sold		30,000

7. LIFO RESERVE

Most U.S. companies choose LIFO for tax purposes because in a period of rising prices it reduces taxable income and income taxes payable.

- If a company uses LIFO for tax purposes, it must use LIFO for financial reporting purposes (**LIFO Conformity Rule**).
- If a company uses LIFO for all or some of its inventory, **it must also present in its footnotes the FIFO (or average) ending inventory amount.**

We assume, unless otherwise noted, that companies use the FIFO method internally, and adjust to LIFO for financial reporting purposes.

The *difference between the FIFO and LIFO ending inventory* amount is designated as a **LIFO Reserve**.

In a period of rising prices, ending inventory is almost always higher under FIFO than LIFO; so, the LIFO reserve is a negative amount (subtraction).

STEPS IN LIFO RESERVE PROBLEM

1. Compute year-end inventory under FIFO
2. Compute year-end inventory under LIFO
3. Compute excess of FIFO ending inventory over LIFO ending inventory
 - **This the amount of the year-end LIFO reserve**
 - **We assume that the FIFO inventory amount is > LIFO amount**
4. Adjust the LIFO Reserve account to the new balance

Example LIFO Reserve. The Domenico Co. uses LIFO for tax and financial reporting purposes in the U.S.

On January 1, Domenico's FIFO inventory = \$14,800,000, and its LIFO inventory = \$13,700,000. **Thus, the beginning LIFO Reserve = \$1,100,000.**

At December 31, FIFO inventory = \$15,100,000 and LIFO inventory = \$14,400,000. *These amounts are prior to the December 31 LIFO reserve adjusting journal entry.*

Information for year-end AJE

- \$15,100,000 - \$14,400,000 = **700,000 needed reserve**
- \$1,100,000 beginning reserve - \$700,000 ending reserve = **\$400,000 adjustment**, a reduction in the reserve

December 31

Assets	=	Liabilities	+	Equity
LIFO Reserve...(3) ↑ 400,000				Cost of goods sold (3) ↑ 400,000

(3) *Decrease in reserve increases inventory and decreases cost of goods sold and increases net income*

In T Account Form

LIFO Reserve *

	1,100,000 beginning balance
400,000 adjustment	
	700,000 ending balance

*Alternative account title. Allowance to reduce FIFO inventory to LIFO

December 31

LIFO reserve	400,000	
Cost of goods sold		400,000

Eli Lilly

Note 1 (Partial) Inventories:

We state all inventories at lower of cost or market. We use the last-in, first-out (LIFO) method for the majority of our inventories located in the continental United States. Other inventories are valued by the first-in, first-out (FIFO) method. FIFO cost approximates current replacement cost.

Note 6: Inventories

Inventories at December 31 consisted of the following:

	2013	2012
Finished products	\$ 968.1	\$ 834.4
Work in progress	1,868.3	1,735.8
Raw materials and supplies	<u>259.0</u>	<u>256.1</u>
Ending Inventory (FIFO) (1)	3,095.4	2,826.3
Reduction to LIFO cost (2)	<u>(166.6)</u>	<u>(182.5)</u>
Inventories	<u>\$ 2,928.8</u>	<u>\$ 2,643.8</u>

(1) This caption is not included in the note

(2) This is the LIFO Reserve

Inventories valued under the LIFO method comprised \$1.02 billion and \$994.3 million of total inventories at December 31, 2013 and 2012, respectively.

RATIO ANALYSIS

ACCOUNTS RECEIVABLE TURNOVER (sometimes *Receivables Turnover*).

Accounts receivable turnover measures the amount of *sales per dollar of average accounts receivable*.

The ratio used by most individuals external to the firm is:

$$\text{Accounts Receivable Turnover} = \frac{\text{Net Sales}}{\text{Average Net Accounts Receivable}}$$

Net Sales should be net credit sales and average net accounts receivable should be average trade net accounts receivable, but these amounts will not be reported in GAAP based financial statements.

AVERAGE COLLECTION PERIOD (Average Days Sales in Receivables)

Average Collection Period = $365 \div \text{Accounts Receivable Turnover}$.

GROSS PROFIT PERCENTAGE (or Gross Profit Ratio)

Gross Profit Percentage = Gross Profit ÷ Net Sales

Net sales	\$94,700,500	100.00%
Cost of goods sold	65,024,700	68.66%, cost of goods sold percentage
Gross profit	29,675,800	31.34%, gross profit percentage

INVENTORY TURNOVER

Inventory Turnover *measures the amount of cost of goods sold per dollar of average inventory.*

$$\text{Inventory Turnover} = \frac{\text{Cost of Goods Sold}}{\text{Average Inventory}}$$

AVERAGE NUMBER OF DAYS TO SELL INVENTORY.

Average number of days to sell = 365 ÷ inventory turnover ratio

This ratio measures how often, on average, inventory is sold (or turned) during the period.

STATEMENT OF CASH FLOWS (SCF)

Although the Statement of Cash Flows is covered extensively in Chapter 13, in each chapter the authors start to introduce the SCF adjustments that will be used when the SCF is presented using the **indirect method**, which is used by almost all U.S. companies.

Under the indirect method, the operating activities section starts with net income, which is computed on the accrual basis. Then, adjustments are used to reconcile to cash flow from operations.

OPERATING ACTIVITIES

Net Income

Adjustments to reconcile from net income to cash flow from operations

...

...

Net Cash Flow, Operating Activities

SCF OPERATING ACTIVITIES ADJUSTMENTS FOR OPERATING CURRENT ASSET AND CURRENT LIABILITY ACCOUNTS.

Students can use the following algorithm to help them make the SFC adjustments.

Here is a mental rule for adjustments to operational current assets and operational current liabilities. Memorize this heuristic.

- If the increase or decrease in the operational current asset or current liability account was a **debit** during the year (e.g., increase in current asset or decrease in current liability), then think of the needed offset as a **credit** to (a reduction in) cash.
- If the increase or decrease in the operational current asset or current liability account was a **credit** during the year (e.g., decrease in current asset or increase in current liability), then think of the needed offset as a **debit** to (an addition to) cash.

STATEMENT OF CASH FLOWS (EXAMPLE)

Accounts Receivable

To help understand this adjustment, for example assume that the Smith Co. reported net income of \$15,500,000. Also, net accounts receivable increased during the period by \$300,000. The following information is available.

Accounts Receivable	
Beginning balance =	1,500,000
Sales on account (credit sales) =	Cash Collections =
4,000,000	3,700,000
Ending Balance =	1,800,000

The increase in accounts receivable ($\$1,800,000 - \$1,500,000 = \$300,000$) is, by construction, equal to the excess of credit sales over cash collections ($\$4,000,000 - \$3,700,000 = \$300,000$).

Remember the heuristic. The account had a net debit change during the year; therefore, the adjustment in the SCF is a credit (subtraction)

OPERATING ACTIVITIES

Net income	\$15,500,000
Adjustments to reconcile from net income to cash flow from operations.	
Decrease (Increase) in net accounts receivable	(300,000)

Inventory and Accounts Payable

If inventory decreased by \$60,000 and accounts payable increased by \$20,000, then the SCF adjustments are as follows:

OPERATING ACTIVITIES

Net income	\$15,500,000
Adjustments to reconcile from net income to cash flow from operations.	
Decrease (Increase) in net accounts receivable	(300,000)
Decrease (Increase) in inventory	60,000
Increase (decrease) in accounts payable	20,000

CHAPTER 6 & 7 INFORMATION**General Motors Co. & Subsidiaries****Consolidated Income Statements****(In millions, except per share amounts)**

		Years Ended December 31			December 31		
		2014	2013	2012	2014	2013	2012
Net sales and revenue							
Automotive		\$151,092	152,092	150,295	96.90%	97.85%	98.71%
GM Financial		4,837	3,335	1,961	3.10%	2.15%	1.29%
Total		155,929	155,427	152,256	100.00%	100.00%	100.00%
Costs and Expenses							
Automotive cost of sales (Note 13)		138,082	134,925	140,236	91.39%	88.71%	93.31%
GM Financial operating and other expenses		4,039	2,448	1,207	83.50%	73.40%	61.55%
Automotive Gross Profit (not reported separately)		\$13,010	\$17,167	\$10,059	8.61%	11.29%	6.69%

Consolidated Balance Sheets**(In millions)****December 31****2014****2013****December 31****2014****2013****Current Assets**

Accounts and notes receivable (net of allowance of \$340 and \$344; Note 2)		9,078	8,535		5.11%	5.13%
GM Financial receivables, net (Note 5)(\$11,134 and \$10,001 at VIEs; Note 12)		16,528	14,278		9.30%	8.58%
Inventories (Note 6)		13,642	14,039		7.68%	8.44%
Total Assets		\$177,677	166,344			

Accounts Receivable Turnover

Automotive		17.16
GM Financial		0.31

Inventory Components (Note 6)

Productive material, supplies and work in process		5,380	5,872		3.03%	3.53%
Finished product, including service parts		8,262	8,167		4.65%	4.91%
Total inventories		13,642	14,039		7.68%	8.44%

GENERAL MOTORS COMPANY AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CASH FLOWS
(In millions)

	Years Ended December 31,		
	2014	2013	2012
Cash flows from operating activities			
Net income	\$ 4,018	\$ 5,331	\$ 6,136
Depreciation, amortization and impairment charges	7,238	8,041	38,762
Foreign currency remeasurement and transaction losses	437	350	117
Amortization of discount and issuance costs on debt issues	181	114	188
Undistributed earnings of nonconsolidated affiliates and gains on investments	(301)	(92)	(179)
Pension contributions and OPEB payments	(1,315)	(1,458)	(3,759)
Pension and OPEB expense, net	439	638	3,232
(Gains) losses on extinguishment of debt	(202)	212	250
Provision (benefit) for deferred taxes	(574)	1,561	(35,561)
Change in other operating assets and liabilities (Note 26)	244	(1,326)	630
Other operating activities	(107)	(741)	789
Net cash provided by operating activities	10,058	12,630	10,605

Note 26. Supplemental Information for the Consolidated Statements of Cash Flows

The following table summarizes the sources (uses) of cash provided by Change in other operating assets and liabilities and cash paid for income taxes and interest (dollars in millions):

	Years Ended December 31,		
	2014	2013	2012
Accounts receivable	\$ (1,248)	\$ 8	\$ (460)
Purchases of wholesale receivables, net	(2,000)	—	—
Inventories	(309)	59	(326)
Automotive equipment on operating leases	(1,949)	(968)	370
Change in other assets	(213)	(563)	(312)
Accounts payable	19	(485)	162
Income taxes payable	(145)	(161)	155
Accrued liabilities and other liabilities	6,089	784	1,041
Total	\$ 244	\$ (1,326)	\$ 630