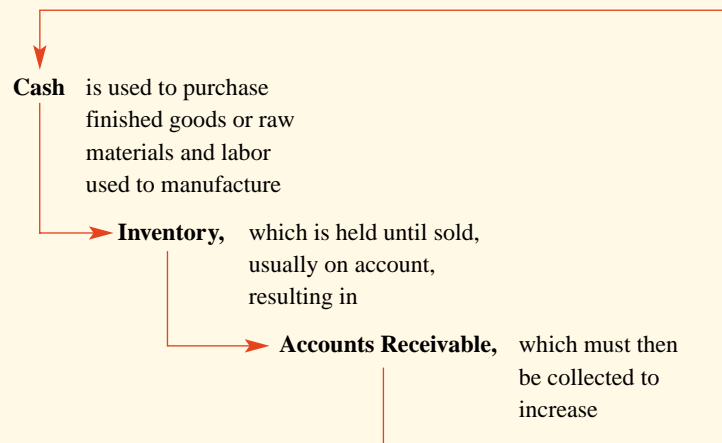


Accounting for and Presentation of Current Assets



Current assets include cash and those assets that are expected to be converted to cash or used up within one year, or an **operating cycle**, whichever is longer. An entity's operating cycle is the average time it takes to convert an investment in inventory back to cash. This is illustrated in the following diagram:



For most firms, the normal operating cycle is less than one year. As you learn more about each of the current assets discussed in this chapter, keep in mind that a shorter operating cycle permits a lower investment in current assets. This results in an increase in turnover, which in turn increases return on investment (ROI). Many firms attempt to reduce their operating cycle and increase overall profitability by trying to sell inventory and collect accounts receivable as quickly as possible.

Current asset captions usually seen in a balance sheet are:

- Cash and Cash Equivalents
- Marketable (or Short-Term) Securities
- Accounts and Notes Receivable
- Inventories
- Prepaid Expenses or Other Current Assets
- Deferred Tax Assets

Refer to the Consolidated Balance Sheets of [Intel Corporation](#) on page 21 of the Appendix. Note that Intel's current assets at December 29, 2001, total \$17.6 billion and account for nearly 40% of the company's total assets. Look at the components of current assets. Notice that the largest current asset amounts are for Cash and Cash Equivalents, Accounts Receivable, and Short-Term Investments. Now refer to the balance sheets in other annual reports that you may have and examine the composition of current assets. Do they differ significantly from Intel's balance sheet? The objective of this chapter is to permit you to make sense of the current asset presentation of any balance sheet.

1. What does it mean when an asset is referred to as a current asset?



LEARNING OBJECTIVES

After studying this chapter you should understand:

1. What is included in the cash and cash equivalents amount reported on the balance sheet.
2. The features of a system of internal control and why internal controls are important.
3. The bank reconciliation procedure.
4. How short-term marketable securities are reported on the balance sheet.
5. How accounts receivable are reported on the balance sheet, including the valuation allowances for estimated uncollectible accounts and estimated cash discounts.
6. How notes receivable and related accrued interest are reported on the balance sheet.
7. How inventories are reported on the balance sheet.
8. The alternative inventory cost-flow assumptions and their respective effects on the income statement and balance sheet when price levels are changing.
9. The impact of inventory errors on the balance sheet and income statement.
10. What prepaid expenses are and how they are reported on the balance sheet.

Chapters 5 through 9 are organized around the financial statements, starting with the asset side of the balance sheet in Chapters 5 and 6, moving over to the equity side in Chapters 7 and 8, and then on to the income statement and statement of cash flows in Chapter 9. Exhibit 5-1 highlights the balance sheet accounts covered in detail in this chapter and shows the income statement and statement of cash flows components affected by these accounts.

Exhibit 5-1Financial Statements—
The Big Picture

BALANCE SHEET			
Current Assets	Chapter	Current Liabilities	Chapter
Cash and cash equivalents	5, 9	Short-term debt	7
Short-term marketable securities	5	Current maturities of long-term debt	7
Accounts receivable	5, 9	Accounts payable	7
Notes receivable	5	Unearned revenue or deferred credits	7
Inventories	5, 9	Payroll taxes and other withholdings	7
Prepaid expenses	5	Other accrued liabilities	7
Deferred tax assets	5		
Noncurrent Assets		Noncurrent Liabilities	
Land	6	Long-term debt	7
Buildings and equipment	6	Deferred income taxes	7
Assets acquired by capital lease	6	Other long-term liabilities	7
Intangible assets	6		
Natural resources	6	Owners' Equity	
Other noncurrent assets	6	Common stock	8
		Preferred stock	8
		Additional paid-in capital	8
		Retained earnings	8
		Treasury stock	8
		Accumulated other comprehensive income (loss)	8
INCOME STATEMENT		STATEMENT OF CASH FLOWS	
Sales	5, 9	Operating Activities	
Cost of goods sold	5, 9	Net income	5, 6, 7, 8, 9
Gross profit (or gross margin)	5, 9	Depreciation expense	6, 9
Selling, general and administrative expenses	5, 6, 9	(Gains) losses on sale of assets	6, 9
Income from operations	9	(Increase) decrease in current assets	5, 9
Gains (losses) on sale of assets	6, 9	Increase (decrease) in current liabilities	5, 9
Interest income	5, 9		
Interest expense	7, 9	Investing Activities	
Income tax expense	9	Proceeds from sale of property, plant, and equipment	6, 9
Unusual items	9	Purchase of property, plant, and equipment	6, 9
Net income	5, 6, 7, 8, 9		
Earnings per share	9	Financing Activities	
		Proceeds from long-term debt	7, 9
		Repayment of long-term debt	7, 9
		Issuance of common / preferred stock	8, 9
		Purchase of treasury stock	8, 9
		Payment of dividends	8, 9
Primary topics of this chapter.			
Other affected financial statement components.			

Expansion of the Horizontal Model: Statement of Cash Flows Column

The horizontal model was introduced in Chapter 4 as an alternative to using the T-account or journal entry models to explain and understand the effects of transactions on an entity's financial statements. It was emphasized that the key to using this model is to keep the balance sheet in balance. The arrow from net income in the income statement to owners' equity in the balance sheet indicates that net income affects retained earnings, which is a component of owners' equity. This link is critical to your understanding of the interaction between these two statements.

Balance sheet			Income statement		
Assets	=	Liabilities + Owners' equity	← Net income	=	Revenues - Expenses

Recall from Chapter 2 that the purpose of the statement of cash flows is to identify the sources and uses of an entity's cash during the year. This important financial reporting objective is accomplished by summarizing the changes in all balance sheet items—other than cash—in the following three categories: operating activities, investing activities, and financing activities.

To emphasize the cash flow effects of transactions, the horizontal model is now expanded as follows:

Balance sheet			Income statement			Cash flows
Assets	=	Liabilities + Owners' equity	← Net income	=	Revenues - Expenses	(OA, IA, FA, or NA)

In the cash flows column, activity classifications will be identified as OA for operating activities, IA for investing activities, FA for financing activities, or NA for not applicable, along with the associated amounts and an indication of whether the cash flows are increasing (+) or decreasing (-). This expanded horizontal model will be used to demonstrate the effects of all transactions presented throughout Chapters 5–9.

Cash and Cash Equivalents

The vast majority of publicly traded corporations report their most liquid assets in the *cash and cash equivalents* category. **Cash** includes money on hand in change funds, **petty cash** funds (see Business in Practice—Petty Cash Funds), undeposited receipts (including currency, checks, money orders, and bank drafts), and any funds immediately available to the firm in its bank accounts (i.e., “demand deposits” such as checking and savings accounts). **Cash equivalents** are short-term investments readily convertible into cash with a minimal risk of price change due to interest rate movements.

Since cash on hand or in checking accounts earns little if any interest, management of just about every organization will develop a cash management system to permit investment of cash balances not currently required for the entity's operation. The broad objective of the cash management program is to maximize earnings by having as much cash as feasible invested for the longest possible time. Cash managers are interested in minimizing investment risks, and this is accomplished by investing in U.S. Treasury securities, securities of agencies of the federal government, bank certificates of deposit, money market mutual funds, and/or commercial paper. (**Commercial paper** is

OBJECTIVE 1

Understand what is included in the cash and cash equivalents amount reported on the balance sheet.



Business in Practice

Petty Cash Funds

Although most of a firm's cash disbursements should be made by check for security and record-keeping purposes, a petty cash fund could be used for small payments for which writing a check would be inconvenient. For example, postage due, **collect on delivery (COD)** charges, or the cost of an urgently needed office supply item often are paid from the petty cash fund to avoid the delay and expense associated with creating a check.

The petty cash fund is an **imprest account**, which means that the sum of the cash on hand in the petty cash box and the receipts in support of disbursements (called *petty cash vouchers*) should equal the amount initially put in the petty cash fund.

Periodically (usually at the end of the accounting period), the petty cash fund is reimbursed in order to bring the cash in the fund back to the original amount. It is at this time that the expenses paid through the fund are recognized in the accounts.

The amount of the petty cash fund is included in the cash amount reported on the firm's balance sheet.

like an IOU issued by a very creditworthy corporation.) Securities selected for investment usually will have a maturity date that is within a few months of the investment date and that corresponds to the time when the cash manager thinks the cash will be needed. Cash equivalents included with cash on the balance sheets of [Intel Corporation](#) are defined as “highly liquid debt securities with insignificant interest rate risk and with original maturities of three months or less” (see page 24 in the Appendix).

In addition to an organization's cash management system, policies to minimize the chances of customer theft and employee embezzlement also will be developed. These are part of the **internal control system** (see Business in Practice—The Internal Control System), which is designed to help safeguard all of an entity's assets, including cash.

OBJECTIVE 2

Understand the features of a system of internal control and why internal controls are important.



2. What does it mean to have an effective system of internal control?

The Bank Reconciliation as a Control over Cash

Many transactions either directly or indirectly affect the receipt or payment of cash. For instance, a sale of merchandise on account normally leads to a cash receipt when the account receivable is collected. Likewise, a purchase of inventory on account results in a cash payment when the account payable is paid. In fact, cash (in one form or another) is eventually involved in the settlement of virtually all business affairs.

As a result of the high volume of cash transactions and the ease with which money can be exchanged, it is appropriate to design special controls to help safeguard cash. At a minimum, all cash received should be deposited in the entity's bank account at the end of each business day, and all cash payments (other than petty cash disbursements) should be made from the entity's bank account using prenumbered checks. Using this simple control system, a duplicate record of each cash transaction is automatically maintained—one by the entity and the other by the bank.

To determine the amount of cash available in the bank, it is appropriate that the Cash account balance as shown in the general ledger be reconciled with the balance reported by the bank. The **bank reconciliation** process, which you do (or should do) for your own checking account, involves bringing into agreement the account balance reported by the bank on the bank statement with the account balance in the ledger. The balances might differ for two reasons: timing differences and errors.

OBJECTIVE 3

Understand the bank reconciliation procedure.

The Internal Control System

Internal control is broadly defined as a process, established by an entity's board of directors, management, and other personnel, designed to provide reasonable assurance that objectives are achieved with respect to:

1. The effectiveness and efficiency of the operations of the organization.
2. The reliability of the organization's financial reporting.
3. The organization's compliance with applicable laws and regulations.

Internal controls relate to every level of the organization, and the tone established by the board of directors and top management establishes the control environment. Ethical considerations expressed in the organization's code of conduct and social responsibility activities are a part of this overall tone. Although the system of internal control is frequently discussed in the context of the firm's accounting system, it is equally applicable to every activity of the firm, and it is appropriate for everyone to understand the need for and significance of internal controls.

Internal control policies and procedures sometimes are classified as financial controls and administrative controls.

Financial controls are related to the concept of *separation of duties*, and include a series of checks and balances ensuring that more than one person is involved in a transaction from beginning to end. For example, most organizations require that checks be signed by someone other than the person who prepares them. The check signer is expected to review the documents supporting the disbursement and to raise questions about unusual items. Another internal control requires the credit manager who authorizes the write-off of an account receivable to have that write-off approved by another officer of the firm. Likewise, a bank teller or cashier who has made a mistake in initially recording a transaction must have a supervisor approve the correction.

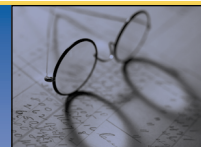
Administrative controls are frequently included in policy and procedure manuals and are reflected in management reviews of reports of operations and activities. For example, a firm's credit policy might specify that no customer is to have an account receivable balance in excess of \$10,000 until the customer has had a clean payment record for at least one year. The firm's internal auditors might periodically review the accounts receivable detail to determine whether or not this policy is being followed. In addition to *limit (or reasonableness) tests* such as this, administrative controls also ensure the proper *authorization of transactions* before they are entered into. For example, a firm may require its credit department to conduct a thorough evaluation of a new customer's credit history prior to approving a sales order prepared by a salesperson.

The system of internal control does not exist because top management thinks that the employees are dishonest. Internal controls provide a framework within which employees can operate, knowing that their work is being performed in a way that is consistent with the desires of top management. To the extent that temptation is removed from a situation that might otherwise lead to an employee's dishonest act, the system of internal control provides an even more significant benefit.



Business in Practice

In an informal survey conducted by the authors, a remarkably high percentage of students (and faculty members!) admitted that they rarely, if ever, reconcile their checking accounts—73% in one undergraduate class. As one student (let's call him Bob) put it, "I'd rather just close my account out once per year, and transfer whatever might be left to another bank." Here are two questions for your consideration as you study this material: (1) what information is gained in the reconciliation process? and (2) how might the lack of this information prove detrimental to Bob?



Study Suggestion

Timing differences arise because the entity knows about some transactions affecting the cash balance about which the bank is not yet aware, or the bank has recorded some transactions about which the entity is not yet aware. The most common timing differences involve:

Deposits in transit, which have been recorded in the entity's Cash account, but which have not yet been added to the entity's balance on the bank's records. From the entity's point of view, the deposit in transit represents cash on hand because it has been received.

Outstanding checks, which have been recorded as credits (reductions) to the entity's cash balance, but which have not yet been presented to the bank for payment. From the entity's point of view, outstanding checks should not be included in its cash balance because its intent was to disburse cash when it issued the checks.

Bank service charges against the entity's account, and interest income added to the entity's balance during the period by the bank. The bank service charge and interest income should be recognized by the entity in the period incurred or earned, respectively, since both of these items affect the cash balance at the end of the period.

NSF (not sufficient funds) checks, which are checks that have "bounced" from the maker's bank because the account did not have enough funds to cover the check. Because the entity that received the check recorded it as a cash receipt and added the check amount to the balance of its cash account, it is necessary to establish an account receivable for the amount due from the maker of the NSF check.

Errors, which can be made by either the firm or the bank, are detected in what may be a trial-and-error process if the book balance and bank balance do not reconcile after timing differences have been recognized. Finding errors is a tedious process involving verification of the timing difference amounts (e.g., double-checking the makeup and total of the list of outstanding checks), verifying the debits and credits to the firm's ledger account, and verifying the arithmetic and amounts included on the bank statement. If the error is in the recording of cash transactions on the entity's books, an appropriate journal entry must be made to correct the error. If the bank has made the error, the bank is notified but no change is made to the cash account balance.

There are a number of ways of mechanically setting up the bank reconciliation. The reverse side of the bank statement usually has a reconciliation format printed on it. Many computer-based bookkeeping systems contain a bank reconciliation module that can facilitate the bank reconciliation process. When the bank statement lists returned checks in numerical order, the process is made even easier. A simple and clear technique for setting up the reconciliation is illustrated in Exhibit 5-2.

Even in today's world of electronic banking, there remains a need to reconcile checking accounts on a regular basis. Although deposits are now recorded instantaneously in many e-banking systems, it still takes time for checks to clear, banks still charge fees for their services, and NSF checks and errors are every bit as likely to occur as in older systems.



3. What does it mean to reconcile a bank account?

Exhibit 5-2

A Bank Reconciliation Illustrated

Assumptions:

- The balance in the Cash account of Cruisers, Inc., at September 30 was \$4,614.58.
- The bank statement showed a balance of \$5,233.21 as of September 30.
- Included with the bank statement were notices that the bank had deducted a service charge of \$42.76 and had credited the account with interest of \$28.91 earned on the average daily balance.
- An NSF check for \$35.00 from a customer was returned with the bank statement.
- A comparison of deposits recorded in the Cash account with those shown on the bank statement showed that the September 30 deposit of \$859.10 was not on the bank statement. This is not surprising because the September 30 deposit was put in the bank's night depository on the evening of September 30.
- A comparison of the record of checks issued with the checks returned in the bank statement showed that the amount of outstanding checks was \$1,526.58.

Reconciliation as of September 30:

From Bank Records		From Company's Books	
Indicated balance	\$5,233.21	Indicated balance	\$4,614.58
Add: Deposit in transit	859.10	Add: Interest earned	28.91
Less: Outstanding checks	(1,526.58)	Less: Service charge	(42.76)
		NSF check	(35.00)
Reconciled balance	<u>\$4,565.73</u>	Reconciled balance	<u>\$4,565.73</u>

The balance in the company's general ledger account before reconciliation (the "Indicated balance") must be adjusted to the reconciled balance. Using the horizontal model, the effect of this adjustment on the financial statements is:

Balance sheet	Income statement		Cash flows
Asset = Liabilities + Owners' equity	← Net income	= Revenues - Expenses	
Accounts Receivable		Interest Income	OA -48.85
+ 35.00		+ 28.91	
Cash		Service Charge Expense	
- 48.85		- 42.76	

The journal entry to reflect this adjustment is:

Dr. Service Charge Expense	42.76	
Dr. Accounts Receivable	35.00	
Cr. Interest Income		28.91
Cr. Cash		48.85

Alternatively, a separate adjustment could be made for each reconciling item. The amount from this particular bank account to be included in the cash amount shown on the balance sheet for September 30 is \$4,565.73. There would not be an adjustment for the reconciling items that affect the bank balance because those items have already been recorded on the company's books.

Short-Term Marketable Securities

As emphasized in the discussion of cash and cash equivalents, a firm's ROI can be improved by developing a cash management program that involves investing cash balances over and above those required for day-to-day operations in **short-term marketable securities**. An integral part of the cash management program is the forecast of cash receipts and disbursements (forecasting, or budgeting, is discussed in Chapter 14). Do you remember the cash equivalents and short-term investments that are part of Intel's current assets? Since debt securities with maturities of three months or less are classified as cash equivalents, Intel's "short-term investments" caption includes only those debt securities with maturities greater than three months but less than one year. Recall from Chapter 2 that current assets are defined as *cash and those assets that are likely to be converted into cash or used to benefit the entity within one year of the balance sheet date*. Thus, any investments that mature beyond one year from the balance sheet date are reported as "other long-term investments." Intel's annual report provides detailed notes and schedules regarding a broad variety of debt and equity securities and other financial arrangements in which the company is involved in (see pages 24–29 generally and pages 27–28 particularly in the Appendix). Although many of these specific investment arrangements are quite complicated and beyond the scope of this text, the accounting for them is usually straightforward.

Balance Sheet Valuation

OBJECTIVE 4

Understand how short-term marketable securities are reported on the balance sheet.

Short-term marketable debt securities that fall in the *held-to-maturity* category are reported on the balance sheet at the entity's *cost*, which is usually about the same as market value, because of their high quality and the short time until maturity. The majority of investments made by most firms are of this variety since the excess cash available for investment will soon be needed to meet working capital obligations. If an entity owns marketable securities that are not likely to be converted to cash within a few months of the balance sheet date, or securities that are subject to significant fluctuation in market value (i.e., equity securities like common and preferred stock), the balance sheet valuation and related accounting become more complex. Debt and equity securities that fall in the *trading* and *available-for-sale* categories are reported at *market value*, and any unrealized gain or loss is recognized. This is an application of the matching concept since the change in market value is reflected in the fiscal period in which it occurs. The requirement that some marketable securities be reported at market value is especially pertinent to banks and other entities in the financial industry. (Companies such as Intel and Microsoft are notable exceptions among manufacturing firms. Because they have generated such enormous earnings and cash flows over the years, they can now afford to carry significant amounts of highly liquid investments on their balance sheets. Most manufacturing firms do not find themselves in such an enviable position.)

The accounting for marketable securities can be seen in Intel's schedule of available-for-sale investments on page 28 in the Appendix. Note that separate columns are provided for the investment's cost, unrealized gains, unrealized losses, and estimated fair market value. Also note that little, if any, adjustment to the cost of Intel's various debt securities is necessary because of their short time until maturity. Conversely, the \$46 million of net unrealized gains on Intel's "marketable strategic equity securities" is significant relative to the \$109 million shown as the adjusted cost of these investments. In prior years, when the equity markets were more robust, such investments represented

a substantial portion of Intel’s total assets. In 1999, for instance, the estimated fair value of this category of investments was \$7,121 million. As the equity markets declined in 2000 and 2001, Intel very wisely divested the majority of these holdings in favor of more conservative investments, such as commercial paper.

4. What does it mean to invest cash in short-term marketable securities?



Interest Accrual

Of course, it is appropriate that interest income on short-term marketable securities be accrued as earned so that both the balance sheet and income statement more accurately reflect the financial position at the end of the period and results of operations for the period. The asset involved is called *Interest Receivable*, and *Interest Income* is the income statement account. The effect of the interest accrual on the financial statements is:

Balance sheet			Income statement			Cash flows
Assets	=	Liabilities + Owners' equity	← Net income	=	Revenues - Expenses	
+ Interest Receivable					+ Interest Income	NA

The accrual is made with the following entry:

Dr. Interest Receivable	xx	
Cr. Interest Income		xx

The amount in the Interest Receivable account is combined with other receivables in the current asset section of the balance sheet.

5. What does it mean when interest income from marketable securities must be accrued?



Accounts Receivable

Recall from the [Intel Corporation](#) balance sheet that Accounts Receivable is one of the largest current assets at December 29, 2001. Accounts receivable from customers for merchandise and services delivered are reported at **net realizable value**—the amount that is expected to be received from customers in settlement of their obligations. Two factors will cause this amount to be different from the amount of the receivable originally recorded: bad debts and cash discounts.

Bad Debts/Uncollectible Accounts

Whenever a firm permits its customers to purchase merchandise or services on credit, it knows that some of the customers will not pay. Even a thorough check of the potential customer’s credit rating and history of payments to other suppliers will not assure that the customer will pay in the future. Although some bad debt losses are inevitable when a firm makes credit sales, internal control policies and procedures will exist in most firms to keep losses at a minimum and to ensure that every reasonable effort is

OBJECTIVE 5

Understand how accounts receivable are reported on the balance sheet, including the valuation allowances for estimated uncollectible accounts and estimated cash discounts.

made to collect all amounts that are due to the firm. Some companies, however, willingly accept high credit risk customers and know that they will experience high bad debt losses. These firms maximize their ROI by having a very high margin and requiring a down payment that equals or approaches the cost of the item being sold. Sales volume is higher than it would be if credit standards were tougher; thus, even though bad debts are relatively high, all or most of the product cost is recovered, and bad debt losses are more than offset by the profits from greater sales volume.

Based on recent collection experience, tempered by the current state of economic affairs of the industry in which a firm is operating, credit managers can estimate with a high degree of accuracy the probable **bad debts expense** (or **uncollectible accounts expense**) of the firm. Many firms estimate bad debts based upon a simplified assumption about the collectibility of all credit sales made during a period (percentage of credit sales method). Other firms perform a detailed analysis and aging of their year-end accounts receivable to estimate the net amount most likely to be collected (aging of receivables method). For instance, a firm may choose the following age categories and estimated collection percentages: 0–30 days (98%), 31–60 days (95%), 61–120 days (85%), and 121–180 days (60%). The firm also may have an administrative internal control policy requiring that all accounts more than six months overdue be immediately turned over to a collection agency. Such a policy is likely to increase the probability of collecting these accounts, facilitate the collection efforts for other overdue accounts, and reduce the overall costs of managing accounts receivable. The success of any bad debts estimation technique ultimately depends upon the careful application of professional judgment, using the best available information.

When the amount of accounts receivable estimated to be uncollectible has been determined, a **valuation adjustment** can be recorded to reduce the **carrying value** of the asset and recognize the bad debt expense. The effect of this adjustment on the financial statements is:

Balance sheet	Income statement	Cash flows
Assets = Liabilities + Owners' equity	← Net income = Revenues – Expenses	
– Allowance for Bad Debts	– Bad Debts Expense	NA

The adjustment is:

Dr. Bad Debts Expense (or Uncollectible Accounts Expense) . . .	xx	
Cr. Allowance for Bad Debts (or Allowance for Uncollectible Accounts)		xx

In bookkeeping language, the **Allowance for Uncollectible Accounts** or **Allowance for Bad Debts** account is considered a **contra asset** because it is reported as a subtraction from an asset in the balance sheet. The debit and credit mechanics of a contra asset account are the opposite of those of an asset account; that is, a contra asset increases with credit entries and decreases with debit entries, and it normally has a credit balance. The presentation of the Allowance for Bad Debts in the current asset section of the balance sheet (using assumed amounts) is:

Accounts receivable	\$10,000
Less: Allowance for bad debts	(500)
Net accounts receivable	\$ 9,500

or, as more commonly reported:

Accounts receivable, less allowance for bad debts of \$500	\$9,500
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The Allowance for Bad Debts account communicates to financial statement readers that an estimated portion of the total amount of accounts receivable is expected to become uncollectible. So why not simply reduce the Accounts Receivable account directly for estimated bad debts? The problem with this approach is that the firm hasn't yet determined *which* customers will not pay—only that *some* will not pay. Before accounts receivable can be reduced, the firm must be able to identify which specific accounts need to be written off as uncollectible. Throughout the year as accounts are determined to be uncollectible, they are written off against the allowance account. The effect of this entry on the financial statements is:

Balance sheet			Income statement			Cash flows
Assets =	Liabilities +	Owners' equity	← Net income =	Revenues -	Expenses	
- Accounts Receivable						NA
+ Allowance for Bad Debts						

The write-off entry is:

Dr. Allowance for Bad Debts	xx	
Cr. Accounts Receivable		xx

Note that the **write-off** of an account receivable has no effect on the income statement, nor should it. The expense was recognized in the year in which the revenue from the transaction with this customer was recognized. The write-off entry removes from Accounts Receivable an amount that is never expected to be collected. Also note that the write-off of an account will not have any effect on the net accounts receivable reported on the balance sheet because the financial statement effects on the asset (Accounts Receivable) and the contra asset (Allowance for Bad Debts) are offsetting. Assume that \$100 of the accounts receivable in the above example was written off. The balance sheet presentation now would be:

Accounts receivable	\$9,900
Less: Allowance for bad debts	(400)
Net accounts receivable	\$9,500

Providing for bad debts expense in the same year in which the related sales revenue is recognized is an application of the matching concept. The Allowance for Bad Debts (or Allowance for Uncollectible Accounts) account is a **valuation account**, and its credit balance is subtracted from the debit balance of Accounts Receivable to arrive at the amount of net receivables reported in the Current Asset section of the balance sheet. This procedure results in stating Accounts Receivable at the amount expected to be collected (i.e., net realizable value). If an appropriate allowance for bad debts is not provided, Accounts Receivable and net income will be overstated, and the ROI, ROE, and liquidity measures will be distorted. The amount of the allowance usually is

reported parenthetically in the Accounts Receivable caption so financial statement users can make a judgment about the credit and collection practices of the firm.



6. What does it mean that the Allowance for Bad Debts account is a contra asset?

Cash Discounts

To encourage prompt payment, many firms permit their customers to deduct up to 2% of the amount owed if the bill is paid within a stated period—usually 10 days—of the date of the sale (usually referred to as the *invoice date*). Most firms’ **credit terms** provide that if the invoice is not paid within the discount period, it must be paid in full within 30 days of the invoice date. This credit term is abbreviated as 2/10, n30. The 2/10 refers to the discount terms and the n30 means that the full amount of the invoice is due within 30 days. To illustrate, assume that Cruisers, Inc., has credit sales terms of 2/10, n30. On April 8, Cruisers, Inc., made a \$5,000 sale to Mount Marina. Mount Marina has the option of paying \$4,900 ($5,000 - [2\% \times \$5,000]$) by April 18, or paying \$5,000 by May 8.

Like most firms, Mount Marina will probably take advantage of the **cash discount** because it represents a high rate of return (see Business in Practice—Cash Discounts). The discount is clearly a cost to the seller because the selling firm will not receive the full amount of the account receivable resulting from the sale. The accounting treatment for estimated cash discounts is similar to that illustrated for estimated bad debts. Cash discounts on sales usually are subtracted from Sales in the income statement to arrive at the net sales amount that is reported because the discount is in effect a reduction of the selling price. On the balance sheet, it is appropriate to reduce Accounts Receivable by an allowance for estimated cash discounts that will be taken by customers when they pay within the discount period. Estimated cash discounts are recognized in the fiscal period in which the sale is made, based on past experience with cash discounts taken.

OBJECTIVE 6
Understand how notes receivable and related accrued interest are reported on the balance sheet.

Notes Receivable

If a firm has an account receivable from a customer which developed difficulties paying its balance when due, the firm may convert that account receivable to a **note receivable**. The effect of this transaction on the financial statements is:

Balance sheet			Income statement			Cash flows
Assets	=	Liabilities + Owners' equity	← Net income	=	Revenues - Expenses	
- Accounts Receivable						NA
+ Notes Receivable						

The entry to reflect this transaction is:

Dr. Notes Receivable	xx	
Cr. Accounts Receivable		xx

One asset has been exchanged for another. Does the entry make sense?

Cash Discounts

Cash discounts for prompt payment represent a significant cost to the seller and a benefit to the purchaser. Not only do they encourage prompt payment, they also represent an element of the pricing decision and will be considered when evaluating the selling prices of competitors.

Converting the discount to an annual return on investment will illustrate its significance. Assume that an item sells for \$100, with credit terms of 2/10, n30. If the invoice is paid by the 10th day, a \$2 discount is taken, and the payor (purchaser) gives up the use of the \$98 paid for 20 days because the alternative is to keep the money for another 20 days and then pay \$100 to the seller. In effect, by choosing not to make payment within the 10-day discount period, the purchaser is “borrowing” \$98 from the seller for 20 additional days at a cost of \$2. The return on investment for 20 days is \$2/\$98, or slightly more than 2%; however, there are 18 available 20-day periods in a year (360 days/20 days), so the annualized return on investment is over 36%! Very few firms are able to earn this high an ROI on their principal activities. For this reason, most firms have a rigidly followed internal control policy of taking all cash discounts possible.

One of the facts that credit rating agencies and credit grantors want to know about a firm when evaluating its liquidity and creditworthiness is whether or not the firm consistently takes cash discounts. If it does not, that is a signal that either the management doesn’t understand their significance or that the firm can’t borrow money at a lower interest rate to earn the higher rate from the cash discount. Either of these reasons indicates a potentially poor credit risk.

Clearly, the purchaser’s benefit is the seller’s burden. So why do sellers allow cash discounts if they represent such a high cost? The principal reasons are to encourage prompt payment and to be competitive. Obviously, however, cash discounts represent a cost that must be covered for the firm to be profitable.

A note receivable differs from an account receivable in several ways. A note is a formal document that includes specific provisions with respect to its maturity date (when it is to be paid), agreements or *covenants* made by the borrower (e.g., to supply financial statements to the lender or refrain from paying dividends until the note is repaid), identification of security or **collateral** pledged by the borrower to support the loan, penalties to be assessed if it is not paid on the maturity date, and most important, the interest rate associated with the loan. Although some firms assess an interest charge or service charge on invoice amounts that are not paid when due, this practice is unusual for regular transactions between firms. Thus, if an account receivable is not going to be paid promptly, the seller will ask the customer to sign a note so that interest can be earned on the overdue account.

Retail firms often use notes to facilitate sales transactions for which the initial credit period exceeds 60 or 90 days, such as an installment plan for equipment sales. In such cases, Notes Receivable (rather than Accounts Receivable) is increased at the point of sale, even though the seller may provide interest-free financing for a period of time.

Under other circumstances, a firm may lend money to another entity and take a note from that entity; for example, a manufacturer may lend money to a distributor that is also a customer or potential customer in order to help the distributor build its business. Such a transaction is another rearrangement of assets; Cash is decreased and Notes Receivable is increased.

Interest Accrual

If interest is to be paid at the maturity of the note (a common practice), it is appropriate that the holder of the note accrue interest income, usually on a monthly basis. This is appropriate because interest revenue has been earned, and accruing the revenue and



Business in Practice

increasing interest receivable results in more accurate monthly financial statements. The financial statement effects of doing this are the same as that for interest accrued on short-term marketable securities:

Balance sheet			Income statement			Cash flows
Assets	=	Liabilities + Owners' equity	← Net income	=	Revenues - Expenses	
+ Interest Receivable					+ Interest Income	NA

The adjustment is:

Dr. Interest Receivable	xx	
Cr. Interest Income		xx

This accrual entry reflects interest income that has been earned in the period and increases current assets by the amount earned but not yet received.

Interest Receivable is frequently combined with Notes Receivable in the balance sheet for reporting purposes. Amounts to be received within a year of the balance sheet date are classified as current assets. If the note has a maturity date beyond a year, it will be classified as a noncurrent asset.

It is appropriate to recognize any probable loss from uncollectible notes and interest receivable just as is done for accounts receivable, and the bookkeeping process is the same. Cash discounts do not apply to notes, so there is no discount valuation allowance.

Inventories

OBJECTIVE 7

Understand how inventories are reported on the balance sheet.

For service organizations, inventories consist mainly of office supplies and other items of relatively low value that will be used up within the organization, rather than being offered for sale to customers. As illustrated in Chapter 4, recording the purchase and use of supplies is a straightforward process, although year-end adjustments are usually necessary to improve the accuracy of the accounting records.

For merchandising and manufacturing firms, the sale of inventory in the ordinary course of business provides the major, ongoing source of operating revenue. Cost of Goods Sold is usually the largest expense that is subtracted from Sales in determining net income, and not surprisingly, inventories represent the most significant current asset for many such firms. At [Procter & Gamble Co.](#), for example, inventories account for 31% of the firm's current assets and 10% of total assets.¹ For [Wal-Mart Stores, Inc.](#), 80% of current assets and 27% of total assets are tied up in inventories.² For [Intel](#), however, inventories represent only 13% of current assets and 5% of total assets.³ Can you think of some possible explanations for these varying results? Obviously, not all firms (and not all industries) have the same inventory needs because of differences in their respective products, markets, customers, and distribution systems. Moreover, some firms do a better job than others at managing their inventory by turning it over quickly to enhance ROI. What other factors might cause the relative size of inventories to vary among firms?

¹ Data based on [Procter & Gamble Co.](#)'s 2001 Annual Report for the year ended June 30, 2001.

² Data based on [Wal-Mart Stores, Inc.](#)'s 2002 Annual Report for the year ended January 31, 2002.

³ Data based on [Intel Corporation](#)'s 2001 Annual Report for the year ended December 29, 2001.

Although inventory management practices are diverse, the accounting treatment for inventory items is essentially the same for all firms. Just as warehouse bins and store shelves hold inventory until the product is sold to the customer, the inventory accounts of a firm hold the *cost* of a product until that cost is released to the income statement to be subtracted from (matched with) the revenue from the sale. The cost of a purchased or manufactured product is recorded as an asset and carried in the asset account until the product is sold (or becomes worthless or is lost or stolen), at which point the cost becomes an expense to be reported in the income statement. The cost of an item purchased for inventory includes not only the invoice price paid to the supplier, but also other costs associated with the purchase of the item such as freight and material handling charges. Cost is reduced by the amount of any cash discount allowed on the purchase. The income statement caption used to report this expense is Cost of Goods Sold (see Exhibit 2-2). The effects of purchase and sale transactions on the financial statements are:

Balance sheet			Income statement			Cash flows
Assets	=	Liabilities + Owners' equity	← Net income	=	Revenues - Expenses	
Purchase of inventory: + Inventory + Accounts Payable						NA
Recognize cost of goods sold: - Inventory					- Cost of Goods Sold	NA

The entries are:

Dr. Inventory	xx	
Cr. Accounts Payable (or Cash)		xx
Purchase of inventory.		
Dr. Cost of Goods Sold	xx	
Cr. Inventory		xx
To transfer cost of item sold to income statement.		

Recognizing cost of goods sold is a process of accounting for the *flow of costs* from the Inventory (asset) account of the balance sheet to the Cost of Goods Sold (expense) account of the income statement. T-accounts also can be used to illustrate this flow of costs, as shown in Exhibit 5-3. Of course, the sale of merchandise also generates revenue, but *recognizing revenue is a separate transaction* involving Accounts Receivable (or Cash) and the Sales Revenue accounts. The following discussion focuses only on the accounting for the cost of the inventory sold.

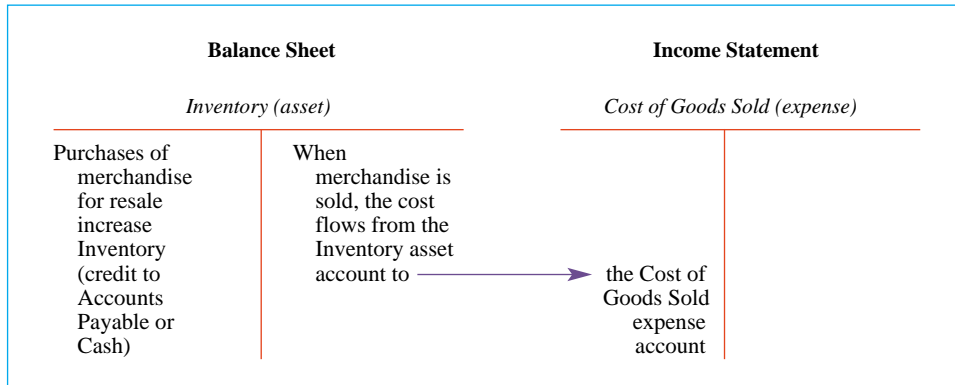
Inventory Cost-Flow Assumptions

Accounting for inventories is one of the areas in which alternative generally accepted practices can result in major differences between the assets and expenses reported by companies that otherwise might be alike in all respects. It is therefore important to study this material carefully in order to gain an appreciation of the impact of inventory methods on a firm's financial statements.

The inventory accounting alternative selected by an entity relates to the assumption about how costs flow from the Inventory account to the Cost of Goods Sold account. There are four principal alternative **cost-flow assumptions**:

Exhibit 5-3

Flow of Costs from Inventory to Cost of Goods Sold



1. Specific identification.
2. Weighted average.
3. First-in, first-out (FIFO) (pronounced FIE-FOE).
4. Last-in, first-out (LIFO) (pronounced LIE-FOE).

OBJECTIVE 8

Understand the alternative inventory cost-flow assumptions and their respective effects on the income statement and balance sheet when price levels are changing.

It is important to recognize that these are *cost-flow assumptions*, and that FIFO and LIFO do not refer to the physical flow of product. Thus, it is possible for a firm to have a FIFO physical flow (a grocery store usually tries to accomplish this) and to use the LIFO cost-flow assumption.

The **specific identification** alternative links cost and physical flow. When an item is sold, the cost of that specific item is determined from the firm's records, and that amount is transferred from the Inventory account to Cost of Goods Sold. The amount of ending inventory is the cost of the items held in inventory at the end of the year. This alternative is appropriate for a firm dealing with specifically identifiable products, such as automobiles, that have an identifying serial number and are purchased and sold by specific unit. This assumption is not practical for a firm having a large number of inventory items that are not easily identified individually.

The **weighted-average** alternative is applied to individual items of inventory. It involves calculating the average cost of the items in the beginning inventory plus purchases made during the year. Then this average is used to determine the cost of goods sold and the carrying value of ending inventory. This method is illustrated in Exhibit 5-4. Notice that the average cost is not a simple average of the unit costs but is instead an average weighted by the number of units in beginning inventory and each purchase.

First-in, first-out, or FIFO, means more than first-in, first-out; it means that the first costs *in to inventory* are the first costs *out to cost of goods sold*. The first cost in is the cost of the inventory on hand at the beginning of the fiscal year. The effect of this inventory cost-flow assumption is to transfer to the Cost of Goods Sold account the oldest costs incurred (for the quantity of merchandise sold) and to leave in the Inventory asset account the most recent costs of merchandise purchased or manufactured (for the quantity of merchandise in ending inventory). This cost-flow assumption is also illustrated in Exhibit 5-4.

Last-in, first-out, or LIFO, is an alternative cost-flow assumption opposite to FIFO. Remember, we are thinking about cost flow, not physical flow, and it is possible for a firm to have a FIFO physical flow (like the grocery store) and still use the LIFO cost-flow assumption. Under LIFO, the most recent costs incurred for merchandise purchased or manufactured are transferred to the income statement (as Cost of Goods Sold) when items are sold, and the inventory on hand at the balance sheet date is costed

Situation:

On September 1, 2003, the inventory of Cruisers, Inc., consisted of five Model OB3 boats. Each boat had cost \$1,500. During the year ended August 31, 2004, 40 boats were purchased on the dates and at the costs that follow. During the year, 37 boats were sold.

Date of Purchase	Number of Boats	Cost per Boat	Total Cost
September 1, 2003 (beginning inventory)	5	\$1,500	\$ 7,500
November 7, 2003	8	1,600	12,800
March 12, 2004	12	1,650	19,800
May 22, 2004	10	1,680	16,800
July 28, 2004	6	1,700	10,200
August 30, 2004	4	1,720	6,880
Total of boats available for sale	45		<u>\$73,980</u>
Number of boats sold	37		
Number of boats in August 31, 2004 inventory	8		

Required:

Determine the ending inventory amount at August 31, 2004, and the cost of goods sold for the year then ended, using the weighted-average, FIFO, and LIFO cost-flow assumptions.

Solution:

a. *Weighted-average cost-flow assumption:*

$$\begin{aligned} \text{Weighted-average cost} &= \frac{\text{Total cost of boats available for sale}}{\text{Number of boats available for sale}} \\ &= \frac{\$73,980}{45} \\ &= \$1,644 \text{ per boat} \end{aligned}$$

$$\text{Cost of ending inventory} = \$1,644 \times 8 = \$13,152$$

$$\text{Cost of goods sold} = \$1,644 \times 37 = \$60,828$$

b. *FIFO cost-flow assumption:*

The cost of ending inventory is the cost of the eight most recent purchases:

4 boats purchased August 30, 2004 @ \$1,720 ea = \$	6,880
4 boats purchased July 28, 2004 @ \$1,700 ea =	6,800
Cost of 8 boats in ending inventory	<u>\$13,680</u>

The cost of 37 boats sold is the sum of the costs for the first 37 boats purchased:

Beginning inventory	5 boats @ \$1,500 = \$	7,500
November 7, 2003 purchase	8 boats @ 1,600 =	12,800
March 12, 2004 purchase	12 boats @ 1,650 =	19,800
May 22, 2004 purchase	10 boats @ 1,680 =	16,800
July 28, 2004 purchase*	2 boats @ 1,700 =	3,400
Cost of goods sold		<u>\$60,300</u>

*Applying the FIFO cost-flow assumption, the cost of two of the six boats purchased this date is transferred from Inventory to Cost of Goods Sold.

Note that the cost of goods sold also could have been calculated by subtracting the ending inventory amount from the total cost of the boats available for sale.

Total cost of boats available for sale	\$73,980
Less cost of boats in ending inventory	(13,680)
Cost of goods sold	<u>\$60,300</u>

(continued)

Exhibit 5-4

Inventory Cost-Flow
Alternatives Illustrated

Exhibit 5-4

(concluded)

c. LIFO cost-flow assumption:

The cost of ending inventory is the cost of the eight oldest purchases:

5 boats in beginning inventory @ \$1,500 ea	= \$ 7,500
3 boats purchased November 7, 2003 @ \$1,600 ea	= <u>4,800</u>
Cost of 8 boats in ending inventory	<u><u>\$12,300</u></u>

The cost of the 37 boats sold is the sum of costs for the last 37 boats purchased:

August 30, 2004 purchase	4 boats @ \$1,720 = \$ 6,880
July 28, 2004 purchase	6 boats @ 1,700 = 10,200
May 22, 2004 purchase	10 boats @ 1,680 = 16,800
March 12, 2004 purchase	12 boats @ 1,650 = 19,800
November 7, 2003 purchase*	5 boats @ 1,600 = <u>8,000</u>
Cost of goods sold	<u><u>\$61,680</u></u>

*Applying the LIFO cost-flow assumption, the cost of five of the eight boats purchased this date is transferred from Inventory to Cost of Goods Sold.

Note that the cost of goods sold also could have been calculated by subtracting the ending inventory amount from the total cost of the boats available for sale.

Total cost of boats available for sale	\$73,980
Less cost of boats in ending inventory	<u>(12,300)</u>
Cost of goods sold	<u><u>\$61,680</u></u>

at the oldest costs, including those used to value the beginning inventory. This cost-flow assumption is also illustrated in Exhibit 5-4.

The way these cost-flow assumptions are applied depends on the inventory accounting system in use. The two systems—*periodic* and *perpetual*—are described later in this chapter. Exhibit 5-4 uses the periodic system.

To recap the results of the three alternatives presented in Exhibit 5-4:

Cost-Flow Assumption	Cost of Ending Inventory	Costs of Goods Sold
Weighted average	\$13,152	\$60,828
FIFO	13,680	60,300
LIFO	12,300	61,680

Although the differences between amounts seem small in this illustration, under real-world circumstances with huge amounts of inventory the differences become large and are material (the materiality concept). Why do the differences occur? Because, as you probably have noticed, the cost of the boats purchased changed over time. If the cost had not changed, there would not have been any difference in the ending inventory and cost of goods sold among the three alternatives. But in practice, costs do change. Notice that the amounts resulting from the weighted-average cost-flow assumption are between those for FIFO and LIFO; this is to be expected. Weighted-average results will never be outside the range of amounts resulting from FIFO and LIFO.

The crucial point to understand about the inventory cost-flow assumption issue is the impact on cost of goods sold, operating income, and net income of the alter-

	Number of Companies
Methods:	
First-in, first-out (FIFO)	386
Last-in, first-out (LIFO)	283
Average cost	180
Other	38
Use of LIFO:	
All inventories	23
50% or more of inventories	148
Less than 50% of inventories	82
Not determinable	30
Companies using LIFO	<u>283</u>

Source: Reprinted with permission from *Accounting Trends and Techniques*, Table 2-8, copyright © 2001 by American Institute of Certified Public Accountants, Inc.

Table 5-1

Inventory Cost-Flow Assumptions Used by 600 Publicly Owned Industrial and Merchandising Corporations—2000

native assumptions. Although Intel's inventories are relatively small in comparison to total assets, this is not the case for many manufacturing and merchandising firms. For instance, the following statement appeared in the 2001 annual report of **Armstrong Holdings, Inc.**, the parent company of **Armstrong World Industries, Inc.**: "Approximately 41% of AHI's total inventory in 2001 and 42% in 2000 were valued on a LIFO (last-in, first-out) basis. Inventory values were lower than would have been reported on a total FIFO (first-in, first-out) basis, by \$46.2 million at the end of 2001 and \$47.8 million at year-end 2000." This means that cost of goods sold over the years has been \$46.2 million higher and operating income has been \$46.2 million lower than would have been the case had Armstrong used only FIFO to value its inventories! To put this number in perspective, Armstrong's inventories at December 31, 2001, totaled \$443.1 million, and retained earnings at that date were \$1,244.3 million. The impact of LIFO on Armstrong's financial position and results of operations clearly has been significant, and this company is not unique (see Table 5-1). Naturally, Armstrong's ROI, ROE, and measures of liquidity have also been impacted by its choice of inventory cost-flow assumptions. Because of the importance of the inventory valuation to a firm's measures of profitability and liquidity, the impact of alternative cost-flow assumptions must be understood if these measures are to be used effectively in making judgments and informed decisions—especially if comparisons are made between entities.

7. What does it mean to identify the inventory cost-flow assumption?

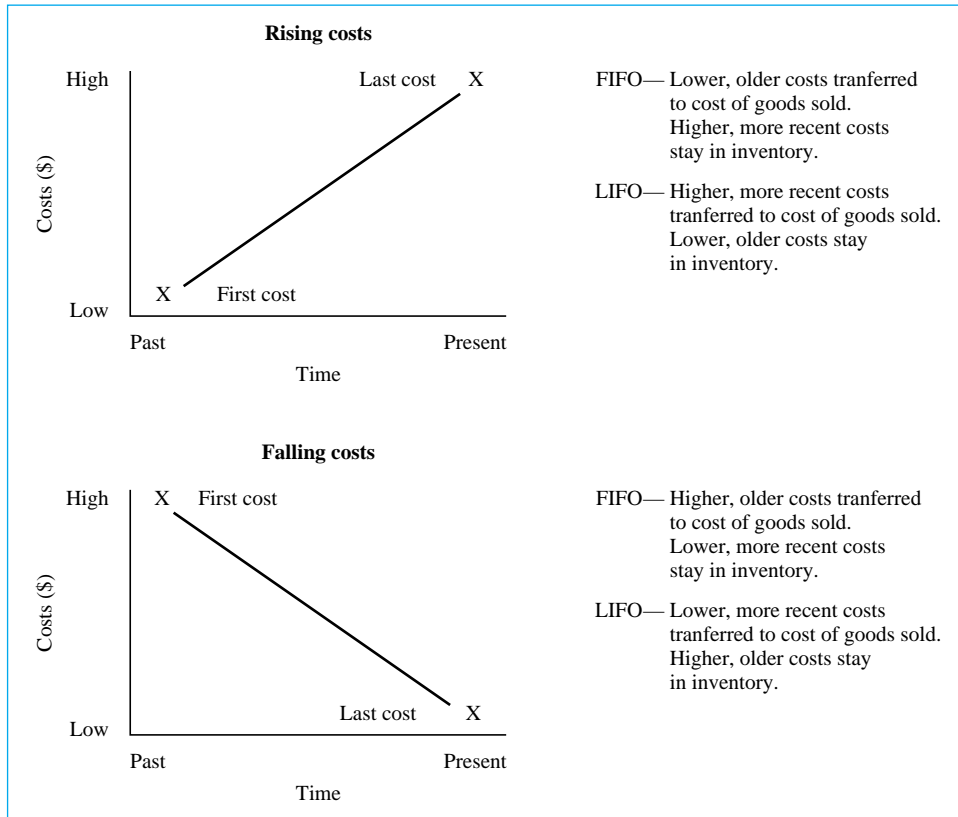


The Impact of Changing Costs (Inflation/Deflation)

It is important to understand how the inventory cost-flow assumption used by a firm interacts with the direction of cost changes to affect both inventory and cost of goods sold. *In times of rising costs*, LIFO results in lower ending inventory and higher cost of goods sold than FIFO. These changes occur because the LIFO assumption results in

Exhibit 5-5

Effect of Changing Costs on Inventory and Cost of Goods Sold under FIFO and LIFO



most recent, and higher, costs being transferred to cost of goods sold. When purchase costs are falling, the opposite is true. These relationships are illustrated graphically in Exhibit 5-5.

The graphs in Exhibit 5-5 are helpful in understanding the relative impact on cost of goods sold and ending inventory when costs move in one direction. Of course, in the real world, costs rise and fall over time, and the impact of a strategy chosen during a period of rising costs will reverse when costs decline. Thus, in the mid-1980s some firms that had switched to LIFO during a prior inflationary period began to experience falling costs. These firms then reported higher profits under LIFO than they would have under FIFO.

The Impact of Inventory Quantity Changes

Changes in the quantities of inventory will have an impact on profits that is dependent on the cost-flow assumption used and the extent of cost changes during the year.

Under FIFO, whether inventory quantities rise or fall, the cost of the beginning inventory is transferred to Cost of Goods Sold because the quantity of goods sold during the year usually exceeds the quantity of beginning inventory. As previously explained, when costs are rising, cost of goods sold will be lower and profits will be higher than under LIFO. The opposite is true if costs fall during the year.

When inventory quantities rise during the year and LIFO is used, a “layer” of inventory value is added to the book value of inventories at the beginning of the year. If

costs have risen during the year, LIFO results in higher cost of goods sold and lower profits than FIFO. The opposite is true if costs fall during the year.

When inventory quantities decline during the year and LIFO is used, the inventory value layers built up in prior years when inventory quantities were rising are now transferred to Cost of Goods Sold, with costs of the most recently added layer transferred first. Generally, costs increase over time, so inventory reductions of LIFO layers result in lower cost of goods sold and higher profits than with FIFO—just the opposite of what you normally would expect under LIFO. This process is known as a **LIFO liquidation** because the cost of old LIFO layers included in beginning inventory is removed or “liquidated” from the inventory account.

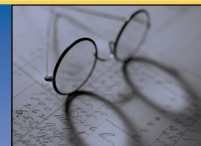
In recent years, many firms have sought to increase their ROI by reducing assets while maintaining or increasing sales and margin. Thus, turnover (sales/average assets) is increasing, with a resulting increase in ROI. When lower assets are achieved by reducing inventories in a LIFO environment, older and lower costs (from old LIFO layers) are released from inventory to cost of goods sold. Since revenues reflect current selling prices, which are independent of the cost-flow assumption used, profit is higher than it would be without a LIFO liquidation. In other words, net income can be increased by this unusual liquidation situation, whereby old LIFO inventory costs are matched with current sales revenues. Thus, ROI is boosted by both increased turnover and higher margin, but the margin effect occurs only in the year of the LIFO liquidation.

Selecting an Inventory Cost-Flow Assumption

What factors influence the selection of a cost-flow assumption? When rates of inflation were relatively low and the conventional wisdom was that they would always be low, most financial managers selected the FIFO cost-flow assumption because that resulted in slightly lower cost of goods sold and hence higher net income. Financial managers have a strong motivation to report higher, rather than lower, net income to the stockholders. However, when double-digit inflation was experienced, the higher net income from the FIFO assumption also resulted in higher income taxes—which, of course, most managers prefer not to experience. But why would this occur? When the FIFO cost-flow assumption is used during a period of rapidly rising costs, **inventory profits**, or **phantom profits**, result. Under FIFO, the release of older, lower costs to the income statement results in higher profits than if current costs were to be recognized. Since taxes must be paid on these profits, and since the current cost of replacing merchandise sold is much higher than the old cost, users of financial statements can be misled about the firm’s real economic profitability.

To avoid inventory profits (and to decrease taxes), many firms changed from FIFO to LIFO for at least part of their inventories during the years of high inflation.

This is a difficult but important concept to grasp, so please consider the following example: Assume that Cruisers, Inc., sells a boat to a customer for \$2,000 and uses the FIFO assumption. For argument’s sake, assume that the cost of goods sold for this boat is \$1,500 (taken from the beginning inventory); yet, the current cost of replacing the boat has recently increased to \$1,850, and the tax rate is 30%. The income tax owed by Cruisers, Inc., from this sale would be \$150, computed as $(\$2,000 - \$1,500) \times 30\%$, and when this amount is added to the cost of replacing the boat, the company hasn’t had any positive net cash flow! However, on the income statement, net income would be \$350 (i.e., $\$2,000 - \$1,500 - \$150$).



**Study
Suggestion**

(Generally accepted accounting principles do not require that the same cost-flow assumption be used for all inventories.) This change to LIFO resulted in higher cost of goods sold than FIFO and lower profits, lower taxes, and (in the opinion of some analysts) more realistic financial reporting of net income. Note, however, that even though net income may better reflect a matching of revenues (which also usually rise on a per unit basis during periods of inflation) and costs of merchandise sold, the inventory amount on the balance sheet will be reported at older, lower costs. Thus, under LIFO, the balance sheet will not reflect current costs for items in inventory. This is consistent with the original cost concept and underscores the fact that balance sheet amounts do not reflect current values of most assets. It also suggests that, in reality, the use of LIFO only delays the recognition of inventory profits, although this delay can be long term if prices continue to rise and LIFO inventory layers are not eliminated through liquidations.

But what about consistency, the concept that requires whatever accounting alternative selected for one year to be used for subsequent financial reporting? With respect to the inventory cost-flow assumption, the Internal Revenue Service permits a one-time, one-way change from FIFO to LIFO. (You should note that if a firm decides to use the LIFO cost-flow assumption for tax purposes, federal income tax law requires that LIFO also must be used for financial reporting purposes. This tax requirement, referred to as the *LIFO conformity rule*, is a constraint that does not exist in other areas where alternative accounting methods exist.) When a change in methods is made, the effect of the change on both the balance sheet inventory amount and cost of goods sold must be disclosed, so financial statement users can evaluate the impact of the change on the firm's financial position and results of operations.

Look back at Table 5-1 which reports the methods used to determine inventory cost by 600 industrial and merchandising corporations whose annual reports are reviewed and summarized by the AICPA. It is significant that many companies use at least two methods and that only 23 companies use LIFO for all inventories. The mix of inventory cost-flow assumptions used in practice emphasizes the complex ramifications of selecting a cost-flow assumption.



What Does It Mean?

8. What does it mean to say that net income includes inventory profits?

Inventory Accounting System Alternatives

The system to account for inventory cost flow is very complex in practice because most firms have hundreds or thousands of inventory items. There are two principal **inventory accounting systems**: perpetual and periodic.

In a **perpetual inventory system**, a record is made of every purchase and every sale, and a continuous record of the quantity and cost of each item of inventory is maintained. Computers have made perpetual inventory systems feasible for an increasingly large number of small- to medium-sized retail organizations that were forced in previous years to use periodic systems. Advances in the use of product bar coding and scanning devices at cash registers have lowered the costs of maintaining perpetual records. The accounting issues involved with a perpetual system are easy to understand (see Business in Practice—The Perpetual Inventory System) once you have learned how the alternative cost-flow assumptions are applied in a periodic system (refer to Exhibit 5-4 if you need a review).

The Perpetual Inventory System

Under a perpetual inventory system, the cost-flow assumption used by the firm is applied on a day-to-day basis as sales are recorded, rather than at the end of the year (or month). This allows the firm to record increases to Cost of Goods Sold and decreases to Inventory on a daily basis. This makes sense from a matching perspective because the *sale* of inventory is what triggers the cost of goods sold. The following financial statement effects occur at the point of sale:

Balance sheet	Income statement	Cash flows
Asset = Liabilities + Owners' equity	← Net income = Revenues − Expenses	
Record sale of good: + Accounts Receivable (or Cash)	+ Sales	+OA
Recognize cost of goods sold: − Inventory	− Cost of Goods Sold	NA

The entries to reflect these transactions are:

Dr. Accounts Receivable (or Cash)	xx	
Cr. Sales		xx
Dr. Cost of Goods Sold	xx	
Cr. Inventory		xx

Thus, a continuous (or perpetual) record is maintained of the inventory account balance. Under FIFO, the periodic and perpetual systems will always produce the same results for ending inventory and cost of goods sold. Why would this be the case? Even though the FIFO rules are applied at different points in time—at the end of the year (or month) with periodic, and daily with perpetual—the first-in cost will remain in inventory until the next item of inventory is sold. Once first in, always first in, and costs flow from Inventory to Cost of Goods Sold based strictly on the chronological order of purchase transactions. The results are the same under either system because whenever the question, “What was the first-in cost?” is asked (daily or monthly), the answer is the same.

Under LIFO, when the question, “What was the last-in cost?” is asked, the answer will change each time a new item of inventory is purchased. In a perpetual system, the last-in costs must be determined on a daily basis so that cost of goods sold can be recorded as sales transactions occur; the cost of the most recently purchased inventory items are assigned to Cost of Goods Sold each day. But as soon as new items of inventory are purchased, the last-in costs are redefined accordingly. This differs from the periodic approach to applying the LIFO rules. In a periodic system, the last-in costs are assumed to relate only to those inventory items that are purchased toward the end of the year (or month), even though some of the sales transactions occurred earlier in the year (or month).

The weighted-average method becomes a “moving” average under the perpetual system. As with the LIFO method, when the question, “What was the average cost of inventory?” is asked, the answer is likely to change each time new inventory items are purchased.



Business in Practice

In a **periodic inventory system**, a count of the inventory on hand (taking a **physical inventory**) is made periodically—frequently at the end of the fiscal year—and the cost of the inventory on hand, based on the cost-flow assumption being used, is determined and subtracted from the sum of the beginning inventory and purchases

to determine the cost of goods sold. This calculation is illustrated with the following **cost of goods sold model**, using data from the FIFO cost-flow assumption of Exhibit 5-4.

Beginning inventory	\$ 7,500
Purchases	66,480
Cost of goods available for sale	<u>\$73,980</u>
Less: Ending inventory	<u>(13,680)</u>
Cost of goods sold	<u><u>\$60,300</u></u>

The examples in Exhibit 5-4 use the periodic inventory system. Although less detailed record-keeping is needed for the periodic system than for the perpetual system, the efforts involved in counting and costing the inventory on hand are still significant.

Even when a perpetual inventory system is used, it is appropriate to periodically verify that the quantity of an item shown by the perpetual inventory record to be on hand is the quantity actually on hand. Bookkeeping errors and theft or mysterious disappearance will cause differences between the recorded and actual quantity of inventory items. When differences are found, it is appropriate to reflect these as inventory losses, or corrections to cost of goods sold, as appropriate. If the losses are significant, management probably would authorize an investigation to determine the cause of the loss and develop recommendations for strengthening the system of internal control over inventories.

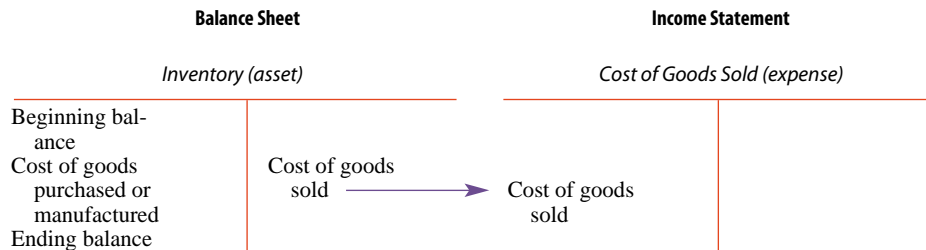
This discussion of accounting for inventories has focused on the products available for sale to the entity's customers. A retail firm would use the term **merchandise inventory** to describe this inventory category; a manufacturing firm would use the term **finished goods inventory**. Besides finished goods inventory, a manufacturing firm will have two other broad inventory categories: raw materials and work in process. In a manufacturing firm, the **Raw Materials Inventory** account is used to hold the costs of raw materials until the materials are released to the factory floor, at which time the costs are transferred to the **Work in Process Inventory** account. Direct labor costs (wages of production workers) and factory overhead costs (e.g., factory utilities, maintenance costs for production equipment, and the depreciation of factory buildings and equipment) are also recorded in the Work in Process Inventory account. These costs, *incurred in making the product*, as opposed to costs of selling the product or administering the company generally, are appropriately related to the inventory items being produced and become part of the product cost to be accounted for as an asset (inventory) until the product is sold. Accounting for production costs is a large part of cost accounting, a topic that will be explored in more detail in Chapter 13.

OBJECTIVE 9

Understand the impact of inventory errors on the balance sheet and income statement.

Inventory Errors

Errors in the amount of ending inventory have a direct dollar-for-dollar effect on cost of goods sold and net income. This direct link between inventory amounts and reported profit or loss causes independent auditors, income tax auditors, and financial analysts to look closely at reported inventory amounts. The following T-account diagram illustrates this link:



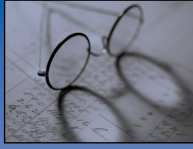
The cost of goods sold model illustrated earlier expresses the same relationships depicted in the T-account diagram but in a slightly different manner. Shown below is a simplified income statement for the months of January and February, using the cost of goods sold model and assumed amounts:

	January	February
Sales	\$6,000	\$8,000
Cost of Goods Sold:		
Beginning inventory	\$1,200	\$ 900
Cost of goods purchased or manufactured ..	4,100	5,500
Cost of goods available for sale	\$5,300	\$6,400
Less: ending inventory	(900)	(1,400)
Cost of goods sold	<u>(4,400)</u>	<u>(5,000)</u>
Gross profit	\$1,600	\$3,000
Operating expenses	<u>(600)</u>	<u>(1,000)</u>
Net income (ignoring income taxes)	<u>\$1,000</u>	<u>\$2,000</u>

If the beginning balance of inventory and the cost of goods purchased or manufactured are accurate, an error in the ending inventory affects cost of goods sold (in the opposite direction). The amount of goods available for sale during the period must either remain on hand as ending inventory (asset) or flow to the income statement as cost of goods sold (expense). For example, if ending inventory for January is *understated* by \$100 (i.e., ending inventory should have been \$1,000) in the above example, then cost of goods sold for January will be *overstated* by \$100. Do you agree that if ending inventory in January is \$1,000, then cost of goods sold for January will be \$4,300? Overstated cost of goods sold results in understated gross profit and net income. How much would these amounts be for January if the \$100 error were corrected? (Note that sales and operating expenses are not affected by the error.)

The error will also affect cost of goods sold and net income of the subsequent period, but the effects of the error will be reversed because one period's ending inventory is the next period's beginning inventory. In our example, the beginning inventory for February should be \$1,000, rather than \$900. With understated beginning inventory, the cost of goods available for sale will also be understated by \$100 (it should be \$6,500). Assuming that ending inventory was valued correctly in February, then cost of goods sold will be understated by \$100 (it should be \$5,100), which in turn will cause gross profit and net income to be overstated by \$100. What are the correct amounts for these items in February? You should take some time to puzzle through these relationships.

When the periodic inventory system is used, a great deal of effort is made to ensure that the inventory count and valuation are as accurate as possible because inventory errors can have a significant impact on both the balance sheet and the income statement for



Study Suggestion

The effects of inventory errors on cost of goods sold and gross profit are difficult to reason through. Two alternative approaches to doing this difficult problem solving in your head are to use T-accounts for Inventory and Cost of Goods Sold, or to use the cost of goods sold model. The captions for the model are: (a) Beginning inventory, (b) Cost of goods purchased or manufactured, (c) Cost of goods available for sale, (d) Ending inventory, and (e) Cost of goods sold. Under either approach, you would:

1. Plug in the “as reported” results for each year.
2. Make the necessary corrections to these amounts to determine the “as corrected” results.
3. Compare your results—before and after the corrections—to determine the effects of the error(s).

each period affected. You should note, however, that this type of error “washes out” over the two periods taken together (i.e., *total* net income is not affected by the error). Check this out by adding together the total net income for January and February before and after the error is corrected.

What Does It Mean?

9. What does it mean to say that an error in the ending inventory of the current accounting period has an equal but opposite effect on the net income of the subsequent accounting period?

Balance Sheet Valuation at the Lower of Cost or Market

Inventory carrying values on the balance sheet are reported at the **lower of cost or market**. This reporting is an application of accounting conservatism. The “market” of lower of cost or market is generally the replacement cost of the inventory on the balance sheet date. If market value is lower than cost, then a loss is reported in the accounting period in which the decline in inventory value occurred. The loss is recognized because the decision to buy or make the item was costly to the extent that the item could have been bought or manufactured at the end of the accounting period for less than its original cost.

The lower-of-cost-or-market determination can be made with respect to individual items of inventory, broad categories of inventory, or to the inventory as a whole. A valuation adjustment will be made to reduce the carrying value of inventory items that have become obsolete or that have deteriorated and will not be salable at normal prices.

Prepaid Expenses and Other Current Assets

OBJECTIVE 10

Understand what prepaid expenses are and how they are reported on the balance sheet.

Other current assets are principally **prepaid expenses**, that is, expenses that have been paid in the current fiscal period but that will not be subtracted from revenue until a subsequent fiscal period. This is the opposite of an accrual and is referred to in accounting and bookkeeping jargon as a *deferral* or *deferred charge* (or *deferred debit* since *charge* is a bookkeeping synonym for *debit*). An example of a **deferred charge** transaction is a premium payment to an insurance company. It is standard business practice to pay an insurance premium at the beginning of the period of insurance coverage. Assume that a one-year casualty insurance premium of \$1,800 is paid on November 1, 2004. At December 31, 2004, insurance coverage for two months has been received, and it is appropriate to recognize the cost of that coverage as an expense. However, the cost of coverage for the next 10 months should be deferred, that is, not shown as an

expense but reported as **prepaid insurance**, an asset. Usual bookkeeping practice is to record the premium payment transaction as an increase in the Prepaid Insurance asset account and then to transfer a portion of the premium to the Insurance Expense account as the expense is incurred. Using the horizontal model, this transaction and the adjustment affect the financial statements as follows:

Balance sheet			Income statement			Cash flows
Assets	=	Liabilities + Owners' equity	← Net income	=	Revenues - Expenses	
Payment of premium for the year:						
Cash						
- 1,800						- 1,800
Prepaid Insurance						
+ 1,800						OA
Recognition of expense for two months:						
Prepaid Insurance					Insurance Expense	NA
- 300					- 300	

The journal entries are:

Nov. 1	Dr. Prepaid Insurance	1,800	
	Cr. Cash		1,800
	Payment of one-year premium.		
Dec. 31	Dr. Insurance Expense	300	
	Cr. Prepaid Insurance		300
	Insurance expense for two months incurred.		

The balance in the Prepaid Insurance asset account at December 31 would be \$1,500, which represents the premium for the next 10 months' coverage that has already been paid and will be transferred to Insurance Expense over the next 10 months.

Other expenses that could be prepaid and included in this category of current assets include rent, office supplies, postage, and travel expense advances to salespeople and other employees. The key to deferring these expenses is that they can be objectively associated with a benefit to be received in a future period. Advertising expenditures are not properly deferred because it is not possible to determine objectively how much of the benefit of advertising occurred in the current period and how much of the benefit will be received in future periods. As with advertising expenditures, research and development costs are not deferred but are instead treated as expenses in the year incurred. The accountant's principal concerns are that the prepaid item be a properly deferred expense and that it will be used up, and become an expense, within the one-year time frame for classification as a current asset.

10. What does it mean to defer an expense?



Deferred Tax Assets

Deferred income taxes arise from timing differences in the fiscal year in which revenues and expenses are recognized for financial accounting and income tax purposes. When an expense is recognized for financial accounting purposes in a fiscal year before the fiscal year in which it is deductible in the determination of taxable income, a **deferred tax asset** arises. Deferred tax assets commonly arise from employee benefit

costs, accrued pension and postretirement benefits, bad debts and inventory obsolescence provisions, accrued warranty costs, and other current year expenses that are not deductible for income tax purposes until a later year. Deferred tax assets represent a reduction in the income tax liability of a future year when the expense will become deductible for tax purposes. If this benefit will be realized in the coming year, the deferred tax asset is a current asset; otherwise, it is a noncurrent asset.

As discussed in Chapter 7, **deferred tax liabilities** also must be reported by firms for the probable future tax consequences of events that have occurred up to the balance sheet date. As explained more thoroughly in Chapter 7, the effect of recognizing deferred tax assets and liabilities is to report as income tax expense an amount that is appropriate for the amount of earnings before income taxes, even though the amount of income taxes actually payable for the fiscal year is more or less than the income tax expense recognized. Accounting for deferred income taxes is a very complex issue that has caused a lot of debate within the accounting profession. For now, you should understand that there are a number of timing differences between the revenue and expense recognition practices of financial accounting and the regulations of income tax determination, and that deferred tax assets and liabilities are recorded to account for these differences.

Demonstration Problem

Visit the text website at www.mhhe.com/marshall6e to view a **Demonstration Problem for this chapter.**

Summary

This chapter has discussed the accounting for and the presentation of the following balance sheet current assets and related income statement accounts:

Balance sheet			Income statement		
Assets	=	Liabilities + Owners' equity	← Net income	=	Revenues - Expenses
Cash					
Marketable Securities					
Interest Receivable				Interest Income	
Accounts Receivable				Sales Revenue	
(Allowance for Bad Debts)					Bad Debts Expense
Inventory					Cost of Goods Sold
Prepaid Expenses					Operating Expenses
Deferred Tax Assets					Income Tax Expense

The amount of cash reported on the balance sheet represents the cash available to the entity as of the close of business on the balance sheet date. Cash available in bank accounts is determined by reconciling the bank statement balance with the entity's book balance. Reconciling items are caused by timing differences (such as deposits in transit or outstanding checks) and errors.

Petty cash funds are used as a convenience for making small disbursements of cash. Entities temporarily invest excess cash in short-term marketable securities in order to earn interest income. Cash managers invest in short-term, low-risk securities that are not likely to have a widely fluctuating market value. Marketable securities that will be held until maturity are reported in the balance sheet at cost; securities that may be traded or that are available for sale are reported at market value.

Accounts receivable are valued in the balance sheet at the amount expected to be collected, referred to as the net realizable value. This valuation principle, as well as the matching concept, requires that the estimated losses from uncollectible accounts be recognized in the fiscal period in which the receivable arose. A valuation adjustment recognizing bad debts expense and using the Allowance for Bad Debts account accomplishes this. When a specific account receivable is determined to be uncollectible, it is written off against the allowance account.

Firms encourage customers to pay their bills promptly by allowing a cash discount if the bill is paid within a specified period such as 10 days. Cash discounts are classified in the income statement as a deduction from sales revenue. It is appropriate to reduce accounts receivable with an allowance for estimated cash discounts, which accomplishes the same objectives associated with the allowance for bad debts.

Organizations have a system of internal control to promote the effectiveness and efficiency of the organization's operations, the reliability of the organization's financial reporting, and the organization's compliance with applicable laws and regulations.

Notes receivable usually have a longer term than accounts receivable, and they bear interest. The accounting for notes receivable is similar to that for accounts receivable.

Accounting for inventories involves selecting and applying a cost-flow assumption that determines the assumed pattern of cost flow from the Inventory asset account to the Cost of Goods Sold expense account. The alternative cost-flow assumptions are specific identification; weighted average; first-in, first-out; and last-in, first-out. The assumed cost flow will probably differ from the physical flow of the product. When price levels change, different cost-flow assumptions result in different cost of goods sold amounts in the income statement and different Inventory account balances in the balance sheet. The cost-flow assumption used also influences the effect of inventory quantity changes on the balance in both Cost of Goods Sold and ending Inventory. Because of the significance of inventories in most balance sheets and the direct relationship between inventory and cost of goods sold, accurate accounting for inventories must be achieved if the financial statements are to be meaningful.

Prepaid expenses (or deferred charges) arise in the accrual accounting process. To achieve an appropriate matching of revenue and expense, amounts prepaid for insurance, rent, and other similar items should be recorded as assets (rather than expenses) until the period in which the benefits of such payments are received.

Deferred tax assets arise when an expense is recognized for financial accounting purposes in a year before it is deductible for income tax purposes.

Refer to the [Intel Corporation](#) balance sheet and related notes in the Appendix, and to other financial statements you may have, and observe how current assets are presented.

Key Terms and Concepts

- administrative controls** (p. 141) Features of the internal control system that emphasize adherence to management's policies and operating efficiency.
- allowance for uncollectible accounts** (or **allowance for bad debts**) (p. 146) The valuation allowance that results in accounts receivable being reduced by the amount not expected to be collected.
- bad debts expense** (or **uncollectible accounts expense**) (p. 146) An estimated expense, recognized in the fiscal period of the sale, representing accounts receivable that are not expected to be collected.
- bank reconciliation** (p. 140) The process of bringing into agreement the balance in the Cash account in the entity's ledger and the balance reported by the bank on the bank statement.
- bank service charge** (p. 142) The fee charged by a bank for maintaining the entity's checking account.
- carrying value** (p. 146) The balance of the ledger account (including related contra accounts, if any) of an asset, liability, or owners' equity account. Sometimes referred to as *book value*.
- cash** (p. 139) A company's most liquid asset; includes money in change funds, petty cash, undeposited receipts such as currency, checks, bank drafts, and money orders, and funds immediately available in bank accounts.
- cash discount** (p. 148) A discount offered for prompt payment.
- cash equivalents** (p. 139) Short-term, highly liquid investments that can be readily converted into cash with a minimal risk of price change due to interest rate movements; examples include U.S. Treasury securities, bank CDs, money market funds, and commercial paper.
- collateral** (p. 149) Assets of a borrower that can be used to satisfy the obligation if payment is not made when due.
- collect on delivery (COD)** (p. 140) A requirement that an item be paid for when it is delivered. Sometimes COD is defined as "*cash*" on delivery.
- commercial paper** (p. 139) A short-term security usually issued by a large, creditworthy corporation.
- contra asset** (p. 146) An account that normally has a credit balance that is subtracted from a related asset on the balance sheet.
- cost-flow assumption** (p. 151) An assumption made for accounting purposes that identifies how costs flow from the Inventory account to the Cost of Goods Sold account. Alternatives include specific identification; weighted average; first-in, first-out; and last-in, first-out.
- cost of goods sold model** (p. 160) The way to calculate cost of goods sold when the periodic inventory system is used. The model is:

$$\begin{array}{r}
 \text{Beginning inventory} \\
 + \text{Purchases} \\
 \hline
 \text{Cost of goods available for sale} \\
 - \text{Ending inventory} \\
 \hline
 = \text{Cost of goods sold}
 \end{array}$$

credit terms (p. 148) A seller's policy with respect to when payment of an invoice is due and what cash discount (if any) is allowed.

deferred charge (p. 162) An expenditure made in one fiscal period that will be recognized as an expense in a future fiscal period. Another term for a *prepaid expense*.

deferred tax asset (p. 163) An asset that arises because of temporary differences between when an item is recognized for book and tax purposes.

deferred tax liability (p. 164) A liability that arises because of temporary differences between when an item is recognized for book and tax purposes.

deposit in transit (p. 142) A bank deposit that has been recorded in the entity's cash account but that does not appear on the bank statement because the bank received the deposit after the date of the statement.

financial controls (p. 141) Features of the internal control system that emphasize accuracy of bookkeeping and financial statements and protection of assets.

finished goods inventory (p. 160) The term used primarily by manufacturing firms to describe inventory ready for sale to customers.

first-in, first-out (FIFO) (p. 152) The inventory cost-flow assumption that the first costs in to inventory are the first costs out to cost of goods sold.

imprest account (p. 140) An asset account that has a constant balance in the ledger; cash on hand and vouchers (as receipts for payments) add up to the account balance. Used especially for petty cash funds.

internal control system (p. 140) Policies and procedures designed to provide reasonable assurance that objectives are achieved with respect to:

1. The effectiveness and efficiency of the operations of the organization.
2. The reliability of the organization's financial reporting.
3. The organization's compliance with applicable laws and regulations.

inventory accounting system (p. 158) The method used to account for the movement of items in to inventory and out to cost of goods sold. The alternatives are the periodic system and the perpetual system.

inventory profits (p. 157) Profits that result from using the FIFO cost-flow assumption rather than LIFO during periods of inflation. Sometimes called *phantom profits*.

last-in, first-out (LIFO) (p. 152) The inventory cost-flow assumption that the last costs in to inventory are the first costs out to cost of goods sold.

LIFO liquidation (p. 157) Under the LIFO cost-flow assumption, when the number of units sold during the period exceeds the number of units purchased or made, at least some of the costs assigned to the LIFO beginning inventory are transferred to Cost of Goods Sold. As a result, outdated costs are matched with current revenues and *inventory profits* occur.

lower of cost or market (p. 162) A valuation process that may result in an asset being reported at an amount less than cost.

merchandise inventory (p. 160) The term used primarily by retail firms to describe inventory ready for sale to customers.

net realizable value (p. 145) The amount of funds expected to be received upon sale or liquidation of an asset. For accounts receivable, the amount expected to be collected from customers after allowing for bad debts and estimated cash discounts.

- note receivable** (p. 148) A formal document (usually interest bearing) that supports the financial claim of one entity against another.
- NSF (not sufficient funds) check** (p. 142) A check returned by the maker's bank because there were not enough funds in the account to cover the check.
- operating cycle** (p. 136) The average time it takes a firm to convert an amount invested in inventory back to cash. For most firms, the operating cycle is measured as the average number of days to produce and sell inventory plus the average number of days to collect accounts receivable.
- outstanding check** (p. 142) A check that has been recorded as a cash disbursement by the entity but that has not yet been processed by the bank.
- periodic inventory system** (p. 159) A system of accounting for the movement of items in to inventory and out to cost of goods sold that involves periodically making a physical count of the inventory on hand.
- perpetual inventory system** (p. 158) A system of accounting for the movement of items in to inventory and out to cost of goods sold that involves keeping a continuous record of items received, items sold, inventory on hand, and cost of goods sold.
- petty cash** (p. 139) A fund used for small payments for which writing a check is inconvenient.
- phantom profits** (p. 157) See *inventory profits*.
- physical inventory** (p. 159) The process of counting the inventory on hand and determining its cost based on the inventory cost-flow assumption being used.
- prepaid expenses** (p. 162) Expenses that have been paid in the current fiscal period but that will not be subtracted from revenues until a subsequent fiscal period when the benefits are received. Usually a current asset. Another term for *deferred charge*.
- prepaid insurance** (p. 163) An asset account that represents an expenditure made in one fiscal period for insurance that will be recognized as an expense in a subsequent fiscal period to which the coverage applies.
- raw materials inventory** (p. 160) Inventory of materials ready for the production process.
- short-term marketable securities** (p. 144) Investments made with cash not needed for current operations.
- specific identification** (p. 152) The inventory cost-flow assumption that matches cost flow with physical flow.
- valuation account** (p. 147) A contra account that reduces the carrying value of an asset to a net realizable value that is less than cost.
- valuation adjustment** (p. 146) An adjustment that results in an asset being reported at a net realizable value that is less than cost.
- weighted average** (p. 152) The inventory cost-flow assumption that is based on an average of the cost of beginning inventory plus the cost of purchases during the year, weighted by the quantity of items at each cost.
- work in process inventory** (p. 160) Inventory account for the costs (raw materials, direct labor, and manufacturing overhead) of items that are in the process of being manufactured.
- write-off** (p. 147) The process of removing a specific account receivable that is not expected to be collected from the Accounts Receivable account. Also used generically to describe the reduction of an asset and the related recognition of an expense.

A Solutions To What Does It Mean?

1. It means that the asset is cash, or it is an asset that is expected to be converted to cash or used up in the operating activities of the entity within one year.
2. It means that from the board of directors down through the organization, the policies and procedures related to effectiveness and efficiency of operations, reliability of financial reporting, and compliance with laws and regulations are understood and followed.
3. It means that the balance in the Cash account in the ledger has been brought into agreement with the balance on the bank statement by recognizing timing differences and errors.
4. It means that cash not immediately required for use by the entity is invested temporarily in order to earn a return and thus increase the entity's ROI and ROE.
5. It means that interest has not been received by the entity for part of the period for which funds have been invested even though the interest has been earned, so interest receivable and interest income are recognized by an adjustment.
6. It means that the estimate of accounts receivable that will not be collected is subtracted from the total accounts receivable because it isn't yet known which specific accounts receivable will not be collected.
7. It means to identify the method used to transfer the cost of an item sold from the Inventory asset account to the Cost of Goods Sold expense account in the income statement. This is different from the physical flow, which describes the physical movement of product from storeroom to customer. The alternative inventory cost-flow assumptions are FIFO, LIFO, weighted-average cost, and specific identification.
8. It means that because of applying a particular inventory cost-flow assumption, net income is higher than what it would have been if an alternative cost-flow assumption had been used.
9. It means that an ending inventory error affects cost of goods sold on the income statement for two consecutive periods. Since ending inventory of one period is beginning inventory of the next period, the over/understatement of cost of goods sold in one period will be reversed in the next period.
10. It means to delay the income statement recognition of an expense until a future period to which it is applicable. Even though a cash payment has been made, the expense has not yet been incurred. An asset account is established for the prepaid expense.

Self-Study Quiz

Visit the text website at www.mhhe.com/marshall6e to take a self-study quiz for this chapter.

Exercises

Bank reconciliation. Prepare a bank reconciliation as of October 31 from the following information:

- a. The October 31 cash balance in the general ledger is \$844.

E5.1.
LO 3

- b. The October 31 balance shown on the bank statement is \$373.
- c. Checks issued but not returned with the bank statement were No. 462 for \$13, and No. 483 for \$50.
- d. A deposit made late on October 31 for \$450 is included in the general ledger balance but not in the bank statement balance.
- e. Returned with the bank statement was a notice that a customer's check for \$75 that was deposited on October 25 had been returned because the customer's account was overdrawn.
- f. During a review of the checks that were returned with the bank statement, it was noted that the amount of Check No. 471 was \$65 but that in the company's records supporting the general ledger balance, the check had been erroneously recorded as a payment of an account payable in the amount of \$56.

E5.2. LO 3 Bank reconciliation. Prepare a bank reconciliation as of January 31 from the following information:



- a. The January 31 balance shown on the bank statement is \$1,860.
- b. There is a deposit in transit of \$210 at January 31.
- c. Outstanding checks at January 31 totaled \$315.
- d. Interest credited to the account during January but not recorded on the company's books amounted to \$18.
- e. A bank charge of \$6 for checks was made to the account during January. Although the company was expecting a charge, its amount was not known until the bank statement arrived.
- f. In the process of reviewing the canceled checks, it was determined that a check issued to a supplier in payment of accounts payable of \$316 had been recorded as a disbursement of \$361.
- g. The January 31 balance in the general ledger Cash account, before reconciliation, is \$1,698.

E5.3. LO 3 Bank reconciliation adjustment.

- a. Show the reconciling items in a horizontal model or write the adjusting journal entry (or entries) that should be prepared to reflect the reconciling items of Exercise 5.1.
- b. What is the amount of cash to be included in the October 31 balance sheet for the bank account reconciled in Exercise 5.1?

E5.4. LO 3 Bank reconciliation adjustment.



- a. Show the reconciling items in a horizontal model or write the adjusting journal entry (or entries) that should be prepared to reflect the reconciling items of Exercise 5.2.
- b. What is the amount of cash to be included in the January 31 balance sheet for the bank account reconciled in Exercise 5.2?

E5.5. LO 5 Bad debts analysis—Allowance account. On January 1, 2004, the balance in Tabor Co.'s Allowance for Bad Debts account was \$13,400. During the first 11 months of the

year, bad debts expense of \$21,462 was recognized. The balance in the Allowance for Bad Debts account at November 30, 2004, was \$9,763.

Required:

- a. What was the total of accounts written off during the first 11 months? (*Hint: Make a T-account for the Allowance for Bad Debts account.*)
- b. As the result of a comprehensive analysis, it is determined that the December 31, 2004, balance of the Allowance for Bad Debts account should be \$9,500. Show in the horizontal model or in journal entry format, the adjustment required.
- c. During a conversation with the credit manager, one of Tabor's sales representatives learns that a \$1,230 receivable from a bankrupt customer has not been written off but was considered in the determination of the appropriate year-end balance of the Allowance for Bad Debts account balance. Write a brief explanation to the sales representative explaining the effect that the write-off of this account receivable would have had on 2004 net income.



Bad debts analysis—Allowance account. On January 1, 2004, the balance in Kubera Co.'s Allowance for Bad Debts account was \$1,210. During the year, a total of \$3,605 of delinquent accounts receivable was written off as bad debts. The balance in the Allowance for Bad Debts account at December 31, 2004, was \$1,450.

E5.6.
LO 5

Required:

- a. What was the total amount of bad debts expense recognized during the year? (*Hint: Make a T-account for the Allowance for Bad Debts account.*)
- b. As a result of a comprehensive analysis, it is determined that the December 31, 2004, balance of Allowance for Bad Debts should be \$4,300. Show in the horizontal model or in journal entry format, the adjustment required.



Cash discounts—ROI. Annual credit sales of Nadak Co. total \$340 million. The firm gives a 2% cash discount for payment within 10 days of the invoice date; 90% of Nadak's accounts receivable are paid within the discount period.

E5.7.
LO 5

Required:

- a. What is the total amount of cash discounts allowed in a year?
- b. Calculate the approximate annual rate of return on investment that Nadak Co.'s cash discount terms represent to customers who take the discount.

Cash discounts—ROI.

E5.8.
LO 5

- a. Calculate the approximate annual rate of return on investment of the following cash discount terms:
 1. 1/15, net 30
 2. 2/10, net 60
 3. 1/10, net 90
- b. Which of the above terms, if any, is not likely to be a significant incentive to the customer to pay promptly? Explain your answer.



E5.9. **Notes receivable—interest accrual and collection.** Agrico, Inc., took a 10-month, 13.8% (annual rate), \$4,500 note from one of its customers on June 15; interest is payable with the principal at maturity.

LO 6

Required:

- a. Use the horizontal model or write the entry to record the interest earned by Agrico during its fiscal year ended October 31.
- b. Use the horizontal model or write the journal entry to record collection of the note and interest at maturity.

E5.10. **Notes receivable—interest accrual and collection.** Decdos Co.'s assets include notes receivable from customers. During fiscal 2004, the amount of notes receivable averaged \$46,800, and the interest rate of the notes averaged 9.2%.

LO 6



Required:

- a. Calculate the amount of interest income earned by Decdos Co. during fiscal 2004 and show in the horizontal model or write a journal entry that accrues the interest income earned from the notes.
- b. If the balance in the Interest Receivable account increased by \$1,100 from the beginning to the end of the fiscal year, how much interest receivable was collected during the fiscal year? Use the horizontal model or write the journal entry to show the collection of this amount.

E5.11. **LIFO versus FIFO—matching and balance sheet impact.** Proponents of the LIFO inventory cost-flow assumption argue that this costing method is superior to the alternatives because it results in better matching of revenue and expense.

LO 7, 8



Required:

- a. Explain why “better matching” occurs with LIFO.
- b. What is the impact on the carrying value of inventory in the balance sheet when LIFO rather than FIFO is used during periods of inflation?

E5.12. **LIFO versus FIFO—impact on ROI.** Natco, Inc., uses the FIFO inventory cost-flow assumption. In a year of rising costs and prices, the firm reported net income of \$120 and average assets of \$600. If Natco had used the LIFO cost-flow assumption in the same year, its cost of goods sold would have been \$20 more than under FIFO, and its average assets would have been \$20 less than under FIFO.

LO 7, 8



Required:

- a. Calculate the firm's ROI under each cost-flow assumption.
- b. Suppose that two years later costs and prices were falling. Under FIFO, net income and average assets were \$130 and \$650, respectively. If LIFO had been used through the years, inventory values would have been \$30 less than under FIFO, and current year cost of goods sold would have been \$10 less than under FIFO. Calculate the firm's ROI under each cost-flow assumption.

E5.13. **Prepaid expenses—insurance.**

LO 10

- a. Use the horizontal model or write the journal entry to record the payment of a one-year insurance premium of \$3,000 on March 1.

- b. Use the horizontal model or write the adjusting entry that will be made at the end of every month to show the amount of insurance premium “used” that month.
- c. Calculate the amount of prepaid insurance that should be reported on the August 31 balance sheet with respect to this policy.
- d. If the premium had been \$6,000 for a two-year period, how should the prepaid amount at August 31 of the first year be reported on the balance sheet?
- e. Why are prepaid expenses reflected as an asset instead of being recorded as an expense in the accounting period in which the item is paid?



Prepaid expenses—rent.

(Note: See Problem 7.23 for the related unearned revenue accounting.)

On September 1, 2003, Wenger Co. paid its landlord \$4,200 in cash as an advance rent payment on its store location. The six-month lease period ends on February 28, 2004, at which time the contract may be renewed.

Required:

- a. Use the horizontal model or write the journal entry to record the six-month advance rent payment on September 1, 2003.
- b. Use the horizontal model or write the adjusting entry that will be made at the end of every month to show the amount of rent “used” during the month.
- c. Calculate the amount of prepaid rent that should be reported on the December 31, 2003, balance sheet with respect to this lease.
- d. If the advance payment made on September 1, 2003, had covered an 18-month lease period at the same amount of rent per month, how should Wenger Co. report the prepaid amount on its December 31, 2003, balance sheet?

E5.14.
LO 10



Transaction analysis—various accounts. Prepare an answer sheet with the column headings shown below. For each of the following transactions or adjustments, you are to indicate the effect of the transaction or adjustment on the appropriate balance sheet category and on net income by entering for each account affected the account name and amount and indicating whether it is an addition (+) or a subtraction (−). Transaction *a* has been done as an illustration. Net income is *not* affected by every transaction. In some cases, only one column may be affected because all of the specific accounts affected by the transaction are included in that category.

E5.15.
LO 5, 6, 8

	Current Assets	Current Liabilities	Owners' Equity	Net Income
a. Accrued interest income of \$15 on a note receivable.				
	Interest Receivable +15			Interest Income +15

- b. Determined that the Allowance for Bad Debts account balance should be increased by \$2,200.

- c. Recognized bank service charges of \$30 for the month.
- d. Received \$25 cash for interest accrued in a prior month.
- e. Purchased five units of a new item of inventory on account at a cost of \$35 each.
- f. Purchased 10 more units of the above item at a cost of \$38 each.
- g. Sold eight of the items purchased (in *e* and *f* above), and recognized the cost of goods sold using the FIFO cost-flow assumption.

E5.16.
LO 5, 8, 10



Transaction analysis—various accounts. Prepare an answer sheet with the column headings shown below. For each of the following transactions or adjustments, you are to indicate the effect of the transaction or adjustment on the appropriate balance sheet category and on net income by entering for each account affected the account name and amount and indicating whether it is an addition (+) or a subtraction (−). Transaction *a* has been done as an illustration. Net income is *not* affected by every transaction. In some cases, only one column may be affected because all of the specific accounts affected by the transaction are included in that category.

	Current Assets	Current Liabilities	Owners' Equity	Net Income
a. Accrued interest income of \$15 on a note receivable.	Interest Receivable +15			Interest Income +15
b. Determined that the Allowance for Bad Debts account balance should be decreased by \$1,600 because expense during the year had been overestimated.				
c. Wrote off an account receivable of \$720.				
d. Received cash from a customer in full payment of an account receivable of \$250 that was paid within the 2% discount period.				
e. Purchased eight units of a new item of inventory on account at a cost of \$20 each.				
f. Purchased 17 more units of the above item at a cost of \$19 each.				
g. Sold 20 of the items purchased (in <i>e</i>) and <i>f</i>) above), and recognized the cost of goods sold using the LIFO cost-flow assumption.				
h. Paid a one-year insurance premium of \$240 that applied to the next fiscal year.				
i. Recognized insurance expense related to the above policy during the first month of the fiscal year to which it applied.				

E5.17.
LO 5, 6, 7

Transaction analysis—various accounts. Prepare an answer sheet with the column headings shown on the next page. For each of the following transactions or adjustments, you are to indicate the effect of the transaction or adjustment on the appropriate balance sheet category and on net income by entering for each account affected the account name and amount and indicating whether it is an addition (+) or a subtraction (−). Transaction

a has been done as an illustration. Net income is *not* affected by every transaction. In some cases, only one column may be affected because all of the specific accounts affected by the transaction are included in that category.

	Current Assets	Current Liabilities	Owners' Equity	Net Income
<i>a.</i> Accrued interest income of \$15 on a note receivable.	Interest Receivable + 15			Interest Income + 15
<i>b.</i> Recorded estimated bad debts in the amount of \$700.				
<i>c.</i> Wrote off an overdue account receivable of \$520.				
<i>d.</i> Converted a customer's \$1,200 overdue account receivable into a note.				
<i>e.</i> Accrued \$48 of interest earned on the note (in <i>d</i> above).				
<i>f.</i> Collected the accrued interest (in <i>e</i> above).				
<i>g.</i> Recorded \$4,000 of sales, 80% of which were on account.				
<i>h.</i> Recognized cost of goods sold in the amount of \$3,200.				

Transaction analysis—various accounts. Prepare an answer sheet with the column headings shown below. For each of the following transactions or adjustments, you are to indicate the effect of the transaction or adjustment on the appropriate balance sheet category and on net income by entering for each account affected the account name and amount and indicating whether it is an addition (+) or a subtraction (−). Transaction *a* has been done as an illustration. Net income is *not* affected by every transaction. In some cases, only one column may be affected because all of the specific accounts affected by the transaction are included in that category.

E5.18.
LO 7, 8, 10



	Current Assets	Current Liabilities	Owners' Equity	Net Income
<i>a.</i> Accrued interest income of \$15 on a note receivable.	Interest Receivable + 15			Interest Income + 15
<i>b.</i> Paid \$1,400 in cash as an advance rent payment for a short-term lease that covers the next four months.				
<i>c.</i> Recorded an adjustment at the end of the first month (of <i>b</i> above) to show the amount of rent “used” in the month.				
<i>d.</i> Inventory was acquired on account and recorded for \$410.				



- e. It was later determined that the amount of inventory acquired on account (in *d* above) was erroneously recorded. The actual amount purchased was only \$140. No payments have been made. Record the correction of this error.
- f. Purchased 12 units of inventory at a cost of \$20 each and then 8 more units of the same inventory item at \$22 each.
- g. Sold 15 of the items purchased (in *f* above) for \$30 each and received the entire amount in cash. Record the sales transaction and the cost of goods sold using the LIFO cost-flow assumption.
- h. Assume the same facts (in *g* above) except that the company uses the FIFO cost-flow assumption. Record only the cost of goods sold.
- i. Assume the same facts (in *g* above) except that the company uses the weighted-average cost-flow assumption. Record only the cost of goods sold.
- j. Explain why the sales transaction in *h* and *i* above would be recorded in exactly the same way it was in *g* above.

Problems

P5.19. LO 3 **Bank reconciliation—compute Cash account balance and bank statement balance before reconciling items.** Beckett Co. received its bank statement for the month ending June 30, 2004, and reconciled the statement balance to the June 30, 2004, balance in the Cash account. The reconciled balance was determined to be \$4,800. The reconciliation recognized the following items:

1. Deposits in transit were \$2,100.
2. Outstanding checks totaled \$3,000.
3. Bank service charges shown as a deduction on the bank statement were \$50.
4. An NSF check from a customer for \$400 was included with the bank statement. The firm had not been previously notified that the check had been returned NSF.
5. Included in the canceled checks was a check actually written for \$890. However, it had been recorded as a disbursement of \$980.

Required:

- a. What was the balance in Beckett Co.'s Cash account before recognizing any of the above reconciling items?
- b. What was the balance shown on the bank statement before recognizing any of the above reconciling items?

P5.20. LO 3 **Bank reconciliation—compute Cash account balance and bank statement balance before reconciling items.** Branson Co. received its bank statement for the month ending May 31, 2004, and reconciled the statement balance to the May 31, 2004, balance in the Cash account. The reconciled balance was determined to be \$3,100. The reconciliation recognized the following items:



1. A deposit made on May 31 for \$1,700 was included in the Cash account balance but not in the bank statement balance.
2. Checks issued but not returned with the bank statement were No. 673 for \$490 and No. 687 for \$950.
3. Bank service charges shown as a deduction on the bank statement were \$40.

4. Interest credited to Branson Co.'s account but not recorded on the company's books amounted to \$24.
5. Returned with the bank statement was a "debit memo" stating that a customer's check for \$320 that had been deposited on May 23 had been returned because the customer's account was overdrawn.
6. During a review of the checks that were returned with the bank statement, it was noted that the amount of check No. 681 was \$160 but that in the company's records supporting the Cash account balance, the check had been erroneously recorded in the amount of \$16.

Required:

- a. What was the balance in Branson Co.'s Cash account before recognizing any of the above reconciling items?
- b. What was the balance shown on the bank statement before recognizing any of the above reconciling items?

Bad debts analysis—Allowance account and financial statement effect. The following is a portion of the current assets section of the balance sheets of Avanti's, Inc., at December 31, 2004 and 2003:

**P5.21.
LO 5**

	12/31/04	12/31/03
Accounts receivable, less allowance for bad debts of \$9,500 and \$17,900, respectively	\$173,200	\$236,400

Required:

- a. If \$11,800 of accounts receivable were written off during 2004, what was the amount of bad debts expense recognized for the year? (*Hint: Use a T-account model of the Allowance account, plug in the three amounts that you know, and solve for the unknown.*)
- b. The December 31, 2004, Allowance account balance includes \$3,100 for a past due account that is not likely to be collected. This account has *not* been written off. *If it had been written off*, what would have been the effect of the write-off on:
 1. Working capital at December 31, 2004?
 2. Net income and ROI for the year ended December 31, 2004?
- c. What do you suppose was the level of Avanti's sales in 2004, compared to 2003? Explain your answer.



Bad debts analysis—Allowance account and financial statement effects. The following is a portion of the current asset section of the balance sheets of HiROE Co., at December 31, 2004, and 2003:

**P5.22.
LO 5**

	December 31, 2004	December 31, 2003
Accounts receivable, less allowance for uncollectible accounts of \$9,000 and \$3,000, respectively	151,000	117,000





Required:

- a. Describe how the allowance amount at December 31, 2004, was most likely determined.
- b. If bad debts expense for 2004 totaled \$8,000, what was the amount of accounts receivable written off during the year? (*Hint: Use the T-account model of the Allowance account, plug in the three amounts that you know, and solve for the unknown.*)
- c. The December 31, 2004, Allowance account balance includes \$3,500 for a past due account that is not likely to be collected. This account has *not* been written off. *If it had been written off*, what would have been the effect of the write-off on:
 - 1. Working capital at December 31, 2004?
 - 2. Net income and ROI for the year ended December 31, 2004?
- d. What do you suppose was the level of HiROE’s sales in 2004, compared to 2003? Explain your answer.
- e. Calculate the ratio of the Allowance for Uncollectible Accounts balance to the Accounts Receivable balance at December 31, 2003 and 2004. What factors might have caused the change in this ratio?



P5.23. LO 5 **Analysis of accounts receivable and allowance for bad debts—determine beginning balances.** A portion of the current assets section of the December 31, 2004, balance sheet for Carr Co. is presented below:

Accounts receivable	\$50,000	
Less: Allowance for bad debts	<u>(7,000)</u>	\$43,000

The company’s accounting records revealed the following information for the year ended December 31, 2004:

Sales (all on account)	\$400,000
Cash collections from customers	410,000
Accounts written off	15,000
Bad debts expense (accrued at 12/31/04)	12,000

Required:

Using the information provided for 2004, calculate the net realizable value of accounts receivable at December 31, 2003, and prepare the appropriate balance sheet presentation for Carr Co., as of that point in time. (*Hint: Use T-accounts to analyze the Accounts Receivable and Allowance for Bad Debts accounts. Remember that you are solving for the beginning balance of each account.*)

P5.24. LO 5 **Analysis of accounts receivable and allowance for bad debts—determine ending balances.** A portion of the current assets section of the December 31, 2003, balance sheet for Gibbs Co. is presented below:

Accounts receivable	\$42,000	
Less: Allowance for bad debts	<u>(6,000)</u>	\$36,000

The company’s accounting records revealed the following information for the year ended December 31, 2004:

Sales (all on account)	\$320,000
Cash collections from customers	290,000
Accounts written off	7,000
Bad debts expense (accrued at 12/31/04)	11,000

Required:

Calculate the net realizable value of accounts receivable at December 31, 2004, and prepare the appropriate balance sheet presentation for Gibbs Co., as of that point in time. (*Hint: Use T-accounts to analyze the Accounts Receivable and Allowance for Bad Debts accounts.*)

Cost-flow assumptions—FIFO and LIFO using a periodic system. Mower-Blower Sales Co. started business on January 20, 2004. Products sold were snow blowers and lawn mowers. Each product sold for \$350. Purchases during 2004 were:

**P5.25.
LO 7, 8**

	Blowers	Mowers
January 21	20 @ \$200	
February 3	40 @ 195	
February 28	30 @ 190	
March 13	20 @ 190	
April 6		20 @ \$210
May 22		40 @ 215
June 3		40 @ 220
June 20		60 @ 230
August 15		20 @ 215
September 20		20 @ 210
November 7	20 @ 200	

In inventory at December 31, 2004, were 10 blowers and 25 mowers. Assume the company uses a periodic inventory system.

Required:

- a. What will be the *difference* between ending inventory valuation at December 31, 2004, and cost of goods sold for 2004, under the FIFO and LIFO cost-flow assumptions? (*Hint: Compute ending inventory and cost of goods sold under each method, and then compare results.*)
- b. If the cost of mowers had increased to \$240 each by December 1, and if management had purchased 30 mowers at that time, which cost-flow assumption was probably being used by the firm? Explain your answer.



Cost-flow assumptions—FIFO, LIFO, and weighted average using a periodic system. The following data are available for Sellco for the fiscal year ended on January 31, 2004:

**P5.26.
LO 7, 8**

Sales	800 units
Beginning inventory	250 units @ \$4
Purchases, in chronological order	300 units @ \$5
	400 units @ \$6
	200 units @ \$8



Required:

- a. Calculate cost of goods sold and ending inventory under the following cost-flow assumptions (using a periodic inventory system):
 - 1. FIFO.
 - 2. LIFO.
 - 3. Weighted average.
- b. Assume that net income using the weighted-average cost-flow assumption is \$14,500. Calculate net income under FIFO and LIFO.

P5.27. LO 7, 8 **Cost-flow assumptions—FIFO and LIFO using periodic and perpetual systems.** The inventory records of Kuffel Co. reflected the following information for the year ended December 31, 2004:

Date	Transaction	Number of Units	Unit Cost	Total Cost
1/1	Beginning inventory	150	\$30	\$4,500
2/22	Purchase	70	33	2,310
3/7	Sale	(100)	—	—
4/15	Purchase	90	35	3,150
6/11	Purchase	140	36	5,040
9/28	Sale	(100)	—	—
10/13	Purchase	50	38	1,900
12/4	Sale	(100)	—	—

Required:

- a. Assume that Kuffel Co. uses a periodic inventory system. Calculate cost of goods sold and ending inventory under FIFO and LIFO.
- b. Assume that Kuffel Co. uses a perpetual inventory system. Calculate cost of goods sold and ending inventory under FIFO and LIFO.
- c. Explain why the FIFO results for cost of goods sold and ending inventory are the same in your answers to parts *a* and *b*, but the LIFO results are different.



P5.28. LO 7, 8 **Cost-flow assumptions—FIFO and LIFO using periodic and perpetual systems.** The inventory records of Cushing, Inc., reflected the following information for the year ended December 31, 2004:



	Number of Units	Unit Cost	Total Cost
Inventory, January 1	100	\$13	\$1,300
Purchases:			
May 30	160	15	2,400
September 28	200	16	3,200
Goods available for sale	460		\$6,900
Sales:			
February 22	(70)		
June 11	(150)		
November 1	(190)		
Inventory, December 31	50		

Required:

- a. Assume that Cushing, Inc., uses a periodic inventory system. Calculate cost of goods sold and ending inventory under FIFO and LIFO.
- b. Assume that Cushing, Inc., uses a perpetual inventory system. Calculate cost of goods sold and ending inventory under FIFO and LIFO.
- c. Explain why the FIFO results for cost of goods sold and ending inventory are the same in your answers to parts *a* and *b*, but the LIFO results are different.
- d. Explain why the results from the LIFO periodic calculations in part *a* cannot possibly represent the actual physical flow of inventory items.



Effects of inventory errors.

- a. If the beginning balance of the Inventory account and the cost of items purchased or made during the period are correct, but an error resulted in overstating the firm’s ending inventory balance by \$5,000, how would the firm’s cost of goods sold be affected? Explain your answer by drawing T-accounts for the Inventory and Cost of Goods Sold accounts and entering amounts that illustrate the difference between correctly stating and overstating the ending inventory balance.
- b. If management wanted to understate profits, would ending inventory be understated or overstated? Explain your answer.

P5.29.
LO 7



Effects of inventory errors. Following are condensed income statements for Uncle Bill’s Home Improvement Center, for the years ended December 31, 2003, and 2002.

P5.30.
LO 7

	2003	2002
Sales	\$541,200	\$523,600
Cost of Goods Sold:		
Beginning inventory	\$ 91,400	\$ 85,300
Cost of goods purchased	393,000	366,500
Cost of goods available for sale	\$484,400	\$451,800
Less: ending inventory	(79,800)	(91,400)
Cost of goods sold	(404,600)	(360,400)
Gross profit	\$136,600	\$163,200
Operating expenses	(103,700)	(94,700)
Net income (ignoring income taxes) ...	<u>\$ 32,900</u>	<u>\$ 68,500</u>



Uncle Bill was concerned about the operating results for 2003 and asked his recently hired accountant, “If sales increased in 2003, why was net income less than half of what it was in 2002?” In February of 2004, Uncle Bill got his answer: “The ending inventory reported in 2002 was overstated by \$23,500 for merchandise that we were holding on consignment on behalf of Kirk’s Servistar. We still keep some of their appliances in stock, but the value of these items was not included in the 2003 inventory count because we don’t own them.”

- a. Recast the 2002 and 2003 income statements to take into account the correction of the 2002 ending inventory error.



- b. Calculate the combined net income for 2002 and 2003 before the correction of the error and after the correction of the error. Explain to Uncle Bill why the error was corrected in 2003 before it was actually discovered in 2004.
- c. What effect, if any, will the error have on net income and owners' equity in 2004?

Case

C5.31. Comparative analysis of current asset structures. The 2001 annual reports of **Dow Jones & Company** and **The McGraw-Hill Companies, Inc.**, two publishing and information services companies, included the following selected data as at December 31, 2001, and 2000:

Dow Jones & Company		
(Amounts in thousands)	2001	2000
Cash and cash equivalents	\$ 21,026	\$ 49,347
Accounts receivable—trade (net of allowance for doubtful accounts of \$5,610 in 2001 and \$6,377 in 2000)	162,559	236,284
Newsprint inventory	10,810	13,109
Other current assets	51,564	69,503
Total current assets	<u>\$245,959</u>	<u>\$368,243</u>

McGraw-Hill Companies, Inc.		
(Amounts in thousands)	2001	2000
Cash and equivalents	\$ 53,535	\$ 3,171
Accounts receivable (net of allowances for doubtful accounts and sales returns of \$276,889 in 2001 and \$256,263 in 2000)	1,038,308	1,095,118
Total inventories	402,647	388,947
Other current assets	318,457	314,454
Total current assets	<u>\$1,812,947</u>	<u>\$1,801,690</u>

Required:

- a. Review the current asset data presented above for each company. Comment briefly about your first impressions concerning the relative composition of current assets within each company.
- b. Dow Jones is the publisher of *The Wall Street Journal*, *Barrons*, and other print publications that account for 62% of the company's revenues (electronic publishing and community newspapers account for the other 38%). McGraw-Hill's revenues are derived from educational publishing (50%), financial services such as Standard & Poor's (32%), and information and media services (18%). How can these data be used to help you make sense of your observations in part a above?

